

Rules made under s. 44, 45 and 46.

**BUILDING RULES 2017**

**(LN. 2017/117)**

*Commencement*      **28.6.2017**

*In exercise of the powers conferred on it by sections 44, 45 and 46 of the Public Health Act and all other enabling powers, the Government has made the following Rules—*

**Title.**

1. These Rules may be cited as the Building Rules 2017.

**Commencement.**

2. The Building Rules 2017 come into operation on 28<sup>th</sup> June 2017.

**Interpretation.**

3. In these Rules “the Building Rules” means the Building Rules 2007 made under sections 44, 45 and 46 of the Public Health Act.

**Incorporation of the Building Rules 2007.**

4. It is hereby declared that the provisions of the Building Rules shall be incorporated into, and shall therefore form part of these Rules.

**Transitional provisions.**

5. Nothing in these Rules shall prejudice the validity, whether under any rule of law or otherwise, of any act or omission done or commenced to be done prior to the coming into force of these Rules.

**ARRANGEMENT OF RULES**

NOTE: Throughout the Arrangement of Rules italics indicate deemed to satisfy provisions.

Rule

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*Part*

- A Buildings
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*Table*

- 1 Materials to which the provisions of section 53 of the Public Health Act 1936 apply if used as the weather-resisting part of an external wall
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*Rule*

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**G5, MGS, M50, M75 or NO.2 GRADE TIMBER**

*Table*

- 1 *Floor joists*

- 2 *Ceiling joists*
- 3 *Binders or beams supporting joists to which Table 2 relates*
- 4 *Joists for flat roofs with access only for the purposes of maintenance or repair*
- 5 *Joists for flat roofs with access not limited to the purposes of maintenance or repair*
- 6 *Purlins supporting sheeting or decking for roofs having a pitch of 10° or more*
- 7 *Common or jack rafters for roofs having a pitch more than 10° but not more than 22½° with access only for the purpose of maintenance or repair*
- 8 *Purlins supporting rafters to which Table 7 relates*
- 9 *Common or jack rafters for roofs having a pitch more than 22½° but not more than 30° with access only for the purposes of maintenance or repair*
- 10 *Purlins supporting rafters to which Table 9 relates*
- 11 *Common or jack rafters for roofs having a pitch more than 30° but not more than 42½° with access only for the purpose of maintenance or repair*
- 12 *Purlins supporting rafters to which Table 11 relates*

**SS or MSS GRADE TIMBER**

- 13 *Floor joists*
- 14 *Ceiling joists*
- 15 *Binders or beams supporting joists to which Table 14 relates*
- 16 *Joists for flat roofs with access only for the purposes of maintenance or repair*
- 17 *Joists for flat roofs with access not limited to the purposes of maintenance or repair*
- 18 *Purlins supporting sheeting or decking for roofs having a pitch of 10° or more*
- 19 *Common or jack rafters for roofs having a pitch more than 10° but not more than 22½° with access only for the purposes of maintenance or repair*
- 20 *Purlins supporting rafters to which Table 19 relates*
- 21 *Common or jack rafters for roofs having a pitch more than 22½° but not more than 30° with access only for the purposes of maintenance or repair*
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- 23 *Common or jack rafters for roofs having a pitch more than 30° but not more than 42½° with access only for the purposes of maintenance or repair*
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**PART I - APPLICATION, INTERPRETATION AND RULE FOR MEASUREMENT**

*Rule*

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- 2 *Interpretation*  
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- 11 *Thickness of certain external walls and separating walls*  
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- 12 *Thickness of certain cavity walls*
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*Part*

- I *Walls*
- II *Reinforced concrete columns*
- III *Reinforced concrete beams*
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- V *Structural steel*
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- VII *Timber floors*
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**Schedule 9: Notional designations of roof coverings**

*Part*

- I *Pitched roofs covered with slates or tiles*
- II *Pitched roofs covered with preformed self-supporting sheets*
- III *Pitched or flat roofs covered with fully supported material*
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**Schedule 11: Conservation of fuel and power.**

**Schedule 12: Sound insulation**

*Part*

- I *Walls providing resistance to the transmission of airborne sound*
- II *Floors providing resistance to the transmission of airborne and impact sound*
- III *Floors providing resistance to the transmission of airborne sound only*

**PART A**  
Interpretation and general

SECTION I-INTRODUCTORY.

**A1 Title and commencement**

- (1) These rules may be cited as the Building Regulations 1997.
- (2) These Rules shall come into operation on the 1st day of June, 1984.

**A2 Transitional provisions**

- (1) In this rule—

PLANS means any notice given and any plan, section, specification or written particulars deposited with the Development and Planning Commission, and

WORK means the erection of a building, the alteration or extension of a building, the execution of works, the installation of a fitting or the making of a material change of use.

- 2) These rules shall not apply to—
  - (a) plans which were deposited before 1st June 1984; or
  - (b) work carried out in accordance with such plans with or without any departure or deviation from those plans; or
  - (c) work completed before that date.
- (3) Notwithstanding the revocation effected by rule A3, the Building Rules (formerly styled the Building Bye-Laws) as amended shall continue to apply to:—
  - (i) plans deposited in accordance with those rules before 1st June, 1984; and
  - (ii) work carried out in accordance with such plans with or without any departure or deviation from those plans;

**A2a Requirements relating to building works.**

- (1) Subject to paragraph (2) building work shall be carried out so that—

- (a) it complies with the applicable requirements contained in the Schedules and Approved Documents; and
  - (b) in complying with any such requirement there is no failure to comply with any other such requirement.
- (2) Where—
- (a) building work is work required in relation to thermal elements or a change in energy status and
  - (b) the carrying out of that work does not constitute a material alteration,

that work need only comply with the applicable requirements of Part F of Schedule 11.

- (3) Building work shall be carried out so that, after it has been completed—
- (a) any building which is extended or to which a material alteration is made; or
  - (b) any building in, or in connection with, which a controlled service or fitting is provided, extended or materially altered; or
  - (c) any controlled service or fitting,

complies with the applicable requirements of the Schedules and Approved Documents or, where it did not comply with any such requirement, is no more unsatisfactory in relation to that requirement than before the work was carried out.

(4) Subject to subrule (5), in this rule “Approved Documents” means the documents approved for the purpose by the Minister for the Environment.

(5) In Part E “Approved Document” means the document approved for the purpose of that Part by the Minister with responsibility for the Gibraltar Fire and Rescue Services.

#### **A2b Requirements relating to thermal elements.**

(1) Where a person intends to renovate a thermal element, such work shall be carried out as is necessary to ensure that the whole thermal element complies with the requirements of paragraph F1(a)(i) of Schedule 11.

(2) Where a thermal element is replaced, the new thermal element shall comply with the requirements of paragraph F1(a)(i) of Schedule 11.

**A2c Requirements relating to a change to energy status.**

(1) Where there is a change to a building's energy status, such work, if any, shall be carried out as is necessary to ensure that the building complies with the applicable requirements of Part F of Schedule 11.

(2) In this rule "building" means the building as a whole or parts of it that have been designed or altered to be used separately.";

and in rule A9, in Case D, and rule A13, after "Part F" delete "Thermal insulation" and insert "Energy Performance of Buildings".

**A3 Revocation**

The Building Regulations (formerly styled the Building Bye-Laws) are hereby revoked, but without prejudice to the validity of anything done thereunder before the date of the coming into operation of these rules and subject to the transitional provisions in rule A2.

SECTION II - INTERPRETATION

**A4 Interpretation**

(1) In these rules, unless the context otherwise require—

"BOUNDARY" in relation to a building, means the boundary of the land belonging to the building (such land being deemed to include any abutting part of a street, or public passageway but only up to the centre line thereof); and BOUNDARY OF THE PREMISES shall be construed so as to include any such part to the same extent:

"COMMISSION" means the Development and Planning Commission;

"CONSERVATORY" means a conservatory of which the roof (and the ceiling, if any), is transparent or translucent;

"GOVERNMENT" means the Government of Gibraltar;

"GARAGE" includes a carport;

“HABITABLE ROOM” means a room used or intended to be used for dwelling purposes but not (except where so expressly provided) any room used only for kitchen or scullery purposes;

“KITCHEN OR SCULLERY PURPOSES” means the purposes of preparing, storing, treating, cooking or manufacturing food or drink intended for human consumption or the cleansing of utensils or appliances which come into contact with such food or drink;

“MOVEABLE DWELLING” means any tent, van or other conveyance whether on wheels or not and any other similar structure being a jent, conveyance or structure which is used regularly, or at certain seasons only, or intermitently for human habitation;

“NEWTON” means that force which when applied to a body having a mass of one kilogram gives it an acceleration of one metre per second squared;

“NON-COMBUSTIBLE” means capable of being classified as non-combustible if subjected to the test for non-combustibility prescribed in B5476: Part 4: 1970; and COMBUSTIBLE shall be construed accordingly;

“PARTIALLY EXEMPTED BUILDING” means a building referred to in rule M(2)(a);

“SITE,” in relation to a building, means the area of ground covered or to be covered by the building, including its foundations; and

“UNDER FORMER CONTROL—”

- (a) in relation to a building, means a building the erection of which was—
  - (i) completed before 1st June, 1984;
  - (ii) completed on or after 1st June, 1984 in accordance with plans deposited with the Government before that date, with or without any departures or deviations from those plans; or
  - (iii) begun before but completed on or after 1st June, 1984 (being a building the erection of which was exempt from compliance with the provisions of all relevant rules in force immediately before that date); and



- (b) in relation to an alteration or extension of a building, or the execution of any works or installation of any fittings, means any such alteration or extension, execution or installation which was—
  - (i) completed before 1st June, 1984;
  - (ii) completed on or after 1st June, 1984 in accordance with plans deposited with the local authority before that date, with or without any departures or deviations from those plans; or
  - (iii) begun before but completed on or after 1st June, 1984 (being an alteration or extension, execution of works or installation of fittings which was exempt from compliance with the provisions of all relevant rules in force immediately before that date).

(2) In these rules—

- (a) “BASEMENT STOREY”(except for the purposes of Part E) means a storey which is below the ground storey; or, if there is no ground storey, means a storey the floor of which is situated at such a level or levels that some point on its perimeter is more than 1.2 m below the level of the finished surface of the ground adjoining the building in the vicinity of that point

“GROUND STOREY”(except for the purposes of Part E) means the lowest storey in the building of which the floor is situated at such a level or levels that any given point on its perimeter is not more than 1.2m below the level of the finished surface of the ground adjoining the building in the vicinity of that point

“SINGLE STOREY BUILDING” means a building consisting of a ground store only; and

“UPPER STOREY” means any storey other than a basement storey or ground storey; and

- (b) unless the context otherwise requires, wherever these rules describe a building or part by reference to a number of storeys, that number does not include basement storeys.

(3) The abbreviations and symbols listed in the Table to this paragraph are used in these rule—

Table to Rule A4(3)

| Abbreviation or symbol | Definition                        |
|------------------------|-----------------------------------|
| (1)                    | (2)                               |
| Bs                     | British Standard                  |
| CP                     | British Standard Code of Practice |
| dB                     | decibel                           |
| °                      | degree                            |
| °C                     | degree Celsius                    |
| Hz                     | hertz                             |
| kg                     | kilogram                          |
| kN                     | kilonewton                        |
| kW                     | kilowatt                          |
| m                      | metre                             |
| m <sup>2</sup>         | square metre                      |
| m <sup>3</sup>         | cubic metre                       |
| mm                     | millimetre                        |
| mm <sup>2</sup> :      | square millimetre                 |
| min                    | minute                            |
| N                      | newton                            |
| W                      | Watt                              |

- (4) In these rules—
- (a) any reference to a Part, rule or schedule which is not otherwise identified is a reference to a Part or rule of, or schedule to, these rules;
  - (b) any reference to a Section which is not otherwise identified is a reference to that Section of the Part in which the reference occurs;
  - (c) any reference to a rule which is not otherwise identified is a reference to that rule of the schedule in which the reference occurs;
  - (d) any reference to a paragraph or subparagraph which is not otherwise identified is a reference to that paragraph of the rule, rule or schedule, or to that subparagraph of the paragraph, in which the reference occurs; and
  - (e) any note in a Table or schedule shall be treated for all purposes as a substantive provision.

- (5) In these rules—
- (a) any reference to an enactment shall, unless the context otherwise requires, be construed as a reference to that enactment as amended, modified, extended, applied or re-enacted by or under any subsequent enactment;
  - (b) any reference to a British Standard or British Standard Code of Practice shall be construed as a reference to a British Standard or a British Standard Code of Practice published by the British Standards Institution; and
  - (c) any reference to a publication shall be construed as follows—
    - (i) in rule B2 and in any other case where no date is included in the reference is to the edition thereof current at 30th November, 1983 together with any amendments, supplements or addenda thereto current at that date;
    - (ii) in any case where a date is included in the reference, the reference is to the edition of that date, together with such amendments thereto as are specified in Schedule 1; and
    - (iii) any reference to any publication is a reference to so much only thereof as is relevant in the context in which the reference occurs.
- (6) (a) For the purposes of this paragraph, the expression WORK SIZE in relation to a building component manufactured to comply with, a British Standard means the size specified in the relevant British Standard as the size to which the component is required to conform, account being taken of any permissible deviations specified in that British Standard.
- (b) Subject to the provisions of sub-paragraph (c), where in these rules a size limit is expressly prescribed or necessarily implied for a dimension of 8 building component or assembly of such components, that limit shall apply as follows—
    - (i) if the dimension is that of a component complying with a British Standard which specifies a relevant work size, that limit shall apply to the relevant work size;

- (ii) if the dimension is that of a timber component which does not comply with a British Standard relating to the particular component but consists of softwood which is dimensionally in accordance with BS447I: Part 1:1969 that limit shall apply to the basic size in the case of sawn timber and to the finished size in the case of planed timber;
    - (iii) if the dimension is the thickness of a wall or other assembly of bricks or blocks (being bricks or blocks complying with a British Standard which specifies a relevant work size) and that dimension is determined by one of the dimensions of a brick or block, that limit shall apply to the relevant work size of the brick or block; and
    - (iv) in all other circumstances, that limit shall apply to the actual size of the component or assembly of components.
  - (c) Notwithstanding the provisions of subparagraph (b), any reference to the internal diameter of a pipe shall be taken as a reference to its nominal diameter or size.
- (7) In these rules—
- (a) any reference to a building shall, unless the context otherwise requires, extend to and include any part of a building, and any reference to the purpose for which a building is used shall extend to, include or mean the purpose for which it is intended to be used; and
  - (b) any reference to a building or compartment of a specified purpose group shall be construed in accordance with the provisions of Appendix D in the Approved Document approved as guidance for Part E.
- (8) In these rules, any of the following operations shall be deemed to be the erection of a building—
- (a) the re-erection of any building or part of a building when an outer wall of that building or (as the case may be) that part of a building has been pulled down, or burnt down, to within 10 feet of the surface of the ground adjoining the lowest storey of that building or of that part of the building;

- (b) the re-erection of any frame building or part of a frame building when that building or part of a building has been so far pulled down, or burnt down, as to leave only the framework of the lowest storey of that building or of that part of the building; and
- (c) the roofing over of any open space between walls or buildings.

(9) Where any provision (in these rules called a deemed-to-satisfy provision) states that the use of a particular material, method of construction or specification shall be deemed to satisfy the requirements of any rule or part thereof, that provision shall not be construed so as to require any person necessarily to use such material, method of construction or specification.

### **SECTION III - APPUCATION**

#### **A5 Exemptions**

(1) These rules do not apply to any buildings specified in section 55 of the Public Health Act<sup>1</sup> and shall not apply to any of the following buildings or to the execution of works or the installation of fittings in or in connection with such building—

- (a) a building erected in connection with any mine or quarry other than a house or a building used as offices or showrooms; or
- (b) a moveable dwelling;
- (c) building, the construction of which is subject to the Explosives Act 1961<sup>2</sup>;

(2) (a) For the purposes of this paragraph, **PARTIALLY EXEMPTED BUILDING** means any building, other than an air supported structure, which belongs to one of the classes described in Part A of Schedule 2.

- (b) In the application of these rules to—
  - (i) the erection of any partially exempted building; or
  - (ii) the execution of any works or installation of any fittings in connection with any such building; or

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<sup>1</sup> 1950-07

<sup>2</sup> 1960-10

- (iii) the alteration or extension of any such building in such a way that it will remain a partially exempted building as so altered or extended,

it shall not be necessary to comply with any provision of these rules except the provisions specified in columns (2), (3) and (4) of Parts A and B of Schedule 2 in relation to the class to which such building belongs (which, in the case of an alteration or extension, means the class to which the building as altered or extended belongs).

#### **A6 Application to erection of buildings**

Subject to the provisions of rule A5, Parts A to L of these rules shall apply to the erection of a building.

#### **A7 Application to alterations and extensions**

- (1) Subject to the provisions of rule A5, Parts A to L, shall apply to:—
- (a) a structural alteration or extension of an existing building (irrespective of when that building was erected); and
  - (b) the existing building as affected by that alteration or extension to the extent (subject to the provisions of rules A9 and K3) of prohibiting any alteration or extension which would cause a new or greater contravention of any rule.
- (2) In applying the rules under paragraph (1)(a), the alteration or extension shall be treated as if it were part of a building being newly erected identical to and to be used for the same purposes as the altered or extended building.
- (3) In determining for the purposes of paragraph (1)(b) whether the alteration or extension would cause a new or greater contravention of any rule, the following provisions shall have effect—
- (a) the rules shall be applied to the altered or extended building, such building being treated as if it were being newly erected in its proposed form for the purposes for which it will be used;
  - (b) the rules shall be applied to the existing building, such building being treated as if it were being newly erected in its existing

form but for the purposes for which it will be used when altered or extended; and

- (c) the alteration or extension shall be regarded as being such as would cause a new or greater contravention if (when the rules are applied as directed in sub-paragraphs (a) and (b)) the altered or extended building—
  - (i) contravenes any rule which does not apply to the existing building; or
  - (ii) contravenes any rule which is satisfied by the existing building; or
  - (iii) contravenes to a greater extent any rule which is contravened by the existing building.

**A8 Application to works and fittings**

Subject to any express provision to the contrary and to the provisions of rule A5—

Part A (Interpretation and general)

In Part B (Materials), rules B1 and B2

Part M (Heat-producing appliances and incinerators)

Part N (Drainage, private sewers and cesspools)

Part P (Sanitary conveniences)

shall apply to the execution of any works and the installation of any fitting (whether by way of new work or by way of replacement) to which any of those Parts respectively relate.

**A9 Application to material change of use**

(1) For the purposes of these rules, a change in the purposes for which a building or a part of a building is used shall be deemed to be a material change of use in any one of the following cases but in no other case:

**CASE A**

Where a building or a part of a building, being a building or part which was not originally constructed for occupation as a house or part thereof or which,

though so constructed, has been appropriated to other purposes, becomes used as a house or part thereof; and in such case the following provisions of these rules shall apply—

Part A (Interpretation and general)

Part C (Preparation of site and resistance to moisture) except C2 and C9

In Part E, the functional requirements E1 and E3

Part J (Refuse disposal)

In Part K (Open space, ventilation and height of rooms)

- (a) if building not originally a house: rules K1, K2 and K4 to K7
- (b) if originally a house: rules K1, K2, K3(4) and K4 to K7

In Part L (Chimneys, flue pipes, hearths and fireplace recesses)

- (a) buildings erected under former control: rules L1 to L3, L4 (except sub-paragraphs (1)(c)(ii) and (1)(d)), L5, L7 to L13 and L15 to L22
- (b) other buildings: all rules.

#### CASE B

Where a building or a part of a building, being a building or part which was originally constructed for occupation as a house by one family only, becomes occupied by two or more families and is so altered or extended as to create separate dwellings; and in such case the following provisions of these rules shall apply—

Part A (Interpretation and general)

In Part E, the functional requirements E1, E2, E3 and E5

Part J (Refuse disposal)

In Part K (Open space, ventilation and height of rooms): rules K1, K2 and K4 to K7

in Part L (Chimneys, flue pipes, hearths and fireplace recesses—



- (a) buildings erected under former control: rules L1 to L3, L4 (except sub-paragraphs (1)(c)(ii) and (1)(d)), L5, L7 to L13 and L15 to L22
- (b) other buildings: all rules.

**CASE C**

Any case not falling within the definition of any other case specified in this paragraph, where the purpose for which a building, or part of a building, is used is changed to such an extent that the purpose group of that building or part, as determined in Appendix D of the Approved Document for Part E, is changed; and in such case (subject to the provisions of rule A5) the following provisions of these rules shall apply—

Part A (Interpretation and general)

In Part E, functional requirements E1, E2, E3 and E5.

**CASE D**

Any case not falling within the definition of Case A where either—

- (a) the purpose for which a building or part of a building was constructed to be used was such that it was expressly exempted from the requirements of all or any of the building bylaws or building rules in force at that time and the purpose for which it is used is changed to such an extent that, if it had been constructed for that purpose, it would not have been so exempted; or
- (b) the purpose for which a building or part of a building is used is such that (irrespective of when that building or part was erected) it falls within any one of the descriptions of partially exempted buildings in Part A of Schedule 2 and the purpose for which it is used is changed to such an extent that it ceases to fall within that description;

and in such case (subject to the provisions of rule A5) the following provisions of these rules shall apply to the building or part of the building—

Part A (Interpretation and general)

Part B (Materials)

Part C (Preparation of site and resistance to moisture) except C2

Part D (Structural stability)

In Part E, the functional requirements E1 and E3

Part F (Thermal Insulation)

Part G (Sound insulation)

Part H (Stairways, ramps, balustrades and vehicle barriers)

Part J (Refuse disposal)

In Part K (Open space, ventilation and height of rooms): rules K1, K2 and K4 to K7

In Part L (Chimneys, flue pipes, hearths and fireplace recesses)–

- (a) buildings erected under former control: rules L1 to L3, L4 (except sub-paragraphs (1)(c)(ii) and (1)(d), L5, L7 to L13 and L15 to L22
- (b) other buildings: all rule

(2) Where a material change of use neither involves nor is accompanied by an alteration or extension, the provisions referred to in paragraph (1) shall apply to the building or part of the building in which the change of use occurs as if it were a new building identical to the building as it exists and to be used for the same purpose or purposes as the building will have after the change of use.

(3) where a material change of use involves or is accompanied by an alteration or extension–

- (a) the provisions referred to in paragraph (1) (other than rule A7) shall apply to the building or part of the building in which the change of use occurs as if it were part of a new building identical to the building as altered or extended and to be used for the same purpose or purposes as that building will have after the change of use; and
- (b) the application of rule A7 by paragraph (1) shall be effective to apply any requirements additional to those directly applied by that paragraph.

*SECTION IV – PROCEDURAL AND MISCELLANEOUS PROVISIONS*

**A10 Giving of notice and deposit of plans**

(1) Subject to the provisions of paragraphs (2) and (3), any person who intends to—

- (a) erect any building; or
- (b) make any structural alteration of or extension to a building; or
- (c) execute any works or install any fitting in connection with a building; or
- (d) make any material change of use of a building,

shall, if any provision of these rules applies to such operation or such change of use, give notice and deposit plans, sections, specifications and written particulars in accordance with the relevant rules of Schedule 3.

(2) The provisions of paragraph (1) relating to the making of a structural alteration shall not apply to the carrying out of structural work associated with an operation to which either paragraph (3)(a) or (3)(b) relates if the extent of the work does not exceed that described therein.

(3) The provisions of paragraph (1) relating to the installation of a fitting shall not apply to—

- (a) the installation of an appliance to which Part M relates (other than a high-rating appliance or an appliance described in subparagraph (b) of this paragraph) by way of replacement of an existing appliance if compliance with the relevant rules in that Part does not require the carrying out of any structural work other than such work as may be necessary in order to comply with rule M4(11); or
- (b) the installation, whether or not by way of replacement, of a Class II gas appliance or of a Class I or Class II incinerator which employs gas as a means of igniting refuse if—
  - (i) the appliance is installed by, or under the supervision of, an approved Gas Engineer;
  - (ii) compliance with the relevant rules in Part M does not require the carrying out of any structural work other than the construction of a flue pipe which is wholly within the

room or internal space in which the appliance is installed and conveys the products of combustion from the appliance to an existing flue in a chimney or a flue pipe or to the external air through an existing opening in an external wall; or

- (c) the installation of a fitting to which Part N or P relates by way of replacement of an existing fitting if compliance with the relevant rules in that Part does not require carrying out of any structural work.

(4) In paragraph (3) of this rule, words and expressions have the same meaning as in Part M.

#### **A11 Notice of commencement and completion of certain stages of work**

- (1) In this rule
  - (a) “BUILDER” means any person carrying out or intending to carry out any such operation as is referred to in rule A10(1)(a), (b) or (c) to which any of these rules apply; and
  - (b) in the calculation of a period of twenty-four hours in respect of the giving of twenty-four hours’ notice under paragraph (2), no account shall be taken of a Saturday, Sunday, Christmas Day, New Year’s Day, Good Friday, Bank holiday or day appointed for public thanksgiving or mourning.
- (2) Subject to the provisions of paragraph (6), a builder shall furnish the Government with—
  - (a) not less than twenty-four hours’ notice in writing of the date and time when the operation will be commenced;
  - (b) not less than twenty-four hours’ notice in writing before the covering up of any excavation for a foundation, any foundation, any damp-proof course or any concrete or other material laid over a site;
  - (c) not less than twenty-four hours’ notice in writing before any drain or, private sewer to which these rules apply will be haunched or covered in any way; and

- (d) notice in writing not more than seven days after the work of laying such drain or private sewer has been carried out, including any necessary work of haunching or surrounding the drain or private sewer with concrete and backfilling the trench.

(3) If the builder neglects or refuses to give any such notice, he shall comply with any notice in writing from the Government requiring him within a reasonable time to cut into, lay open or pull down so much of the building, works or fittings as prevents the Government from ascertaining whether any of these rules have been contravened.

(4) If the builder, in accordance with any notice in writing received from the Government which specifies the manner in which any building or works or fittings contravenes the requirements of these rules, has altered or added to the building, works or fittings so as to secure compliance with these rules, he shall, within a reasonable time after the completion of such alteration or addition, give notice in writing to the Government of its completion.

(5) Subject to the provisions of paragraph (6), the builder shall give to the Government notice in writing of—

- (a) the erection of a building, not more than seven days after completion, or (if a building or part of a building is occupied before completion) not less than seven days before occupation as well as not more than seven days after completion;
- (b) any alteration or extension of a building, not more than seven days after completion; and
- (c) the execution of works or the installation of fittings in connection with a building, not more than seven days after completion.

(6) The requirements of paragraphs (2) and (5) shall not apply to the installation of any fitting if the giving of notices and the deposits of plans, sections, specifications and written particulars are not required under the provisions of rule A10.

#### **A12 Application for dispensation or relaxation**

Any application for a direction dispensing with or relaxing any requirement of these rules shall be submitted in duplicate in the form prescribed in Schedule 4.

#### **A13 Exercise of power of dispensation or relaxation**

(1) The power under section 48 of the Public Health Act to dispense with or relax any requirement of the rules specified below shall, in accordance with the said section be exercisable by the Development and Planning Commission in relation to any application for dispensation or relaxation.

Part B (Materials)

Part C (Preparation of site and resistance to moisture)

Part E (Safety in fire) except when applied to—

- (a) a building, or part of a building, which exceeds 7000 m<sup>3</sup> in capacity; or
- (b) a building, or part of a building, in any complex of buildings in multi-occupation, being a complex which exceeds 4000 m<sup>3</sup> in area and consists of or incorporates a shopping precinct; or
- (c) an air supported structure

Part F (Thermal Insulation)

Part G (Sound insulation)

Part H (Stairways, ramps, balustrades and vehicle barriers)

Part J (Refuse disposal)

Part K (Open space, ventilation and height of rooms)

Part L (Chimneys, flue pipes, hearths and fireplace recesses)

Part M (Heat-producing appliances and incinerators)

Part N (Drainage, private sewers and cesspools)

Part P (Sanitary conveniences).

(2) Any notification by the Government to an applicant that they have refused his application for dispensation or relaxation of any requirement of these rules shall indicate the provisions of section 52 of the Public Health Act.

**A14 Testing of drains and private sewers**

A duly authorised officer of the Government shall be permitted to make such tests of any drain or private sewer as may be necessary to establish compliance with any of the provisions of Part N.

**A15 Sampling of materials**

A duly authorised officer of the Government shall at all times be permitted to take such samples of the materials to be used in the erection, alteration or extension of a building, or the execution of works or the installation of fittings, as may be necessary to enable the Government to ascertain whether such materials comply with the provisions of these rules.

**A16 Short-lived or otherwise unsuitable materials**

(1) Section 33 of the Public Health Act (which enables the Government to reject plans for the construction of buildings of materials specified in building rules as being materials which are, in the absence of special care, liable to rapid deterioration or are otherwise unsuitable for use in the construction of permanent buildings, or to impose a period after which such buildings must be removed and conditions as to their use) shall apply to—

- (a) any sheet material whether flexible or rigid which constitutes the whole or part of an external wall or roof of a building and is supported directly or indirectly by air or other gaseous substances; and
- (b) any material specified in Tables 1 or 2 of Schedule 5 if used as the weather-resisting part of any external wall or roof other than—
  - (i) a wall or roof of a partially exempted building within Class 1, 2, 3 or 7 as described in Part A of Schedule 2; or
  - (ii) an existing wall or roof of a building or part of a building in which a material change of use Case A, B or C (as defined in rule 9(1)) occurs.

(2) In determining for the purposes of paragraph (1)(b) whether a material is used as the weather-resisting part of an external wall or roof, no account shall be taken of that material being either—

- (a) painted; or

- (b) coated, surfaced or rendered with any other material which, when so used, does not in itself constitute effective resistance against weather.

## PART B

### Materials and workmanship

#### B1 Materials and workmanship

- (1) Subject to the provisions of paragraph (2), any materials used—
  - (a) in the erection of a building;
  - (b) in the structural alteration or extension of a building;
  - (c) in the execution of works or the installation of fittings, being works or fittings to which any provision of these rules applies; or
  - (d) for the backfilling of any excavation on a site in connection with any building or works or fittings to which any provision of these rules applies,

shall be—

- (i) of a suitable nature and quality in relation to the purposes for and conditions in which they are used;
  - (ii) adequately mixed or prepared; and
  - (iii) applied, used or fixed so as adequately to perform the functions for which they are designed.
- (2) The requirements of paragraph (1) shall apply only in so far as they are necessary for ensuring public health and safety.
- (3) Building works shall be carried out—
  - (a) with adequate and proper materials which—
    - (i) are appropriate for the circumstances in which they are used,
    - (ii) are adequately mixed or prepared, and



(iii) are applied, used or fixed so as adequately to perform the functions for which they are designed; and

(b) in a workmanlike manner.

**B2** Deemed-to-satisfy provisions regarding the fitness of materials

*The use of any material or any method of mixing or preparing materials or of applying using or fixing materials which conforms with a British Standard or a British Standard Code of practice prescribing the quality of material or standards of workmanship shall be deemed to be a sufficient compliance with the requirements of rule B1(1) if the use of that material or method is appropriate to the purpose for and conditions in which it is used.*

**B3** Special treatment of softwood timber

Softwood timber used in the construction of a roof or floor or fixed within a roof or floor, including any ceiling joist within the void spaces of the roof or floor, shall be adequately treated with a suitable preservative to prevent infestation and decay

## **BUILDINGS**

### **PART C**

#### **Preparation of site and resistance to moisture**

##### **C1 Interpretation of Part**

In this Part—

EXCEPTED BUILDING—

- (a) means a building which is intended to be used wholly for the storage of goods or for the accommodation of plant or machinery and in which the only persons habitually employed are engaged solely in the general care, supervision, rule, maintenance, storage or removal of such goods, plant or machinery; and
- (b) without prejudice to the foregoing generality, includes a building which is intended to be used wholly for a purpose such that compliance with the requirements of any rule in this Part would not serve to increase protection to the health of persons employed in that building; and

FLOOR includes any base or structure between the surface of the ground, or the surface of any hardcore laid upon the ground, and the upper surface of the floor.

##### **C2 Preparation of site**

(1) The site of any building, other than an excepted building, shall be effectively cleared of turf and other vegetable or deleterious matter.

(2) wherever the dampness or position of the site of a building renders it necessary, the subsoil of the site shall be effectively drained or such other steps shall be taken as will effectively protect the building against damage from moisture.

(3) Where, during the making of an excavation in connection with a building, works or fittings, an existing subsoil drain is severed, adequate precautions shall be taken to secure the continued passage of subsoil water through such drain or otherwise to ensure that no subsoil water entering such drain causes dampness of the site of the building

**C3 Protection of floors next to the ground**

(1) Such part of a building (other than an excepted building) as is next to the ground shall have a floor which is so constructed as to prevent the passage of moisture from the ground to the upper surface of the floor.

(2) Any floor which is next to the ground shall be so constructed as to prevent any part of the floor being adversely affected by moisture or water vapour from the ground.

(3) No hardcore laid under such floor shall contain water-soluble sulphates or other deleterious matter in such quantities as to be liable to cause damage to any part of the floor.

**C4 Deemed-to-satisfy provisions for suspended limber floors**

*Where a floor is constructed as a suspended floor and incorporates timber, the requirements of rule C3(1) and (2) shall be deemed to be satisfied if—*

- (a) the ground surface is covered with a layer of concrete not less than 100 mm thick, composed of cement and fine and coarse aggregate conforming to BS882: Part 2: 1973 in the proportions of 50 kg of cement to not more than 0.1 m<sup>3</sup> of fine aggregate and 0.2 m<sup>3</sup> of coarse aggregate, properly laid on a bed of hardcore consisting of clean clinker, broken brick or similar inert material free from water-soluble sulphates or other deleterious matter in such quantities as to be liable to cause damage to the concrete;*
- (b) the concrete is finished with a trowel or spade finish and so laid that its top surface is not below the highest level of the surface of the ground or paving adjoining any external wall of the building;*
- (c) there is a space above the upper surface of the concrete of not less than 75 mm to the underside of any wall plate, and of not less than 125 mm to the underside of the suspended timbers, and such space is clear of debris and has adequate through ventilation; and*
- (d) there are damp-proof courses in such positions as to ensure that moisture from the ground cannot reach any timber or other material which would be adversely affected by it.*

C5 Deemed-to-satisfy provisions for floors of solid construction incorporating timber

*Where a floor is constructed as a solid floor and incorporates timber, the requirements of rule C3(1) and (2) shall be deemed to be satisfied if—*

- (a) the ground surface is covered in the manner described in rule C4(a); and*
- (b) either—*
  - (i) the concrete incorporates a dam-proof sandwich membrane consisting of a continuous layer of hot applied soft bitumen or coal tar pitch not less than 3 mm thick, or consisting of not less than three coats of bitumen solution, bitumen/rubber emulsion or tar/rubber emulsion; or*
  - (ii) the timber is laid or bedded directly upon a damp-proof course of asphalt or pitch mastic not less than 12.5 mm thick; or*
  - (iii) (where the floor incorporates wood blocks not less than 16 mm thick) the blocks are dipped in an adhesive of hot soft bitumen or coal tar pitch and so laid upon the concrete that the adhesive forms a continuous layer;*
- (c) such membrane, damp-proof course or layer of adhesive is—*
  - (i) situated at a level not lower than the highest level of the surface of the ground or paving adjoining any external wall of the building; and*
  - (ii) continuous with, or joined and sealed to, any barrier to moisture inserted in any adjoining floor, wall, pier, column or chimney so as to ensure compliance with any relevant requirements of rules C3 or C6; and*
- (d) where the timber is fixed to wooden fillets embedded in concrete, the fillets are treated in accordance with the provisions of BS3452: 1962 or BS4072:1974.*

**C6 Protection of walls against moisture**

Any wall, pier or column of a building and any chimney shall be so constructed as not to transmit moisture from the ground—

- (a) to any material which is used in its construction or in the construction of any other part of the building and is of such a nature as to be liable to be adversely affected by such moisture; or
- (b) (unless the building is an excepted building or the chimney is a separate building) to the inside of the building.

**C7** Deemed-to-satisfy provisions for protection of walls against moisture

*The requirements of rule C6 shall be deemed to be satisfied if the wall, pier, column or chimney—*

- (a) *has a damp-proof course which, in the case of an external wall or of a pier, column or chimney forming part of an external wall, is at a height of not less than 150 mm above the finished surface of the adjoining ground and any paving laid on the adjoining ground;*
- (b) *has such other additional barriers to moisture in continuation of the damp-proof course required by sub-paragraph (a) as may be necessary to ensure that moisture is not transmitted to any timber or other material which would be adversely affected by it or (unless the building is an excepted building or the chimney is a separate building) to the inside of the building; and*
- (c) *being a wall, pier, column or chimney which extends below the level of the damp-proof course required by sub-paragraph (a), is constructed below that level wholly of materials not likely to be adversely affected by moisture from the ground.*

**C8** Weather resistance of external walls

Any external wall, including any parapet, pier or column forming part of an external wall, and any chimney shall be so constructed as not to transmit moisture due to rain or snow to any part of the building which would be adversely affected by such moisture and (unless the building is an excepted building or the chimney is a separate building) shall be so constructed as adequately to resist the penetration of such moisture to the inside of the building.

**C9 Prevention of damp in certain cavity walls**

(1) Where damp-proof courses are inserted in the leaves of any cavity wall constructed of bricks or blocks in order to satisfy the requirements of rule C6, the cavity shall extend not less than 150 mm below the level of the lower damp-proof course unless the structure forming the bottom of the cavity complies with the requirements of paragraph (2) as to a bridging.

(2) In any such wall, wherever a cavity is bridged otherwise than by—

- (a) a wall tie; or
- (b) a bridging which occurs at the top of a wall in such a position that it is protected by a roof,

a damp-proof course or flashing shall be inserted in such a manner as will prevent the passage of moisture from the outer leaf to the inner leaf of the wall.

(3) Wherever there is an opening in such a wall, the jambs shall have a suitable vertical damp-proof course unless the cavity is closed in such other manner as will prevent the passage of moisture from the outer leaf to the inner leaf of the wall.

**C10 Weather resistance of roofs**

The roof of any building shall be weatherproof and so constructed as not to transmit moisture due to rain or snow to any part of the structure of the building which would be adversely affected by such moisture.

**PART D  
Structural stability****D1 Interpretation of Part**

In this Part—

**DEAD LOAD** means the force due to the static mass of all walls, partitions, floors, roofs and finishes, including all other permanent construction;

**IMPOSED LOAD** means the load assumed to be produced by the intended occupancy or use, including distributed, concentrated impact, inertia and snow loads, but excluding wind loads; and

WIND LOAD means all loads due to the effect of wind pressure or suction.

**D2 Calculation of loading**

(1) For the purposes of paragraph (3)–

BEAM includes any joist, purlin, rafter, rib or truss;

FLOOR includes any part of a floor to be used as a corridor and any balcony used in connection with a floor;

PLAN AREA in relation to a floor, ceiling or roof means the area thereof measured on plan; and

SLAB includes boarding, roof decking and any beams which are spaced apart at a distance of not more than 1m between centres.

(2) Subject to the provisions of rule D17, in determining for the purposes of this Part the loads to which a building will be subjected–

- (a) dead loads shall be calculated in accordance with CP 3: Chapter V: Part 1:1967;
- (b) imposed loads shall be calculated–
  - (i) in accordance with CP3: Chapter V: Part 1:1967; or
  - (ii) in the case of the imposed load on a floor, ceiling or roof of a house having not more than three storeys and intended for occupation by one family only, either in accordance with that code or in accordance with paragraph (3):

Provided that, if any actual imposed load will exceed or is likely to exceed the load so calculated, such actual load shall be substituted for the load so calculated; and

- (c) wind loads shall be calculated in accordance with CP3: Chapter V: Part 2:1972:

Provided that–

- (i) in no case shall the factor S3 be taken as less than 1; and

- (ii) if a building falls outside the range of those for which that code gives force and pressure coefficients, values shall be used which are appropriate in relation to that building, having regard to its construction, size, proportions, shape, profile and surface characteristics.

(3) The imposed load on any ceiling or roof of a house having not more than three storeys may be taken to be equivalent to a uniformly distributed load per square metre of plan area of not less than—

- (a) in the case of a ceiling,  $720\text{N/m}^2$ ; or
- (b) in the case of a roof (whether flat or pitched) to which there is only such access as may be necessary for the purposes of maintenance or repair,  $720\text{N/m}^2$  less  $50\text{N}$  for every  $3^\circ$  by which the pitch exceeds  $30^\circ$

### **D3 Foundations**

The foundations of a building shall—

- (a) safely sustain and transmit to the ground the combined dead load, imposed load and wind load in such a manner as not to cause any settlement or other movement which would impair the stability of, or cause damage to, the whole or any part of the building or of any adjoining building or works;
- (b) be taken down to such a depth, or be so constructed, as to safeguard the building against damage by swelling, shrinking or freezing of the subsoil; and
- (c) be capable of adequately resisting any attack by sulphates or any other deleterious matter present in the subsoil.

### ***D4 Deemed-to-satisfy provision for foundations***

*The requirements of rule D3 shall be deemed to be satisfied if the foundations of a building are constructed in accordance with CP2004: 1972.*

### ***D5 Deemed-to-satisfy provisions for reinforced concrete foundations***

*(1) Subject to the provisions of paragraph (2), if the foundations of a building are constructed wholly or in part of reinforced concrete, the*



*requirements of rule D3(a) shall be deemed to be satisfied, in so far as those parts of the foundations constructed of reinforced concrete are concerned, if the work complies with either—*

- (a) *CP110: Part 1: 1972 as read with CP110: Part 2: 1972 and CP110:Part 3: 1972; or*
- (b) *CP114: 1969.*

*(2) The recommendations of the publications specified in paragraph (1)(a) shall not be used in conjunction with those of the publication specified in paragraph (1)(b).*

***D6 Deemed-to-satisfy provision for foundations of buildings having not more than four storeys (other than factories or storage buildings)***

*If foundations form part of a building having not more than four storeys (other than a factory or storage building), the requirements of rule D3(a) shall be deemed to be satisfied if niche foundations are constructed in accordance with CP 101: 1972.*

***D7 Deemed-to-satisfy provisions for strip foundations***

*if the foundations of a building are constructed as strip foundations of plain concrete situated centrally under the walls, the requirements of rule D3(a) shall be deemed to be satisfied if—*

- (a) *there is no made ground or wide variation in the type of subsoil within the loaded area and no weaker type of soil exists below the soil on which the foundations rest within such a depth as may impair the stability of the structure.*
- (b) *the width of the foundations is not less than the width specified in the Table to this rule in accordance with the related particulars specified in the Table*
- (c) *the concrete is composed of cement and fine and coarse aggregate conforming to BS882: Part 2: 1973 in the proportion of 50 kg of cement to not more than 0.1 m<sup>3</sup> of fine aggregate and 0.2 m<sup>3</sup> of coarse aggregate;*
- (d) *the thickness of the concrete is not less than its projection from the base of the wall or footing and is in no case less than 150 mm,*

## BUILDING RULES 2017

This version is out of date

- (e) where the foundations are laid at more than one level, at each change of level the higher foundations extend over and unite with the lower foundations for a distance of not less than the thickness of the foundations and in no case less than 300 mm; and
- (f) where there is a pier, buttress or chimney forming part of a wall, the foundations project beyond the pier, buttress or chimney on all sides to at least the same extent as they project beyond the wall.

| Table to Rule D7                   |  |  | Deemed-to-satisfy provisions  |         |  |         |         |         |
|------------------------------------|--|--|---|---------|--|---------|---------|---------|
| Minimum width of strip foundations |  |  |   |         |  |         |         |         |
| Type of subsoil                    | Condition of subsoil                               | Field test applicable  | Minimum width in millimetres for total load in kilonewtons per lineal metre of load bearing wall in of not more than— |         |  |         |         |         |
|                                    |  |  | 20kN /m   | 30kN /m | 40kN /m  | 50kN /m | 60kN /m | 70kN /m |
| (1)                                | (2)  | (3)  | (4)   | (5)     | (6)  | (7)     | (8)     | (9)     |
| <b>I</b>                           |  |  |   |         |  |         |         |         |
| Rock                               | Not inferior to sandstone, limestone or firm chalk | Requires at least a pneumatic or other mechanically operated pick for excavation   | In each case equal to the width of wall   |         |  |         |         |         |
| <b>II</b>                          |  |  |   |         |  |         |         |         |
| Gravel Sand                        | Compact Compact                                    | Requires pick for excavation. Wooden peg 50 mm square in cross-section hard to drive beyond 150 mm                       | 250   | 300     | 400  | 500     | 600     | 650     |
| <b>III</b>                         |  |  |   |         |  |         |         |         |
| Clay Sandy clay                    | Stiff Stiff  | Cannot be moulded with the fingers and requires a pick or pneumatic or other mechanically operated spade for its removal | 250   | 300     | 400  | 500     | 600     | 650     |
| <b>IV</b>                          |  |  |   |         |  |         |         |         |
| Clay Sandy clay                    | Firm Firm  | Can be moulded by substantial pressure with the fingers and can be excavated with Graft or spade                         | 300   | 350     | 450  | 600     | 750     | 850     |
| <b>V</b>                           |  |  |   |         |  |         |         |         |
| Sand Silty sand Clayey sand        | Loose Loose Loose                                  | Can be excavated with a spade Wooden peg 50mm square in cross-section can be easily driven                               | 400   | 600     | Note: Foundations do not fall within the provisions of rule D7 if the total load exceeds 30kN/m                                  |         |         |         |
| <b>VI</b>                          |  |  |   |         |  |         |         |         |
| Silt Clay Sandy clay Silty clay    | Soft Soft Soft Soft                                | Fairly easily moulded in the fingers and readily excavated   | 450   | 650     | Note: In relation to types VI and VII, foundations do not fall within the provisions of rule D7 if the total load exceeds 30kN/m |         |         |         |

|            |           |                               |     |     |
|------------|-----------|-------------------------------|-----|-----|
| VII        |           |                               |     |     |
| Silt       | Very soft | Natural sample in winter      | 600 | 850 |
| Clay       | Very soft | conditions exudes between     |     |     |
| Sandy clay | Very soft | fingers when squeezed in fist |     |     |
| Silty clay | Very soft |                               |     |     |

## D8 Structure above foundations

The structure of a building above the foundations shall safely sustain and transmit to the foundations the combined dead load, imposed load and wind load without such deflection or deformation as will impair the stability of, or cause damage to, the whole or any part of the building.

### D9 Deemed-to-satisfy provision for structural work of steel

*The requirements of rule D8 shall be deemed to be satisfied as to any structural work of steel if the work complies with BS449: Part 2:1969 as read with Addendum No.1 (April 1975) to BS449: Part 2:1969 and Supplement No.1 (PD 3343) to BS 449: Part 1: 1970.*

### D10 Deemed-to-satisfy provision for structural work of aluminium

(1) *Subject to paragraph (2), tile requirements of rule D8 shall be deemed to be satisfied as to any structural work in one of tile principal or supplementary aluminium, alloys designated in section 1.1 of CP 118: 1969 if the work complies with that publication.*

(2) *For the purposes of section 5.3 of CP 118: 1969, the structure shall be classified as a safe-life structure.*

### D11 Deemed-to-satisfy provisions for structural work of reinforced, prestressed or plain concrete

(1) *Subject to the provisions of paragraph (2), the requirements of rule D8 shall be deemed to be satisfied as to any structural work (whether cast in-situ or precast) of reinforced, prestressed or plain concrete if the work complies with—*

(a) *CP110: Part 1: 1972 as read with CP110: Part 2: 1972 and CP110:Part 3: 1972; or*

(b) *in the case of work of reinforced, prestressed or precast concrete, CP114: 1969, CP115: 1969 or CP116: 1969 as read with CP116: Addendum No.1: 1970 whichever is appropriate.*

(2) *The recommendations of the publications specified in paragraph (1)(a) shall not be used in conjunction with those of any publication specified in paragraph (1)(b).*

**D12 Deemed-to-satisfy provisions for structural work of timber**

*The requirements of rule D8 shall be deemed to be satisfied as to any structural work of timber if—*

- (a) *the work complies with CP 112: Part 2: 1971; or*
- (b) *in the case of work which—*
  - (i) *consists of a floor, ceiling or roof of a house which has not more than three storeys and is intended to be occupied by one family only; and*
  - (ii) *includes any timber member within the meaning of Schedule 6, that member complies with the rules contained in that schedule and the work in all other respects complies with CP 112: Part 2: 1971; or*
- (c) *in the case of work which consists of a roof of trussed rafter construction, the work complies with CP 112: Part 3: 1973.*

**D13 Deemed-to-satisfy provisions for structural work of bricks, blocks or concrete**

(1) *The requirements of rule D8 shall be deemed to be satisfied as to any structural work of bricks, blocks or plain concrete if—*

- (a) *the work complies with CP111: Part 2: 1970; or*
- (b) *the work complies with BS5628 Part I 1978 and Part II; or*
- (c) *in the case of work comprising a wall constructed of bricks or blocks to which Schedule 7 applies, the thickness of such wall is determined in accordance with the rules of that Schedule and the work in all other respects complies with CP121: Part I: 1973; or*

(2) *The recommendations of the publications specified in paragraph 1(a) shall not be used in conjunction with those of any publication specified in paragraph 1(b).*

***D14 Deemed-to-satisfy provision for walls of stone, flints or Clunches of bricks***

*The requirements of rule D8 shall be deemed to be satisfied as to any wall constructed of stone, flints, clunches of bricks or other burnt or vitrified material, if such wall is one to which Schedule 7 applies and it is constructed in accordance with the rules of that schedule.*

***D15 Deemed-to-satisfy provision for chimneys of bricks, blocks or plain concrete***

*(1) The requirements of rule D8 shall be deemed to be satisfied as to any wholly external part of a chimney or similar structure constructed of bricks, blocks, or plain concrete which is not supported by adequate ties or otherwise made secure if its height, measured from the level of the highest point in line of junction with the roof, gutter or other part of the building and from, any higher level to the top of such external part (including in the case of a chimney, any pot or other flue terminal), is not more than four-and-half times its width at that level.*

*(2) For the purpose of this rule: the width of a chimney or similar structure at any level shall be taken to be the least horizontal dimension at that level which can be shown on an elevation of the chimney or structure from any direction.*

***D16 Deemed-to-satisfy provision for Composite construction in structural steel and Concrete***

*The requirements of rule D8 shall be deemed to be satisfied as to any composite construction in structural steel and concrete if the work complies with CP 117: Part 1: 1965.*

**D17 Further requirements for the structure of certain buildings**

(1) In addition to the requirements of rule D8, the provisions of this rule shall apply to a building having five or more storeys (including basement storeys, if any).

(2) In this rule—

PORTION, in relation to a structural member, means that part of a member which is situated or spans between adjacent supports or between a support and the extremity of a member:

Provided that, in the case of a wall, a portion shall be taken to have a length which is the lesser of the following, namely, the 'length determined in accordance with the preceding provisions of this definition or two and a quarter times the height of the portion (or, if its height varies, its greatest height);

STOREY means that part of a building which is situated between either–

- (a) the top surfaces of two vertically adjacent floors of the building; or
- (b) the top surface of the uppermost floor and the roof covering of the building;

STRUCTURAL FAILURE means the failure of a structural member fully to perform its function in contributing to the structural stability of the building of which it forms part; and

STRUCTURAL MEMBER means a member essential to the structural stability of a building.

- (3) In the application of this rule–
  - (a) dead load shall be determined in accordance with the provisions of rule D2(2)(a);
  - (b) imposed load shall be determined in accordance with the provisions of rule D2(2)(b) except that the imposed load on any structural member may be reduced by not more than two thirds for the purposes of paragraph (4) and shall be reduced by two thirds for the purposes of paragraph (5):

Provided that–

- (i) any load especially allowed for plant, machinery or equipment shall not be reduced;
- (ii) in the case of a warehouse, garage or building for storage purposes, no reduction shall be made; and
- (iii) in the case of a factory or workshop, the load shall not be reduced below 5 kN/m<sup>2</sup>;

- (c) wind load may be taken as not less than one third of the load determined in accordance with the provisions of rule D2(2)(c); and
- (d) the load which would cause structural collapse shall be assumed to exceed the combined dead load, imposed load and wind load on the structure together with, for the purposes of paragraph (5), the loads specified in sub-paragraphs (b) and (c) of that paragraph, by at least 5%.

(4) A building to which the provisions of this rule apply shall be so constructed that if any portion of any one structural member (other than a portion which satisfies the conditions specified in paragraph (5)) were to be removed—

- (a) structural failure consequent on that removal would not occur within any storey other than the storey of which that portion forms part, the storey next above (if any) and the storey next below (if any); and
- (b) any structural failure would be localised within each such storey.

(5) The conditions referred to in paragraph (4) are that the portion should be capable of sustaining without structural failure the following loads applied simultaneously—

- (a) the combined dead load, imposed load and wind load;
- (b) a load of 34 kN/m<sup>2</sup> applied to that portion from any direction; and
- (c) the load, if any, which would be directly transmitted to that portion by any immediately adjacent part of the building if that part were subjected to a load of 34 kN/m<sup>2</sup> applied in the same direction as the load specified in subparagraph (b).

***D18 Deemed-to-satisfy provision for localisation of structural failure***

(1) *In this rule, STOREY and STRUCTURAL FAILURE have the meanings assigned by rule D17(2).*

(2) *The requirements of rule D17(4)(b) shall be deemed to be satisfied if the area within which structural failure might occur would not exceed 70 m<sup>2</sup>*

or 15% of the area of the storey (measured in the horizontal plane) whichever is the less.

**D19 Deemed-to-satisfy provisions for the structure of certain building's constructed of reinforced, prestressed or plain concrete**

(1) Subject to the provisions of paragraphs (2) and (3), of the structure of a building consists of work (whether cast in-situ or precast) of reinforced, prestressed or plain concrete, the provisions of rule D17 shall be deemed to be satisfied if—

- (a) the work complies with the recommendations relating to the effect of misuse or accident in Section 2 of CP110: Part 1: 1972 and with all relevant recommendation, relating to the provision of ties in that publication; or
- (b) in the case of work of reinforced, prestressed or precast concrete, the work complies with the recommendations relating to the effect of misuse or accident in clause 301 of CP114: 1969, CP115: 1969 or CP116:1969 as read with CP116: Addendum No.1: 1970 whichever is appropriate and with all relevant recommendations relating to the provision of ties in that publication.

(2) The recommendations of the publication specified in paragraph (1)(a) shall not be used in conjunction with those of any publication specified in paragraph (1)(b).

(3) If for the purposes of rule D11, reliance is placed on any one of the publications referred to in paragraph (1) of this rule, then reliance may be placed only on that publication for the purposes of this rule.

(4) For the purposes of CP 116: 1969 and CP 116: Addendum No.1: 1970, the building shall be classified as a Group 1 structure.

**D20 Use of high alumina cement for structural work**

Rule B2 and the deemed-to-satisfy provisions in this Part shall not apply in relation to structural work, including foundations, in which high alumina cement is used.

**PART E**  
**Safety in fire**

**E1 Means of warning and escape**



(1) The building shall be designed and constructed so that there are appropriate provisions for the early warning of fire and appropriate means of escape in case of fire from the building to a place of safety outside the building capable of being safely and effectively used at all material times.

(2) Requirement E1 does not apply to any prison or other place of legal internment.

**E2 Internal fire spread (linings)**

(1) To inhibit the spread of fire within the building, the internal linings shall—

(a) adequately resist the spread of flame over their surfaces; and

(b) have, if ignited, a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

(2) In this rule ‘internal linings’ mean the materials or products used in lining any partition, wall, ceiling or other internal structure.

**E3 Internal fire spread (structure)**

(1) The building shall be designed and constructed so that, in the event of fire, its stability will be maintained for a reasonable period.

(2) A wall common to two or more buildings shall be designed and constructed so that it adequately resists the spread of fire between those buildings. For the purposes of this sub-rule a house in a terrace and a semi-detached house are each to be treated as a separate building.

(3) Where reasonably necessary to inhibit the spread of fire within the building, measures shall be taken, to an extent appropriate to the size and intended use of the building, comprising either or both of the following:

(a) sub-division of the building with fire-resisting construction;

(b) installation of suitable automatic fire suppression systems.

(4) The building shall be designed and constructed so that the unseen spread of fire and smoke within concealed spaces in its structure and fabric is inhibited.

(5) Rule E3(3) does not apply to material alterations to any prison or other place of legal internment.

**E4 External fire spread**

(1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the height, use and position of the building.

(2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.

**E5 Access and facilities for the fire and rescue service**

(1) The building shall be designed and constructed so as to provide reasonable facilities to assist firefighters in the protection of life.

(2) Reasonable provision shall be made within the site of the building to enable fire appliances to gain access to the building.

**Part F Energy Performance of Buildings.**

Methodology of calculation and expression of energy performance.

F1.(1) The Government shall approve—

- (a) a methodology of calculation of the energy performance of buildings, including methods for calculating asset ratings and operational ratings of buildings; and
- (b) ways in which the energy performance of buildings, as calculated in accordance with the methodology, shall be expressed.

(2) In this rule—

“asset rating” means a numerical indicator of the amount of energy estimated to meet the different needs associated with a standardised use of the building; and

“operational rating” means a numerical indicator of the amount of energy consumed during the occupation of a building over a period of time.

**Minimum energy performance requirements for buildings.**

F2. The Government shall approve minimum energy performance requirements for new buildings, in the form of target CO<sub>2</sub> emission rates, which shall be based upon the methodology approved pursuant to rule F1.

**New buildings.**

F3.(1) Where a new building is erected, it shall not exceed the target CO<sub>2</sub> emission rate for the building that has been approved pursuant to rule F2.

(2) In this rule—

“new building” means—

- (a) the construction of a building which requires a permit under section 17 of the Town Planning Act 1999, for which energy is used to condition the indoor climate; and
- (b) the alteration of an existing building so as to constitute a material change of use which requires a permit under section 17 of the Town Planning Act 1999,

Provided that such permit was granted no earlier than one month after the coming into force of the Building (Energy Performance) (Amendment) Rules 2009 and the Building (Amendment) Rules 2009.”.

**Consequential improvements to energy performance.**

F4.(1) Paragraph (2) applies to an existing building with a total useful floor area over 1,000m<sup>2</sup> where the proposed building work consists of or includes—

- (a) an extension;
- (b) the initial provision of any fixed building services; or
- (c) an increase to the installed capacity of any fixed building services.

(2) Subject to paragraph (3), where this paragraph applies, such work, if any, shall be carried out as is necessary to ensure that the building complies with the requirements of Part F of Schedule 11.

(3) Nothing in paragraph (2) requires work to be carried out if it is not technically, functionally and economically feasible.

**Energy performance Certificates.**

F5.(1) This rule applies where—

- (a) a building is erected; or
- (b) a building is modified so that it has a greater or fewer number of parts designed or altered for separate use than it previously had, where the modification includes the provision or extension of any of the fixed services for heating, hot water, air conditioning or mechanical ventilation.

(2) The person carrying out the work shall—

- (a) give an energy performance certificate for the building to the owner of the building; and
- (b) give to the Government notice to that effect, including the reference number under which the energy performance certificate has been registered in accordance with rule F6(4).

(3) The energy performance certificate and notice shall be given not later than five days after the work has been completed.

(4) The energy performance certificate must be accompanied by a recommendation report containing recommendations for the improvement of the energy performance of the building, issued by the energy assessor who issued the energy performance certificate.

(5) An energy performance certificate must—

- (a) express the asset rating of the building in a way approved by the Government under rule F1;
- (b) include a reference value such as a current legal standard or benchmark;
- (c) be issued by an energy assessor who is accredited to produce energy performance certificates for that category of building; and
- (d) include the following information—

- (i) the reference number under which the certificate has been registered in accordance with rule F6(4);
- (ii) the address of the building;
- (iii) an estimate of the total useful floor area of the building;
- (iv) the name of the energy assessor who issued it;
- (v) the name and address of the energy assessor's employer, or, if he is self-employed, the name under which he trades and his address;
- (vi) the date on which it was issued; and
- (vii) the name of the approved accreditation scheme of which the energy assessor is a member.

(6) Certification for apartments or units designed or altered for separate use in blocks may be based—

- (a) except in the case of a dwelling, on a common certification of the whole building for blocks with a common heating system; or
- (b) on the assessment of another representative apartment or unit in the same block.

(7) Where—

- (a) a block with a common heating system is divided into parts designed or altered for separate use; and
- (b) one or more, but not all, of the parts are dwellings,

certification for those parts which are not dwellings may be based on a common certification of all the parts which are not dwellings.

**Energy assessors.**

F6.(1) An energy assessor must be a member of an accreditation scheme approved by the Government.

(2) The terms of approval of any accreditation scheme may be limited in relation to the categories of building for which members may produce certificates.

- (3) Before approving an accreditation scheme the Government must be satisfied that the scheme contains adequate provision—
- (a) for ensuring that members of the scheme carry out consistent and accurate energy assessments in an independent manner;
  - (b) for ensuring that members of the scheme are fit and proper persons who are qualified (by their education, training and experience) to carry out energy assessments;
  - (c) for requiring members of the scheme to prepare energy performance certificates and recommendation reports using a standard form for each type of document;
  - (d) for ensuring the production and publication of a code as regards the conduct required of its members;
  - (e) for indemnity arrangements in relation to owners and prospective or actual buyers or tenants;
  - (f) for facilitating the resolution of complaints against members of the scheme;
  - (g) for requiring energy performance certificates and recommendation reports produced by members of the scheme to be entered on the relevant register referred to in paragraph (4); and
  - (h) for the keeping of a register of the members of the scheme.

(4) Where an energy assessor issues an energy performance certificate and recommendation report he must ensure they are entered onto the relevant register kept by the Energy Conservation Officer before he gives them to the person who requested that he issue them.

#### **Related Party disclosures.**

F7.(1) An energy assessor must include in an energy performance certificate a declaration of any personal or business relationship (other than in relation to producing the certificate) that he has with—

- (a) the person who commissioned the certificate; and
- (b) any person who he believes—
  - (i) has or may have a personal or business relationship with the person who commissioned the certificate; or
  - (ii) has or may have an interest in the building.]

**Duty of Care.**

F8.(1) Energy assessors must carry out energy assessments with reasonable care and skill.

(2) The duty imposed by paragraph (1) shall be enforceable by the following persons—

- (a) the owner; and
- (b) any prospective or actual buyer or tenant of the building during the period of validity of the certificate.

**Right to copy documents.**

F9. Any person may, for the purpose of complying with any duty imposed by these Rules copy or issue a copy of any document produced by an energy assessor.

**Interpretation.**

F10.(1) In this Part—

“building” means the building as a whole or parts of it that have been designed or altered to be used separately;

“dwelling” means a dwelling-house or a flat but “dwelling-house” does not include a flat or a building containing a flat;

“energy conservation officer” means the person so appointed by the Minister for the Environment;

“energy assessor” means an individual who is a member of an accreditation scheme approved by the Government in accordance with rule F6; and

“recommendation report” means the report required by rule F5(4).

- (2) In this Part a reference to “energy assessment” includes a reference to—
- (a) the preparation and issuing of energy performance certificates;
  - (b) the preparation and issuing of recommendation reports; and
  - (c) the carrying out of any inspections undertaken for the purposes of preparing energy performance certificates or recommendation reports.

**Testing of building work.**

F11. The Building Inspector may make such tests of any building work as may be necessary to establish whether it complies with rule B1 or any of the applicable requirements contained in the Schedules.

**Sampling of material.**

F12. The Building Inspector may take such samples of the material to be used in the carrying out of building work as may be necessary to enable him to ascertain whether such materials comply with the provisions of these Rules.

**Air tightness testing.**

F13.(1) This rule applies to the erection of a building in relation to which paragraph F1(a)(i) of Schedule 11 imposes a requirement.

(2) Where this regulation applies, the person carrying out the work shall, for the purpose of ensuring compliance with rule F3 and paragraph F1(a)(i) of Schedule 11—

- (a) ensure that—
  - (i) air tightness testing is carried out in such circumstances as are approved by the Government; and
  - (ii) the testing is carried out in accordance with a procedure approved by the Government; and
- (b) subject to paragraph (5), give notice of the results of the testing to the Government .



- (3) The notice referred to in paragraph (2)(b) shall—
- (a) record the results and the data upon which they are based in a manner approved by the Government ; and
  - (b) be given to the Government not later than seven days after the final test is carried out.
- (4) The Government may accept, as evidence that the requirements of paragraph (2)(a)(ii) have been satisfied, a certificate to that effect by a person who is approved by the Government in respect of pressure testing for the air tightness of buildings.
- (5) Where such a certificate contains the information required by paragraph (3)(a), paragraph (2)(b) does not apply.

**Commissioning.**

F14.(1) This rule applies to building work in relation to which paragraph F1(b) of Schedule 11 imposes a requirement, but does not apply to the provision or extension of any fixed building service where testing and adjustment is not possible or would not affect the energy efficiency of that fixed building service.

(2) Where this rule applies the person carrying out the work shall, for the purpose of ensuring compliance with paragraph F1(b) of Schedule 11, give to the Government a notice confirming that the fixed building services have been commissioned in accordance with a procedure approved by the Government .

- (3) The notice shall be given to the Government—
- (a) not more than five days after that work has been completed by the person, who was required to give a building notice or deposit full plans and who was carrying out building work; or
  - (b) where (a) does not apply, not more than 30 days after completion of the work.

**CO2 emission rate calculations.**

F15.(1) Subject to paragraph (4), where rule F3 applies the person carrying out the work shall give the Government a notice which specifies—

- (a) the target CO2 emission rate for the building; and
  - (b) the calculated CO2 emission rate for the building as constructed.
- (2) The notice shall be given to the Government not later than five days after the work has been completed.
- (3) The Government is authorised to accept, as evidence that the requirements of rule F3 would be satisfied if the building were constructed in accordance with an accompanying list of specifications, a certificate to that effect by an energy assessor as defined in regulation F10 who is accredited to produce such certificates for that category of building.
- (4) Where such a certificate is given to the Government—
- (a) paragraph (1) does not apply; and
  - (b) the person carrying out the work shall provide to the Government not later than five days after the work has been completed a notice which—
    - (i) states whether the building has been constructed in accordance with the list of specifications which accompanied the certificate; and
    - (ii) if it has not, lists any changes to the specifications to which the building has been constructed.

**PART G****Sound insulation****G1 Sound insulation of walls**

- (1) Any wall which—
- (a) separates any dwelling from another dwelling or from another building; or
  - (b) separates any habitable room in a dwelling from any other part of the same building which—
    - (i) is not used exclusively with that dwelling; and

- (ii) is a place used for purposes other than occasional repair or maintenance, or is a machinery room or tank room,

shall in conjunction with its associate structure be so constructed as to provide adequate resistance to the transmission of airborne sound.

(2) Any wall which separates any habitable room in a dwelling front any refuse chute in the same building shall have an average mass (calculated over any portion of the wall measuring 1 metre square and including the mass of any plaster) of not less than 1320 kg/m<sup>2</sup>.

(3) Any wall which separates any part of a dwelling, other than a habitable room, from any refuse chute in the same building shall have an average mass (calculated over any portion of the wall measuring 1 metre square and including the mass of any plaster) of not less than 220 kg/m<sup>2</sup>.

## **G2 Deemed-to-satisfy provisions for sound insulation of walls**

*The requirements of rule G1(1) shall be deemed to be satisfied if—*

*(1) the wall and its associated structure are identical with, or are similar to and unlikely to provide less resistance to the transmission of sound than, a wall and its associated structure which, when tested in accordance with rule G6 at all frequencies set out in the Table to this rule, limit the transmission of airborne sound so that the reduction at each frequency given in column (1) of that Table does not fall short of the appropriate value given in column (2) of that Table by an amount which causes the aggregate of such deviations to exceed 23 dB; or*

*(2) the wall is constructed in accordance with any of the specifications contained in Part 1 of Schedule 12 and the wall—*

- (a) extends for a distance of at least 460 mm beyond an external flanking wall; or*
- (b) is tied into or bonded to one leaf of an external flanking wall of bricks, blocks or concrete—*
  - (i) which is of a construction having an average mass (calculated over any portion of the leaf measuring 1 metre square) of not less than 120 kg/m<sup>2</sup>; and*
  - (ii) in which any window or door opening on one side of the separating wall is not less than 690 mm, measured horizontally, from any such opening on the other side of*

*that wall unless the height of each opening does not exceed two thirds of the height of the storey and the external flanking wall above and below the openings extends for a distance of not less than 3 m, measured horizontally, on both sides of the separating wall; or*

- (c) *extends to the outer face of an external flanking wall of timber or other light construction other than tile hanging and at the top and bottom of each storey is tied into or bonded to—*
- (i) *a solid floor next to the ground; or*
  - (ii) *a suspended concrete floor having an average mass (calculated over any portion of the floor measuring 1 metre square) of not less than 220 kg/m<sup>2</sup>; or*
  - (iii) *a concrete roof having an average mass (calculated over any portion of the roof measuring 1 metre square) of not less than 145 kg/m<sup>2</sup>.*

**Table to Rule G2**  
**Sound reduction: walls**

**Deemed-to-satisfy provisions**

| Frequency (in Hz)<br>(1) | Sound reduction (in dB)<br>(2) |
|--------------------------|--------------------------------|
| 100                      | 40                             |
| 125                      | 41                             |
| 160                      | 43                             |
| 200                      | 44                             |
| 250                      | 45                             |
| 315                      | 47                             |
| 400                      | 48                             |
| 500                      | 49                             |
| 630                      | 51                             |
| 800                      | 52                             |
| 1000                     | 53                             |
| 1250                     | 55                             |
| 1600                     | 56                             |
| 2000                     | 56                             |
| 2500                     | 56                             |
| 3150                     | 56                             |

**G3 Sound insulation of floor**

- (1) Any floor which separates a dwelling situated below that floor from—
- (a) another dwelling; or

- (b) any other part of the same building which—
  - (i) is not used exclusively with that dwelling; and
  - (ii) is a place used for purposes other than occasional repair or maintenance, or is a machinery room or tank room, shall in conjunction with its associated structure be so constructed as to provide adequate resistance to the transmission of airborne and impact sound.

(2) Any floor (other than a floor to which paragraph (1) applies) which separates a dwelling situated above that floor from any other part of the same building which—

- (a) is not used exclusively with that dwelling; and
- (b) is a place used for purposes other than occasional repair or maintenance, or is a machinery room or tank room, shall in conjunction with its associated structure be so constructed as to provide adequate resistance to the transmission of airborne sound.

***G4 Deemed-to-satisfy provisions for the insulation of floors required to resist the transmission of airborne and impact sound***

*The requirements of rule G3(1) shall be deemed to be satisfied if—*

*(1) the floor and its associated structure are identical with, or are similar to and unlikely to provide less resistance to the transmission of sound than, a floor and its associated structure which, when tested in accordance with rule G6 at all the frequencies set out in the Table to this rule—*

- (a) limit the transmission of airborne sound so that the sound reduction at each frequency given in column (1) of that Table does not fall short of the appropriate value given in column (2) of that Table by an amount which causes the aggregate of such deviations to exceed 23 dB; and*
- (b) limit the transmission of impact sound so that the sound pressure level produced in any part of the dwelling at each frequency given in column (1) of that Table does not exceed the appropriate value given in column (3) of that Table by an amount which causes the aggregate of such deviations to exceed 23 dB; or*

(2) *the floor is constructed in accordance with any of the specifications contained in Part II of Schedule 12 and—*

- (a) *in the case of a concrete floor, the floor extends to the outer face of the inner leaf of any adjoining external wall and is tied into or bonded to every adjoining separating wall and every other internal wall which gives support to the floor; or*
- (b) *in the case of a timber floor—*
  - (i) *the floor is bounded below, on at least three sides by walls having an average mass (calculated over any portion of the wall measuring 1 metre square) of not less than 415 kg/m<sup>2</sup>; and*
  - (ii) *every external flanking wall extends for not less than 600 mm, measured vertically from the underside of the floor, without any window or door opening therein other than a window or door opening above a balcony forming an extension to the floor.*

**G5 Deemed-to-satisfy provisions for the insulation of floors required to resist the transmission of airborne sound only**

*The requirements of rule G3(2) shall be deemed to be satisfied if—*

(1) *the floor and its associated structure are identical with, or are similar to and unlikely to provide less resistance to the transmission of sound than, a floor and its associated structure which, when tested in accordance with rule G6 at all the frequencies set out in the Table to this rule, limit the transmission of airborne sound so that the reduction at each frequency given in column (1) of that Table does not fall short of the appropriate value given in column (2) of that Table by an amount which causes the aggregate of such deviations to exceed 23 dB; or*

(2) *the floor is constructed in accordance with any of the specifications contained in Part II or Part III of Schedule 12, subject to the conditions of rule G4(2)(a) if the floor is a concrete floor or the conditions of rule G4(2)(b) if the floor is a timber floor.*

| Table to Rule G4 and G5 |  | Deemed-to-satisfy provisions |
|-------------------------|--|------------------------------|
| Sound reduction: floors |  |                              |

| Frequency (in Hz) | Sound reduction (in dB) | Octave band sound pressure level (in dB) |
|-------------------|-------------------------|--|
|-------------------|-------------------------|--|

| (1)  | (2) | (3) |
|------|-----|-----|
| 100  | 36  | 63  |
| 125  | 38  | 64  |
| 160  | 39  | 65  |
| 200  | 41  | 66  |
| 250  | 43  | 66  |
| 315  | 44  | 66  |
| 400  | 46  | 66  |
| 500  | 48  | 66  |
| 630  | 49  | 65  |
| 800  | 51  | 64  |
| 1000 | 53  | 63  |
| 1250 | 54  | 61  |
| 1600 | 56  | 59  |
| 2000 | 56  | 57  |
| 2500 | 56  | 55  |
| 3150 | 56  | 53  |

### **G6 Measurement of sound transmission**

(1) For the purposes of rules G2, G4 and G5, the measurements of sound transmission and the values of sound transmission in relation to any wall or floor shall be determined in accordance with the following provisions of this rule:

*Provided that—*

- (a) where the construction of any part of a wall or floor differs from that of the remaining part of the wall or floor, each part shall be treated for the purposes of this rule as a separate wall or floor; and
- (b) every wall or floor or part of a wall or floor in a building with nominally identical construction shall be treated as forming part of a single wall or floor as the case may be.

(2) Measurements shall be in accordance with Sections TWO A and THREE A of BS 2750: 1956, and the method of normalising the results for both airborne and impact sound shall be that given in clause 3e(ii) thereof

(3) The value of the sound transmission of a particular construction shall be taken to be the average of measurements made between not less than four pairs of rooms each pair having a separating wall or floor, as the case may be, of an area of not less than 7 m<sup>2</sup> and each room having a volume of not less than 25 m<sup>3</sup>.

## **PART H**

**Stairways, ramps, balustrades and vehicle barriers**

**H1 Interpretation of Part H**

(1) In this Part—

ASSOCIATED LANDING means that portion of any floor, balcony, platform or similar place, or of any paving or ground, which is situated at the top or bottom of a stairway, ramp or stepped ramp;

BALCONY includes a gallery;

BALUSTRADE includes a wall, screen or railing;

DEEMED LENGTH has the meaning assigned by paragraph (2)(a);

DWELLING means a house, flat or maisonette;

FLIGHT means that part of a stairway or stepped ramp which consists of a step or consecutive steps;

GOING—

- (a) in relation to a tread, means the distance (measured on plan) between its nosing and the nosing of the tread, ramp or landing next above it; and
- (b) in relation to a landing, means the distance (measured on plan) across the landing along the projection of the centre line of the flight, ramp or section thereof at the top or bottom of which the landing is situated;

LANDING—

- (a) means a platform situated between consecutive flights of a stairway; and
- (b) unless the context otherwise requires, includes an associated landing;

LENGTH, in relation to a tread, means the least distance (measured on plan) between the sides of the tread;



NOSING means the front edge of a tread and includes the edge of the top surface of any landing or ramp which is situated at the top of a flight;

PARALLEL TREAD means a tread having a uniform width throughout that part of its length which is within the width of the stairway;

PITCH means the angle between the pitch line and the horizontal;

PITCH LINE means a notional line which connects the nosings of all treads in a flight with the nosing of the landing or ramp at the top of the flight, extends down to the landing or ramp at the bottom of the flight and (subject to the provisions in relation to head J in the Table to rule H3) forms the greatest possible angle to the horizontal;

RAMP means any part of a building which provides a route of travel for pedestrians or wheelchair users and has an inclined surface;

RISE means the vertical distance—

- (a) between two consecutive treads; or
- (b) between a tread and the top surface of a landing or ramp immediately above or below that tread; or
- (c) if a threshold forms or surmounts the nosing of a tread or landing, between the top of the threshold and the top surface of the tread or landing at the bottom of the step;

SMALL ROOM means any room having a floor area not exceeding 4 m<sup>2</sup> in the case of a building or compartment of purpose group I, II or III or 30 m<sup>2</sup> in any other case;

STAIRWAY means any part of a building which provides a route of travel and is formed by a single flight or by a combination of two or more flights and one or more intervening landings;

STEP does not include any threshold which—

- (a) has a height not exceeding 40 mm in the case of an internal doorway or 75 mm in the case of an external doorway; or
- (b) is provided for the purposes of rule E18(6)(c);

STEPPED RAMP means any part of a building which provides a route of travel and is formed by a combination of one or more flights and one or more ramps;

TAPERED TREAD means a tread which has a greater width at one side than at the other and a going which changes at a constant rate throughout its length;

TREAD means the upper surface of a step;

VEHICLE PARK does not include a car showroom, a garage or carport of purpose group I or a single storey building comprising two or more garages each of which has an area not exceeding 40 m<sup>2</sup>; and

WIDTH—

- (a) in relation to a tread, means the least distance from the nosing of the tread to the face of the riser or, if there is no riser, to the back edge of the tread; and
- (b) in relation to a stairway, ramp or stepped ramp or section thereof, means its unobstructed width, that is to say, clear of handrails and other projections; and, for this purpose, no account shall be taken of any string not exceeding 30 mm in thickness.

(2) For the purposes of this Part—

- (a) if consecutive tapered treads are of different lengths, each such tread shall be deemed to have a length equal to the length of the shorter or shortest of those treads; and DEEMED LENGTH shall be construed accordingly;
- (b) any reference to a specified purpose group shall be construed as a reference to that purpose group as designated in Appendix D in the Approved Document for Part E;
- (c) the purpose group of a building or compartment shall be determined in accordance with Appendix D in the Approved Document to Part E except that, if a building or compartment is used or intended to be used for more than one purpose, it shall be regarded as being of the purpose group appropriate to that one of the uses in relation to which this Part prescribes the most onerous standard; and

- (d) any portion of a stairway, ramp or stepped ramp serving more than one compartment shall, if the compartments are of different purpose groups, be regarded as serving that one of the compartments in relation to which this Part prescribes the most onerous standard.

## H2 General requirements for stairways, ramps and stepped ramps

(1) Any stairway, ramp or stepped ramp shall comply with the following requirements in so far as they are relevant—

- (a) subject to paragraph (2)(a), there shall be a landing at the top and bottom of—
  - (i) any stairway;
  - (ii) any ramp which does not form part of a stepped ramp; and (iii) any stepped ramp;
- (b) subject to paragraph (2)(b), any such landing and any landing situated between consecutive flights of a stairway shall be level and free from obstruction;
- (c) over the whole width of any stairway, ramp or stepped ramp (including its associated landings) there shall be clear headroom of not less than 2 m measured vertically from the pitch line or, where there is no pitch line, from the top surface of any ramp or landing;
- (d) if any flight or ramp is subdivided into sections—
  - (i) the width of each section shall be not less than 1 m; and
  - (ii) a handrail shall be provided between adjacent sections;
- (e) subject to paragraph 2(c), no door, shutter or threshold shall be placed across any flight or ramp or (except a wicket gate) between any landing and any flight or ramp;
- (f) if any stairway, ramp or stepped ramp (other than one which is external and serves exclusively one dwelling) is intended to serve as a means of escape or might be so used—
  - (i) equipment for artificially lighting all parts thereof (including its associated landings) shall be installed; and

- (ii) any such installation shall either incorporate means whereby the lighting may be controlled by any person using the stairway, ramp or stepped ramp or means whereby the lighting may be caused to operate whenever light is required by such a person; and
  - (g) if any tread, ramp or landing is permitted by rule H3 or H4 to be formed of slats or perforated material and is so formed, no opening in any part of the upper surface thereof within the width of the flight, ramp or landing shall exceed 20 mm in width.
- (2) Notwithstanding the requirements of paragraphs (1)(a), (1)(b) and (1)(e) respectively—
  - (a) the provision of a landing between an external doorway of a building and a stairway or ramp shall not be required if—
    - (i) the door opens inwards; and
    - (ii) the total rise of the stairway or ramp does not exceed 600 mm;
  - (b) a landing of even ground or paving at the top or bottom of an external flight or ramp may slope at a gradient not exceeding 1 in 12; and
  - (c) a door or shutter may be placed in line with a single step which provides access to a shop window or small room.

### **H3 Further requirements for stairways**

(1) Subject to the provisions of paragraph (2), any stairway (including its associated landings) shall comply with the requirements set out in the Table to this rule in so far as they are relevant.

(2) For the purposes of paragraph (1), any stairway serving a building or compartment of purpose group II or VII in respect of which column (4) of the Table to this rule is relevant to part and column (S) is relevant to the remainder shall be considered as a stairway to which column (4) is relevant to the whole if the part to which column (4) is relevant is the part furthest from the nearest accessible way out of the building.

(3) Any stairway shall be so constructed that—

- (a) there are not more than 36 rises in consecutive flights without a change in the direction of travel of 30° or more;
  - (b) the pitch of any flight is not greater than the pitch of any other flight which is further from the nearest accessible way out of the building; and
- (4) Any flight shall be so constructed that
- (a) subject to the provisions of paragraph (5), each tread (irrespective of whether its nosing is straight or curved on plan) is either a parallel tread or a tapered tread;
  - (b) subject to the provisions of paragraph (6), the rise of any step is uniform throughout its length and is the same as the rise of every other step in the flight;
  - (c) each tread is level;
  - (d) the width of each tread, measured at any part, is not less than the going of the tread at that part;
  - (e) the length of each tread is not less than the width of the stairway;
  - (f) the nosing of any tread which has no riser below it overlaps on plan the back edge of the tread next below it by not less than 15 mm;
  - (g) all parallel treads have the same going;
  - (h) all consecutive tapered treads have—
    - (i) the same going measured at the centre of the length (or, if applicable, the deemed length) of each tapered tread;
    - (ii) the same rate of taper; and
    - (iii) their narrow ends at the same side of the flight; and
  - (j) if the flight form part of a building of purpose group I, a building or compartment of purpose group II used by persons under the age of five years or a building or compartment of purpose group III, there is no open rise or opening in a riser of

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such size as would permit the passage through it of a sphere having a diameter of 100 mm.

(5) Notwithstanding the requirements of paragraph (4)(a), either side or both sides of the two treads at the bottom of a flight may be rounded or splayed if the tread otherwise complies with the requirements for a parallel or tapered tread.

(6) The requirements of paragraph (4)(b) shall not apply to a step which is at the top or bottom of a flight and adjoins ground or paving outside a building if that step has a rise measured at the centre of the flight which is the same as the rise of the other steps in the flight.

(7) The treads and landings of any stairway to which column (4) of the Table to this rule relates shall not be constructed of slats or perforated material.

**Table to Rule H3**  
**Specific requirements for stairways**

| Head  | Building or compartment of purpose group I or III–  | Building or compartment of purpose group I or III–                   | Building or compartment of purpose group II or VII–   | Building or compartment of purpose group II, III, IV, V, VI, VII or VIII–   |
|---|---|--|---|---|
|   | any stairway within a dwelling or serving exclusively one dwelling  | any stairway for common use in connection with two or more dwellings | any stairway–<br><br>(a) within or serving a building or compartment of purpose group II other than a stairway for use solely by staff; or<br><br>(b) serving a part of a building or compartment of purpose group VII more than 100m <sup>2</sup> in area and used for assembly purposes | any stairway other than a stairway to which either column (2), (3) or (4) relates   |
| (1)   | (2)   | (3)  | (4)   | (5)   |
| A. Width of stairway (subject to the functional requirement E1 of Part E) | Not less than–<br>(a) 600 mm in the case of a stairway providing access only to–<br>(i) one room, not being a living room or<br>(ii) a bathroom and a watercloset; or | Not less than 900 mm   | Not less than 1 m   | Not less than–<br>(a) 800 mm in the case of a stairway within or serving a part of a building or compartment which is not kitchen; or capable of being used or occupied by more than 50 persons; or |

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|   | (b) 800 mm in any other case  |  |   | (b) 1 m in any other case   |
|---|---|--|---|---|
| B. Additional requirement for stairways over 1.8 m in width   | –   | –  | Each flight to be so subdivided into sections that each section is–<br><br>(a) not less than 1 m nor more than 1.8m in width; and<br>(b) separated from any other such section by a handrail complying with the requirements set out against head K | Each flight to be so subdivided into sections that each section is–<br><br>(a) not less than 1 m nor more than 1.8m in width; and<br>(b) separated from any other such section by a handrail complying with the requirements set out against head K |
| C. Pitch of flight  | Not exceeding 42°   | Not exceeding 38°  | –   | –   |
| D. Number of rises per flight. This requirement shall not apply to any step giving access to a dais, stage, shop window or a small room only or situated at an external doorway | Except at the bottom of a stairway, not fewer than 2 nor more than 16   | Not fewer than 2 nor more than 16  | Not fewer than 3 nor more than 16   | Not fewer than 3 nor more than 16   |
| E. Height of rise   | Not less than 75 mm nor more than 220mm   | Not less than 75 mm nor more than 190 mm   | Not less than 75 mm nor more than 180 mm  | Not less than 75 mm nor more than 190 mm  |
| F. Going of step (subject to the provisions of head J)  | Not less than 220 mm  | Not less than 240 mm   | Not less than 280 mm  | Not less than 250 mm  |
| G. Aggregate of the going and twice the rise of a step (subject to the provisions of head J) This requirement shall not apply to a flight which has only one rise               | Not less than 550 mm nor more than 700 mm   | Not less than 550 mm nor more than 700 mm  | Not less than 550 mm nor more than 700 mm   | Not less than 550 mm nor more than 700 mm   |
| H. Going of landings (subject to the functional requirement E1 of Part E)   | Not less than the width of the stairway   | Not less than the width of the stairway  | Not less than the width of the stairway or (if the stair the stairway or (if the stairway is subdivided) width of the wider or widest section   | Not less than the width of the stairway or (if the stair the stairway or (if the stairway is subdivided) width of the wider or widest section   |
| J. Tapered treads   | (a) The going of any part of a tread within the width of the stairway to be not less than 75 mm<br>*(b) The going to be not less than | (a) The angle (measured on plan) formed by the nosing of the tread and the nosing of the tread or landing immediately above it to be | (a) The angle (measured on plan) formed by the nosing of the tread and the nosing of the tread or landing immediately above it to be not  | (a) The going of any part of a tread within the width of the stairway to be not less than 75 mm<br>(b) The angle (measured on plan) formed. by  |

|  |   |  |  |  |
|--|---|--|--|--|
|  | <p>220 mm</p> <p>*(c) The aggregate of the going and twice the rise to be not less than 550 mm nor more than 700 mm</p> <p>*(d) The pitch to be not more than 42°</p> <p>* For the purposes of (b), (c) and (d) above, the going, rise and pitch shall be measured at the central points of the length (or, where applicable, the deemed length) of a tread if the stairway is less than 1 m in width, or at points 270 mm from each end of the length (or where applicable the deemed length) of a tread if the stairway is 1 m or more in width</p>   | <p>not more than 15°</p> <p>*(b) The going to be not less than 240 mm</p> <p>*(c) The aggregate of the going and twice the rise to be not less than 550 mm nor more than 700mm</p> <p>*(d) The pitch to be not more than 38°</p> <p>*For the purposes of (b), (c) and (d) above, the going, rise and pitch shall be measured at points 270 mm from each end of the length (or where applicable the deemed length) of a tread</p> | <p>more than 15°</p> <p>*(b) The going to be not less than 280 mm</p> <p>*(c) The aggregate of the going and twice the rise to be not less than 550 mm nor more than 700mm</p> <p>*For the purposes of (b) and (c) above, the going and rise shall be measured at points 270 mm from each end of the length (or where applicable the deemed length) of a tread</p> | <p>the nosing of the tread and the nosing of the tread or landing immediately above it to be, in the case of a stairway 1 m or more in width, not more than 15°</p> <p>*(c) The going to be not less than 250 mm</p> <p>*(d) The aggregate of the going and twice the rise to be not less than 550 mm nor more than 700mm</p> <p>*For the purposes of (c) (d) above, the going and rise shall be measured at the central points of the length (or, where applicable, the deemed length) of a tread if the stairway is less than 1 m in width, or at points 270 mm from each end of the length (or where applicable the deemed length) of a tread if the stairway is 1 m or more in width</p> |
| <p>K. Handrails<br/>These requirements shall not apply to any side of a flight formed by fixed seating</p> | <p>Irrespective of the purpose group of the building or compartment—</p> <p>(a) any flight with a total rise of more than 600 mm shall be provided with a handrail—</p> <p>(i) on each side of the flight if the width of the flight is 1 m or more;</p> <p>(ii) on the side where the tapered treads have the greater going if the flight is less than 1 m in width and contains tapered treads; and</p> <p>(iii) on at least one side in any other case; and</p> <p>(b) any such handrail shall—</p> <p>(i) be so designed as to afford adequate means of support to persons using the flight;</p> <p>(ii) be continuous for the length of the flight (except that any handrail need not extend beside the two steps at the foot of a stairway);</p> <p>(iii) be securely fixed at a height of not less than 840 mm nor more than 1 m (measured vertically above the pitch line); and</p> <p>(iv) be terminated by a scroll or other suitable means</p> |  |  |  |

**H4 Further requirements for ramps**

(1) Subject to the provisions of paragraph (2), any ramp (including its associated landings) shall comply with the requirements set out in the Table to this rule in so far as they are relevant.



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(2) For the purposes of paragraph (I), any ramp serving a building or compartment of purpose group II or VII in respect of which column (4) of the Table to this rule is relevant to part and column (5) is relevant to the remainder shall be regarded as a ramp to which column (4) is relevant to the whole if the part to which column (4) is relevant is the part furthest from the nearest accessible way out of the building.

(3) Any ramp to which column (4) of the Table to this rule relates shall not be constructed of slats or perforated material.

| <b>Table to Rule H4</b>   |  |  |   |   |
|---|--|--|---|---|
| <b>Specific requirements for ramps</b>  |  |  |   |   |
| Head  | Building or compartment of purpose group I or III–   | Building or compartment of purpose group I or III–               | Building or compartment of purpose group II or VII–   | Building or compartment of purpose group II, III, IV, V, VI, VII or VIII–   |
|   | any ramp within a dwelling or serving exclusively one dwelling   | any ramp for common use in connection with two or more dwellings | any ramp–<br>(a) within or serving a building or compartment of purpose group II other than a ramp for use solely by staff; or<br>(b) serving a part of a building or compartment of purpose group VII more than 100 m <sup>2</sup> in main area and used for assembly purposes | any ramp other than a ramp to which either column (2), (3) or (4) relates   |
| (1)   | (2)  | (3)  | (4)   | (5)   |
| A. Width of ramp (subject to the provisions of functional requirement E1 in Part E)     | Not less than–<br>(a) 600 mm in the case of a ramp providing access only to–<br>(i) one room, not being a living room or kitchen; or<br>(ii) a bathroom and a watercloset; or<br>(b) 800 mm in any other | Not less than 900 mm   | Not less than 1 m   | Not less than–<br>(a) 800 mm in the case of a ramp within or serving a part of a building or compartment which is not capable of being used or occupied by more than 50 persons; or<br>(b) 1 m in any other case case |
| B. Slope of ramp  | Not more than 1 in 12  | Not more than 1 in 12  | Not more than 1 in 12   | Not more than 1 in 12   |
| C. Going of landings (subject to the provisions of functional requirement E1 in Part E) | Not less than the width of the ramp  | Not less than the width of the ramp                              | Not less than the width of the ramp or (if the ramp is subdivided) the width of the wider or widest section   | Not less than the width of the ramp or (if the ramp is subdivided) the width of the wider or widest section   |

|  |  |
|--|--|
| <p>D. Handrails<br/>These requirements shall not apply to any side of a ramp formed by fixed seating</p> | <p>Irrespective of the purpose group of the building or compartment—</p> <p>(a) any ramp with a total rise of more than 600 mm shall be provided with a handrail—</p> <p style="padding-left: 40px;">(i) on each side if the width of the ramp is 1 m or more; and</p> <p style="padding-left: 40px;">(ii) on at least one side in any other case; and</p> <p>(b) any such handrail shall—</p> <p style="padding-left: 40px;">(i) be so designed as to afford adequate means of support to persons using the ramp;</p> <p style="padding-left: 40px;">(ii) be continuous for the length of the ramp;</p> <p style="padding-left: 40px;">(iii) be securely fixed at a height of not less than 840 mm nor more than 1 m (measured vertically above the top surface of the ramp); and</p> <p style="padding-left: 40px;">(iv) be terminated by a scroll or other suitable means</p> |
|--|--|

### H5 Further requirements for stepped ramp.

Any stepped ramp (including its associated landings) shall be so constructed that—

- (a) any flight and any associated landing situated at the top or bottom of a flight complies with the relevant requirements of rule H3;
- (b) any ramp and any associated landing situated at the top or bottom of a ramp complies with the relevant requirements of rule H4; and
- (c) the length of any ramp is not less than 1 m nor more than 2 m measured along the centre line of the route of travel.

### H6 Guarding of stairways, ramps, stepped ramps, landings, balconies and other places

- (1) A balustrade shall be provided in each of the following position—
  - (a) at each side of any flight or ramp except (if there is no opening or hole in the ground or floor near the bottom of the stairway—
    - (i) beside the two steps at the bottom of a stairway; or
    - (ii) beside a stairway with a total rise of not more than 600 mm; and
  - (b) at the perimeter of each of the following wherever such provision is necessary to ensure reasonable safety for persons having access thereto—
    - (i) any landing or floor;

- (ii) any part of a balcony, platform, roof, vehicle park or other place to which persons have access for purposes other than maintenance or repair;
- (iii) any rooflight in such a part of a roof; and
- (iv) the ground or paving adjacent to any area into which an external stairway or ramp descends to an extent exceeding 600 mm (measured vertically) below the level of that ground or paving.

(2) Any balustrade required by paragraph (1) shall be designed as a guard and so constructed as to comply with the following provision—

- (a) subject to paragraph (3), the height of the balustrade (measured vertically from the pitch line in the case of a balustrade guarding a flight or from the top surface of the place guarded in any other case) shall be not less than the height prescribed in the Table to this rule;
- (b) the balustrade shall be capable of resisting the appropriate load specified in Table 3 of CP3: Chapter V: Part 1:1967;
- (c) any glazed part of the balustrade shall be formed of glass blocks, toughened glass or laminated safety glass; and
- (d) if the balustrade forms part of a building of purpose group I, a building or compartment of purpose group II used by persons under the age of five years or a building or compartment of purpose group III, there shall be no opening in the balustrade of such size as would permit the passage through it of a sphere having a diameter of 100 mm except (in the case of a balustrade guarding a flight) any triangular opening formed by a tread, a rise and the bottom edge of the balustrade if that bottom edge is not more than 50 mm above the pitch line.

(3) Notwithstanding the requirements of paragraph (2)(a), the top of a portion of any balustrade guarding a landing at the top of a flight or ramp may be continuous with, and at the same angle as, the top of a balustrade guarding that flight or ramp.

|                                     |
|-------------------------------------|
| <b>Table 10 Rule H6</b>             |
| <b>Minimum height of balustrade</b> |

| Description of balustrade   | Minimum height of balustrade |
|---|------------------------------|
| (1)   | (2)                          |
| 1. Balustrade (including any superimposed padded rest) which guards a balcony in a building of purpose group VII and is immediately in front of fixed seating | 790 mm                       |
| 2. Balustrade guarding a flight which is within a dwelling or serves only one dwelling  | 840 mm                       |
| 3. Balustrade guarding a flight other than a balustrade described in item 2   | 900 mm                       |
| 4. Balustrade guarding a ramp landing or floor which is within a dwelling or serves only one dwelling   |                              |
| 5. Any balustrade not described in items 1 to 4   | 1.1 m                        |

**H7 Vehicle barriers**

Any floor or roof used as a vehicle park and any part of a building used as a vehicular route thereto shall be guarded (except across any entrance or exit) at every part of the perimeter of the area so used which is at or above the level of any adjacent floor, vehicular route, street or ground by a barrier complying with clause 9 of CP 3: Chapter V: Part 1:1967.

**PART J****Refuse disposal****J1 Refuse storage container chambers constructed in buildings comprising more than one dwelling**

(1) This rule shall apply to any chamber which forms part of a building comprising more than one dwelling and which is constructed to accommodate refuse storage containers into which refuse may be delivered through a hopper or chute.

(2) Such chamber shall be so constructed that—

- (a) the walls, floor and roof are made of suitable noncombustible material, and any part of a wall or floor which separates the chamber from the building of which it forms part is constructed as if it were a compartment wall or compartment floor as described in the Approved Document for Part E, having fire resistance of one hour or such fire resistance as is specifically recommended for the building or part of the building, within the aforementioned Approved Document (whichever is greater)”;
- (b) the inner surfaces of the chamber are impervious to moisture;

- (c) the floor of the chamber is laid to a fall towards a trapped guiley situated inside or immediately outside the chamber;
- (d) it has as its sole means of access—
  - (i) for the removal and replacement of the containers, a flush door which is situated in an external wall of the chamber and has fire resistance of not less than half an hour as defined in rule E1(5); and
  - (ii) for the deposit of refuse in the containers, either a refuse chute which complies with the provisions of rule J2, or a hopper which complies with the provisions of rule J4; and
- (e) (where delivery is by way of hopper only) it is ventilated to the external air by means of—
  - (i) a fly-proof ventilator placed as high as practicable in an external wall of the chamber and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance; or
  - (ii) a pipe or shaft which complies with rule J3.

**J2 Refuse chutes in buildings comprising more than one dwelling**

(1) This rule shall apply to any refuse chute constructed for use with a refuse storage container chamber to which rule J1 applies.

- (2) Such refuse chute shall be—
  - (a) constructed of suitable non-combustible materials of such thickness, and so put together and arranged, as to prevent the ignition of any part of the building in the event of any refuse within the chute, or in the chamber at the bottom of the chute, catching fire;
  - (b) so constructed that the inner surfaces of the chute are impervious to moisture;
  - (c) so constructed as to prevent the lodgement of any refuse within the chute;

- (d) circular in cross-section with an internal diameter of not less than 375 mm;
- (e) fitted with adequate means of access for inspection and cleansing;
- (f) fitted, for the insertion of refuse, with one or more hoppers which comply with the provisions of rule J4;
- (g) ventilated to the external air by means of a pipe or shaft which complies with the provisions of rule J3; and
- (h) fitted at its lower extremity with a shutter capable of closing the outlet of the chute.

### **J3 Pipes or shafts ventilating refuse storage container chambers or refuse chutes**

Any pipe or shaft ventilating either a refuse storage container chamber to which rule J1 applies or a refuse chute to which rule J2 applies shall—

- (a) comply with the provisions of rule J2(2)(a);
- (b) be not less than 17000 mm<sup>2</sup> in cross-sectional area;
- (c) be so constructed that the outlet is protected against the entry of rain; and
- (d) be carried upwards to such a height and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance.

### **J4 Hoppers for refuse storage container chambers or refuse chutes**

(1) This rule shall apply to any hopper constructed for use with a refuse storage container chamber to which rule J1 applies or with a refuse chute to which rule J2 applies.

- (2) Such hopper shall—
  - (a) situated in a place which is either freely ventilated or has adequate means of ‘mechanical ventilation;
  - (b) constructed of suitable non-combustible material;

- (c) so constructed and installed as—
    - (i) efficiently to discharge any refuse placed in it into the refuse storage container or refuse chute;
    - (ii) to be incapable of remaining in any position other than the open or the closed position; and
    - (iii) to prevent, as far as possible, whether in an open or closed position, the emission of dust or foul air from the refuse storage container chamber or refuse chute; and
  - (d) in the case of a hopper for use in conjunction with a refuse chute, so constructed and installed as not to project into the chute.
- (3) No such hopper shall be situated within a dwelling.

## PART K

### Open space, ventilation and height of rooms

#### K1 Open space outside windows of habitable rooms

- (1) In this rule—

LOWER WINDOW LEVEL means the lowest level of the glass in a window, or 1.2 m above the floor of the room containing the window, whichever is higher;

THE WALL means any wall containing a window in respect of which any calculation under this rule is to be made, and include—

- (a) where the window is in two walls at the corner of a room, either one of those walls or a plane joining the vertical extremities of the window opening; and
- (b) where the window is in a curved wall, a plane joining the vertical extremities of the window;

TOP OF THE WALL mean—

- (a) if the building has a flat roof, the underside of that roof; or

- (b) if it has a pitched roof, the lowest part of the eaves of that roof;  
or
- (c) if the roof (whether flat or pitched) has a parapet, the top of that parapet;

UPPER WINDOW LEVEL means the highest level of the glass in a window; WINDOW includes any glazed opening in an external wall of a building, but does not include any part of such a wall which is constructed of glass blocks; and

WINDOW HEIGHT means the height from the lower window level to the upper window level.

(2) This rule shall apply to any habitable room (except a room used for the lawful detention of persons other than mentally disordered persons) which has one or more window—

(3) If such room has one window only, there shall be a minimum zone of open space outside the window such as to leave adjacent to the window an upright shaft of space wholly open to the sky (with the exception of any projection permitted by paragraph (6)), the base of the shaft being formed by a plane inclined upwards at an angle of 30° to the horizontal from the wall at the lower window level and its sides coinciding with the following four vertical planes—

- (a) an outer plane which is parallel to the wall and which—
  - (i) is at a distance from the wall of 2m, or such distance as may be required by paragraph (7), or (subject to a limit of 8 m) one third the distance between the upper window level and the top of the wall containing the window, whichever is greatest;
  - (ii) has a width equal to its required distance from the wall; and
  - (iii) is so located that some part of it is directly opposite some part of the window;
- (b) an inner plane which coincides with the external surface of the wall and which—



- (i) has a width such that the product of that width and the window height equals one tenth of the floor area of the room containing the window; and
  - (ii) is located wholly between the sides of the window or, where it is required to be wider than the window, is so located that it extends across the whole width of the window, and overlaps it on either or both sides; and
  - (c) two lateral planes joining the corresponding extremities of the inner plane and outer plane.
- (4) If such room has two or more windows, there shall be either—
- (a) a zone of open space outside any one window which complies with the requirements of paragraph (3); or
  - (b) zones of open space outside two or more of such windows, in each case complying with the requirements of paragraph (3) except that the width of the inner planes shall be such that the total of the products of the width of each inner plane and the corresponding window height equals one tenth of the floor area of the room.
- (5) Any zone of open space required by this regulation shall be wholly—
- (a) unobstructed by any rising ground or by any building or other structure or erection (with the exception of any projection permitted by paragraph (6)); and
  - (b) over—
    - (i) land exclusively belonging to the building containing the window; or
    - (ii) the portion of any street or public passageway adjacent to the building or the land, but only to the centre line thereof; or
    - (iii) land which may under rule K2 be treated as available for the purposes of this sub-paragraph; or
    - (iv) over any such land and any such portion of a street, or public passageway as aforesaid.

(6) The following projections shall be permitted in front of the inner plane described in paragraph (3)(b)–

- (a) the structure of the window if it is a bay Window or oriel window; or
- (b) a conservatory on the same storey as the window; or
- (c) a verandah or other similar projection which is on the same storey as the window and either has a roof of glass or other translucent material or projects not more than 1.5 m horizontally in front of the inner plane; or
- (d) any projection above the upper window level extending not more than 1.5 m horizontally in front of the inner plane.

(7) If any projection permitted by paragraph (6)(d) extends more than 600 mm in front of the inner plane, the minimum distance between the outer plane and inner plane specified in paragraph (3)(a)(i) shall be increased by the amount in excess of 600 mm by which such projection extends horizontally in front of the inner plane:

Provided that nothing in this paragraph shall affect the calculation of the width of the outer plane specified in paragraph (3)(a)(ii).

## **K2 Shared land on housing estates**

For the purposes of rule K1(5)(b)(iii) (which specifies the land over which the zone of open space is to be located), if–

- (a) there is any land laid out and developed as an estate with defined boundaries and buildings containing habitable rooms are erected or intended to be erected on that land; and
- (b) such arrangements by contract or otherwise are made by the developer as will ensure that defined land within the estate will be used in common by the occupants of the buildings as of right for the purposes of amenity,

any part of such land so used in common (other than land over which the minimum zone of open space relevant to a window in any other building on the estate is located) may be treated as available in respect of a window in any building on such estate.

## **K3 Preservation of zones of open space**

(1) No building shall be so altered or extended as to cause the zone of open space outside the window or windows of any habitable room in the building to contravene the provisions of rule K1 or (if that zone already contravenes those provisions) to cause the zone to contravene those provisions to any greater extent:

Provided that a private dwelling-house erected under former control may be altered or extended the rear by the addition of a kitchen, scullery, wash-house, watercloset or bathroom if there is an area of open space of not less than 6 m<sup>2</sup> at ground level which is adjacent to the part of the house so altered or extended and exclusively belonging to such house.

(2) If any building constructed under former control is re-erected after having been burnt down or pulled down to the extent described in rule A4(8)(a) or (b), the area of open space at ground level adjacent to and exclusively belonging to the building as re-erected shall be not less extensive than the area of open space which existed immediately before the building was burnt down or pulled down.

(3) No building or other structure or erection shall be so erected, altered or extended as to cause the zone of open space outside any window of a habitable room in any other building to be diminished so as to contravene the provisions of rule K1 or (if the existing zone of open space already contravenes those provisions) to cause the zone of open space to contravene those provisions to any greater extent.

(4) Where any building or part of a building was originally constructed as a private dwelling-house and has been appropriated to other purposes, nothing in this Part shall prohibit its use as a private dwelling-house if the area of open space at ground level, adjacent to and exclusively belonging to the building is not less extensive than the area of open space which existed immediately before the appropriation to other purposes took place.

#### **K4 Means of ventilation**

(1) For the purposes of this regulation—

HABITABLE ROOM includes a room used for kitchen or scullery purposes but does not include a room intended to be used for the lawful detention of any person other than a mentally disordered person; and

VENTILATION OPENING means any openable part of a window or any hinged panel, adjustable louvre or other means of ventilation which

opens directly to the external air, but excluding any opening associated with a mechanically operated system.

(2) If any storey of a building contains a dwelling or part of a dwelling, that storey shall have effective means of ventilation.

(3) Subject to the provisions of paragraph (5), any habitable room shall (unless it is adequately ventilated by mechanical means) have one or more ventilation openings so constructed that—

- (a) their total area is equal to not less than one twentieth of the floor area of the room; and
- (b) some part of such area is not less than 1.75 m above the floor.

(4) For the purposes of paragraph (3), a door which opens directly to the external air shall be deemed to be a ventilation opening if—

- (a) such door contains a ventilator with an area of not less than 10000 mm<sup>2</sup> capable of being opened (without the door being opened); or
- (b) the room contains one or more ventilation openings having a total area of not less than 10000 mm<sup>2</sup>, in addition to such door.

(5) A habitable room opening into an enclosed verandah, conservatory or similar place shall be deemed to comply with the provisions of this rule if such room and such enclosed place together have one or more ventilation openings which, if they ventilated a room having a floor area equal to the combined floor areas of such habitable room and such enclosed place, would comply with the requirements of paragraph (3).

#### **K5 Ventilation openings on to courts**

(1) For the purposes of this rule—

TOP OF THE WALL has the meaning assigned by rule K1(1); and

VENTILATION OPENING has the meaning assigned by rule K4(1).

(2) No ventilation opening constructed in compliance with the requirement of rule K4 shall be so situated as to open on to a court enclosed on every side unless the distance from the ventilation opening to the opposite wall of the court is either—

- (a) 8 m or more; or
- (b) not less than one third the vertical distance between the top of such opening and the top of the wall containing the opening.

(3) No ventilation opening constructed in compliance with the requirements of rule K4 shall be so situated as to open on to a court which has one side unobstructed by any building or other erection and of which the length, measured from such unobstructed side, exceeds twice the width unless such ventilation opening—

- (a) is in the side of the court opposite the unobstructed side; or
- (b) (if it is situated in either of the long sides) is within a distance from the unobstructed side not exceeding twice the width of the court; or
- (c) (if it is situated in either of the long sides) is in such a position that the distance from such opening to the opposite wall of the court is either—
  - (i) or more; or
  - (ii) not less than one third the vertical distance between the top of such opening and the top of the wall containing the opening.

#### **K6 Ventilation of larders**

(1) Any larder for the storage of perishable food (other than an enclosed space having means of refrigeration) shall (unless it is adequately ventilated by mechanical means) be ventilated to the external air by means of—

- (a) one or more windows; or
- (b) two or more ventilators capable of being closed, of which one is in the upper part and another in the lower part of the larder.

(2) Any such window or windows shall be—

- (a) fitted with a durable fly-proof screen; and
- (b) so constructed that a total area of not less than 85000 mm<sup>2</sup> is capable of being opened.

- (3) Any such ventilator shall be—
- (a) fitted with a durable fly-proof screen;
  - (b) so constructed as to permit (when open) the passage of air through an opening having an unobstructed area of not less than 4500 mm<sup>2</sup>; and
  - (c) either situated in an external wall of the building or separately connected with the external air by a duct not less than 16000 mm<sup>2</sup> in cross-sectional area and having a smooth internal surface.

**K7 Ventilation of common stairways**

Any part of a stairway shall have adequate means of ventilation if it is—

- (a) intended for common use within any building constructed for occupation as separate dwellings by more than one family;
- (b) above the ground storey; and
- (c) not open to the external air.

**K8 Height of habitable rooms**

(1) Any habitable room in a building shall be so constructed that (except beneath a beam or beneath the ceiling to a bay window) the height of such room shall be not less than 2.3 m:

Provided that, if such room is wholly or partly in the roof of the building, its height shall be not less than 2.3 m over an area of the floor of the room equal to not less than one half of the area of that room measured on a plane 1.5 m above the floor.

(2) The height of such room measured beneath any beam in that room and the clear headroom in any bay window in such room shall be not less than 2 m.

(3) For the purposes of this rule, no account shall be taken of the projection of any joist or rafter in the ceiling of a room.

**PART L****Chimneys, flue pipes, hearths and fireplace recesses**

**L1 Application and interpretation of Part L**

(1) In this Part—

APPLIANCE means—

- (a) a heat-producing appliance (including a cooker) which is designed to burn—
  - (i) solid fuel (in this Part called a SOLID FUEL APPLIANCE); or
  - (ii) oil (in this Part called an OIL-BURNING APPLIANCE); or
  - (iii) gaseous fuel (in this Part called a GAS APPLIANCE); and
- (b) an incinerator employing any means of igniting refuse, including electricity;

APPLIANCE VENTILATION DUCT means a duct forming a passage which in one part serves to convey combustion air to one or more gas appliances, in another part serves to convey the products of combustion from one or more gas appliances to the external air and intermediately serves both purposes;

CHIMNEY includes any part of the structure of a building forming any part of a flue other than a flue pipe;

CLASS I APPLIANCE means—

- (a) a solid fuel appliance or oil-burning appliance having, in either case, an output rating not exceeding 45 kW; or
- (b) an incinerator having a refuse combustion chamber exceeding 0.03 m<sup>3</sup> but not exceeding 0.08 m<sup>3</sup> in capacity,

and CLASS I shall be construed accordingly;

CLASS II APPLIANCE means—

- (a) a gas appliance having an input rating not exceeding 45 kW; or

- (b) an incinerator having a refuse combustion chamber not exceeding 0.03 m<sup>3</sup> in capacity,

and CLASS II shall be construed accordingly;

CONSTRUCTIONAL HEARTH means a hearth forming part of the structure of a building;

DISCHARGE means the discharge of the products of combustion;

EXTERNAL WALL includes any external cladding or internal lining;

FLOOR includes any ceiling which is applied or fixed to the underside of the floor;

FLUE means a passage for conveying the discharge of an appliance to the external air and includes any part of the passage in an appliance ventilation duct which serves the purpose of a flue;

FLUE PIPE means a pipe forming a flue but does not include a pipe built as a lining into either a chimney or an appliance ventilation duct;

GAS FIRE means a flued gas appliance for heating one room, mainly by the emission of radiant heat, and not comprising any water heating component;

HIGH-RATING APPLIANCE means—

- (a) a solid fuel appliance or oil-burning appliance having, in either case, an output rating exceeding 45 kW; or
- (b) a gas appliance having an input rating exceeding 45 kW; or
- (c) an incinerator having a refuse combustion chamber exceeding 0.08 m<sup>3</sup> in capacity,

and HIGH-RATING shall be construed accordingly;

INSULATED METAL CHIMNEY means a chimney comprising a flue lining, non-combustible thermal insulation and a metal outer casing;

MAIN FLUE means a flue serving more than one appliance;



ROOF includes any ceiling which is applied or fixed to the underside of a roof and is in a plane parallel to that of the roof covering;

ROOM-SEALED APPLIANCE means a gas appliance which draws its combustion air from a point immediately adjacent to the point where it discharges its products of combustion and is so designed that the inlet, outlet and combustion chamber of the appliance, when installed, are isolated from the room or internal space in which the appliance is situated except for a door for ignition purposes;

SUBSIDIARY FLUE means a flue conveying the discharge of one appliance into a main flue; and

SUPERIMPOSED HEARTH means a hearth not forming a part of the structure of a building.

- (2) (a) The provisions of this rule and of rule L2(1)(a), (4)(a) and (6) shall apply to the construction of a chimney which is a separate building.
- (b) The provisions of this rule and of the rules specified in rule L22(1) shall apply to the construction of an insulated metal chimney which serves a Class I or Class II appliance.
- (c) Except as specified in this paragraph, the provisions of this Part shall not apply to chimneys described in this paragraph.

(3) Any provision in this Part which applies to a chimney, flue pipe, fireplace recess or constructional hearth serving a Class I appliance shall also apply where a solid fuel fire is intended to burn directly on a hearth without the installation of any appliance whatsoever.

(4) In relation to any Class I oil-burning appliance to which reference is made in rule M5, rules L3 to L7 and L10 shall not apply unless compliance therewith is required by the provisions of rule M4.

## **L2 General structural requirements**

- (1) (a) Any chimney, flue pipe, constructional hearth or fireplace recess (whether serving a high-rating, Class I or Class II appliance) shall be—

- (i) constructed of non-combustible materials of such a nature, quality and thickness as not to be unduly affected by heat, condensate or the products of combustion; and
  - (ii) so constructed and of such thickness, or, in the case of a flue pipe, so placed or shielded, as to prevent the ignition of any part of any building.
- (b) Nothing in sub-paragraph (a)(i) shall prohibit—
- (i) the placing in a chimney or fireplace recess serving a Class I or Class II appliance of a damp-proof course of combustible material if it is solidly bedded in mortar; or
  - (ii) the placing in a chimney or fireplace recess serving a Class I appliance of any combustible material in a position not prohibited by rule L10; or
  - (iii) the use of flue blocks having suitable combustible material incorporated during manufacture between the inner wall and surrounding material of the flue block or, if necessary to provide an expansion gap, the placing of such material between a flue lining and the surrounding material in a chimney; or
  - (iv) the laying of combustible material upon the surface of a hearth in a position not prohibited by rule 144(2).
- (2) Any chimney or flue pipe (whether serving a high-rating, Class I or Class II appliance) shall be so constructed as to prevent any products of combustion escaping internally into the building.
- (3) Any flue pipe (whether serving a high-rating, Class I or Class II appliance) shall—
- (a) be so placed or shielded as to ensure that, whether the pipe is inside or outside the building, there is neither undue risk of accidental damage to the flue pipe nor undue danger to persons in or about the building;
  - (b) be properly supported and
  - (c) discharge either into a chimney or into the external air.

- (4) (a) The outlet of any flue other than a flue described in subparagraph (b) shall be so situated as to prevent the discharge therefrom into the external air from entering any opening in a building in such concentration as to be prejudicial to health or a nuisance.
- (b) The outlet of a flue which serves a Class I or Class II appliance and is not the flue of a chimney which is a separate building shall comply with rule L13 or L21 as the case may be.
- (5) If provision is made for a solid fuel fire to burn directly on a hearth, secure means of anchorage for an effective fireguard shall be provided in the adjoining structure.
- (6) If a flue serves an appliance which burns solid fuel or oil or is an incinerator, an opening into the flue shall be constructed so as to enable the flue to be cleaned and shall be fitted with a closely fitting cover of noncombustible material:

Provided that the requirements of this paragraph shall not apply if, while the appliance is in position, the flue is accessible for cleaning through the appliance or (if the flue communicates with a fireplace recess) through the appliance or the fireplace recess.

### **L3 Fireplace recesses for Class I appliances**

- (1) Any fireplace recess serving a Class I appliance shall have a constructional hearth which complies with the requirements of rule L4.
- (2) Subject to paragraph (3), any fireplace recess serving a Class I appliance which is constructed of bricks or blocks of concrete or burnt clay or of concrete cast *in situ* shall be so constructed that—
- (a) the jamb on each side of the recess is not less than 200 mm thick;
- (b) the back of the recess is a solid wall not less than 200 mm thick or a cavity wall each leaf of which is not less than 100 mm thick; and
- (c) any such thickness extends for the full height of the recess:

Provided that—

- (i) if the recess is situated in an external wall and no combustible external cladding is carried across the back of the recess, the back of the recess may be a solid wall less than 200 mm thick but not less than 100 mm thick; and
- (ii) if any part of a wall, other than a wall separating buildings or dwellings within a building, serves as the back of each of two recesses built on opposite sides of the wall, that part of the wall may be a solid wall less than 200 mm but not less than 100 mm thick.

(3) For the purposes of paragraph (2), no account shall be taken of the thickness of any part of a fireback or other appliance or the thickness of any material between an appliance and the fireplace recess.

(4) No opening shall be made in the back of a fireplace recess other than an opening which—

- (a) is made solely for the purpose of allowing the passage of convected air; and
- (b) does not communicate with a flue.

#### **L4 Constructional hearths for Class I appliances**

- (1) Any constructional hearth serving a Class I appliance shall—
  - (a) be not less than 125 mm thick;
  - (b) (if it adjoins a floor constructed wholly or partly of combustible material, or if combustible material is laid on the hearth as a continuation of the finish of the adjoining floor in accordance with the provisions of paragraph (2)) be so constructed that any part of the exposed surface of the hearth, which is not more than 150 mm, measured horizontally, from the said floor or combustible material, is not lower than the surface of the floor and not lower than the remainder of the exposed surface of the hearth; and either
  - (c) (if it is constructed in conjunction with a fireplace recess)—
    - (i) extend within the recess to the back and jambs of the recess;

- (ii) project not less than 500 mm in front of the jambs; and
- (iii) extend outside the recess to a distance of not less than 150 mm beyond each side of the opening between the jambs; or
- (d) (if it is constructed otherwise than in conjunction with a fireplace recess) be of such dimensions as to contain a square having sides measuring not less than 840 mm.

(2) No combustible material shall be laid on a constructional hearth serving a Class I appliance as a continuation of the finish of the adjoining floor which—

- (a) (if the appliance is installed directly upon or over the constructional hearth) would be nearer to the base of the appliance when installed than the distances specified in rule M4(4); or
- (b) (if the appliance is installed upon or over a superimposed hearth which complies with the requirements of rule M4(3)(c)) would extend under the superimposed hearth to a distance of more than 25 mm or be nearer to the base of the appliance when installed than 150 mm, measured horizontally.

(3) No combustible material, other than timber fillets supporting the edges of a hearth where it adjoins a floor, shall be placed under a constructional hearth serving a Class I appliance within a distance of 250 mm, measured vertically, from the upper surface of the hearth unless such material is separated from the underside of the hearth by an air space of not less than 50 mm.

(4) Nothing in this rule shall prohibit—

- (a) the construction of a pit to hold the ash container of an appliance if—
  - (i) the sides and bottom of the pit are constructed of non-combustible material not less than 50 mm thick;
  - (ii) there is no opening in the sides or bottom of the pit other than the outlet of any duct constructed in compliance with sub-paragraph (b) or (if a side of the pit is formed by an external wall of the building) an opening situated so as to permit the removal of the container from outside

the building and fitted with a closely fitting cover of non-combustible material;

- (iii) no combustible material is built into a wall below or beside the pit within 225 mm of the inner surface of the pit; and
  - (iv) any combustible material placed elsewhere than in a wall below or beside the pit is separated from the outer surface of the pit by an air space of not less than 50 mm; or
- (b) the construction below the upper surface of a constructional hearth of a duct to be used solely for the admission of combustion air to an appliance either from outside the building or (if the floor adjoining the hearth is a floor next to the ground and is constructed as a suspended floor) from the space beneath the floor if the duct is smoke-tight and constructed of non-combustible material.

#### **L5 Walls and partitions adjoining hearths for Class I appliances**

Subject to the requirements of rule M4(7), if any part of a wall or partition, other than a wall forming the back or a jamb of a fireplace recess which complies with the requirements of rule L3, adjoins, or is within 150 mm of, a constructional hearth serving a Class I appliance, that part shall be constructed to a height of not less than 1.2 m above the upper surface of the hearth of solid non-combustible material not less than 75 mm thick.

#### **L6 Chimneys for Class I appliances**

- (1) Any chimney serving a Class I appliance shall be either—
  - (a) lined with any one of the following—
    - (i) clay flue linings complying with BS 1181:1971; or
    - (ii) rebated or socketed flue linings made from kiln-burnt aggregate and high alumina cement; or
    - (iii) clay pipes and fittings which comply with BS65 & 540: Part 1:1971 and are of British Standard type, socketed, imperforate and acid resistant; or

- (b) constructed of concrete flue blocks made of, or having inside walls made of, kiln-burnt aggregate and high alumina cement and so made that no joints between blocks other than bedding joints adjoin any flue:

Provided that, notwithstanding the requirements of this paragraph, a chimney may be lined with a flexible flue liner if—

- (i) the chimney is already lined or constructed in accordance with this paragraph; or
- (ii) the chimney is not so lined or constructed but was erected under former control.

(2) Any linings or blocks described in paragraph (1) shall be jointed and pointed with cement mortar and any linings described in paragraph (1)(a) shall be so built into the chimney that the socket of each component is uppermost.

(3) If a chimney serving a Class I appliance is either—

- (a) constructed of bricks or blocks of concrete or burnt clay or of concrete cast *in situ* and in any case lined with one of the materials specified in paragraph (1)(a); or
- (b) constructed of flue blocks in compliance with paragraph (1)(b),

any flue in the chimney shall be surrounded and separated from any other flue in the chimney by solid material not less than 100 mm thick, excluding the thickness of any flue lining:

Provided that—

- (i) if the chimney forms part of a wall separating buildings or dwellings within a building and is not back-to-back with another chimney, that part of the chimney which is below the roof and separates a flue from the adjoining building or dwelling shall comprise either a solid wall not less than 200 mm thick or a cavity wall, each leaf of which is not less than 100 mm thick; and for the purposes of this subparagraph, any such thickness shall not include the thickness of any flue lining; or
- (ii) if the chimney forms part of an external wall and is constructed of blocks complying with paragraph (1)(b),

and there is a distance of not less than 140 mm between the flue and any timber external cladding or other combustible material adjoining the outer surface of that part of the chimney which separates the flue from the external air, such part may be less than 100 mm thick but not less than 65 mm thick.

(4) If a flue in a chimney serving a Class I appliance communicates with a fireplace recess, the dimensions of every part of the flue, measured in cross-section, shall be such as will contain a circle having a diameter of not less than 175 mm:

Provided that nothing in this paragraph shall prohibit restriction of the flue to form a throat.

(5) If a flue in a chimney serving a Class I appliance does not communicate with a fireplace recess, the flue shall terminate at its lower end in a chamber which—

- (a) has means of access for inspection and cleaning fitted with a non-combustible closely fitting cover; and
- (b) is capable of containing a condensate collecting vessel.

(6) No part of a flue in a chimney serving a Class I appliance shall make an angle with the horizontal of less than 45°

(7) Nothing in this rule shall apply to any part of a flue in a chimney pot or other flue terminal.

#### **L7 Flue pipes for Class I appliances**

(1) No flue pipe serving a Class I appliance (whether encased or not) shall pass through any roof space, floor, internal wall or partition:

Provided that nothing in this rule shall prohibit a flue pipe from passing through—

- (a) a floor supporting a chimney, so as to discharge vertically into the bottom of a flue in that chimney; or
- (b) a wall forming part of a chimney, so as to discharge into the side of a flue in that chimney.



(2) The cross-sectional area of any flue pipe serving a Class I appliance shall not be less than the cross-sectional area of the outlet of that appliance.

(3) For the purposes of this rule, the expression ROOF SPACE shall not include any void between the roof covering and any ceiling which is applied or fixed to the underside of the roof and is in a plane parallel to that of the roof covering.

***L8 Deemed-to-satisfy provisions regarding materials for flue construction of flue pipes for Class I appliances***

*A flue pipe serving a Class I appliance shall be deemed to satisfy such requirements of rule L2(1)(a)(i) as relate to the nature, quality and thickness of its materials if—*

- (a) it is constructed of cast iron complying with BS 41:1973 or of mild steel not less than 4.75 mm thick; or*
- (b) (being a pipe serving an appliance which is neither an open fire nor capable of being used as an open fire) any part of the pipe which is within 1.8 m of its junction with the appliance is constructed of materials specified in sub-paragraph (a) and any other part of the pipe is of heavy quality asbestos-cement complying with BS835: 1973; or*
- (c) (being a pipe serving a free-standing appliance which is an open fire and is not capable of being used as a closed stove) the pipe connects the outlet of the appliance to a chimney, is not more than 460 mm long and is made of sheet steel having a thickness of not less than 1.2 mm.*

***L9 Deemed-to-satisfy provisions regarding placing and shielding of flue pipes for Class I appliances***

*(1) A flue pipe serving a Class I appliance shall be deemed to satisfy such requirements of rule L2(1)(a)(ii) as relate to its placing or shielding if it complies with the relevant provisions of this rule.*

*(2) If the flue pipe passes through a roof or external wall otherwise than for the purpose of discharging in the manner described in rule L10(2) or (3), the flue pipe shall be—*

- (a) at a distance of not less than three times its external diameter from any combustible material forming part of the roof or wall; or*

- (b) (i) *(in the case of a pipe passing through a roof) separated from any combustible material forming part of the roof by solid non-combustible material not less than 200 mm thick; or*
  - (ii) *(in the case of a pipe passing through an external wall) separated from any combustible material forming part of the wall by solid non-combustible material not less than 200 mm thick (if the combustible material is below or beside the pipe) or not less than 300 mm thick (if the combustible material is above the pipe); or*
- (c) *enclosed in a sleeve of metal or asbestos-cement which—*
  - (i) *is carried through the roof or wall to project not less than 150 mm beyond any combustible material forming part of the roof or wall;*
  - (ii) *has between the sleeve and the pipe a space of not less than 25 mm packed with non-combustible thermal insulating material; and*
  - (iii) *(if the roof or wall is of hollow construction with an air space between the outer surface of the sleeve and any combustible material in tile roof or wall) is so fitted that such material is not less than 25 mm from tile outer surface of the sleeve and not less than one and a half times the external diameter of the pipe from the outer surface of the pipe; or*
  - (iv) *(if the roof or wall is of solid construction) is so fitted that any combustible material forming part of the roof or wall is not less than a 190 mm from the outer surface of the pipe and is separated from the outer surface of the sleeve by solid non-combustible material not less than 115 mm thick.*
- (3) *Where the flue pipe is adjacent to a wall or partition, it shall be at a distance of—*
  - (a) *not less than three times its external diameter from any combustible material forming part of the wall or partition; or*

- (b) *not less than one and a half times its external diameter from any such combustible material, if such material is protected by a shield of non-combustible material which—*
- (i) *is so placed that there is an air space of not less than 12.5 mm between the shield and the combustible material or between the shield and any non-combustible material which covers the combustible material; and*
  - (ii) *is of such width, and is fixed between the wall or partition and the pipe in such a position in relation to the pipe, that it projects on either side of it for a distance of not less than one and a half times the external diameter of the pipe.*
- (4) *If the flue pipe passes under any floor, roof or ceiling, it shall be at a distance of—*
- (a) *not less than four times its external diameter from any combustible material forming part of the floor, roof or ceiling; or*
  - (b) *not less than three times its external diameter from any such combustible material, if such material is protected by a shield of non-combustible material which—*
    - (i) *has an air space of not less than 12.5 mm between the shield and the combustible material or between the shield and any non-combustible material which covers the combustible material; and*
    - (ii) *is of such width and is fixed between the pipe and the floor, roof or ceiling in such a position in relation to the pipe that it projects on either side of it for a distance of not less than two and a half times the external diameter of the pipe.*

#### **L10 Proximity of combustible material – Class I appliances**

(1) Subject to paragraphs (2) and (3), no combustible material shall be so placed in any chimney or fireplace recess serving a Class I appliance, or in any wall of which such a chimney or recess forms part, as to be nearer to a flue, to the inner surface of the recess, or to an opening into a flue or through the back or jambs of the recess, than 150 mm (in the case of a wooden plug) or 200 mm (in the case of any other material).

(2) Where a flue pipe serving a Class I appliance discharges into the side of a flue in a chimney, any combustible material placed in the chimney, or in any wall of which the chimney forms part, shall be separated from the flue pipe by solid non-combustible material not less than 200 mm thick (if such material is beside or below the pipe) or not less than 300 mm thick (if such material is above the pipe).

(3) Where a flue pipe serving a Class I appliance discharges into the bottom of a flue in a chimney supported by a slab, floor or roof, any combustible material forming part of or placed in the slab, floor or roof shall be separated from the flue pipe by solid non-combustible material not less than 200 mm thick.

(4) Where the thickness of solid non-combustible material surrounding a flue in a chimney serving a Class I appliance is less than 200 mm, no combustible material, other than a floorboard, skirting board, dado rail, picture rail, mantel-shelf or architrave, shall be so placed as to be nearer than 38 mm to the outer surface of the chimney.

(5) No metal fastening which is in contact with combustible material shall be so placed in any chimney or fireplace recess serving a Class I appliance, or in any wall of which such a chimney or recess forms part, as to be nearer than 50 mm to a flue, to the inner surface of the recess, or to an opening into a flue or through the back or jambs of the recess.

#### **L11 Openings into flues for Class I appliances**

No opening shall be made into any flue in a chimney or flue pipe serving a Class I appliance except—

- (a) an opening made for inspection or cleaning and fitted with a closely fitting cover of non-combustible material; or
- (b) an air inlet which is in the same room or internal space as tile appliance, is fitted with a cover of non-combustible material and is capable of being closed; or
- (c) an opening which is in the same room or internal space as the appliance and is fitted with a draught stabiliser or explosion door of non-combustible material.

#### **L12 Flues communicating with more than one room or internal space – Class I appliance**

No flue in a chimney or flue pipe serving a Class I appliance shall communicate with more than one room or internal space in a building:

Provided that nothing in this rule shall prohibit—

- (a) the installation of a back-to-back grate; or
- (b) the installation of two or more gas-fired incinerators in accordance with the requirements of rule M6(2); or
- (c) the making of an opening which complies with the description contained in rule L11(a) for the purpose of giving access to a flue from a room or internal space other than that in which the appliance is installed.

### **L13 Outlets of flues for Class I appliances**

The outlet of any flue in a chimney or flue pipe serving a Class I appliance shall be so situated that the top of such chimney or flue pipe (exclusive of any chimney pot or other flue terminal) is not less than—

- (a) 1 m above the highest point of contact between the chimney or flue pipe and the roof:

Provided that, where a roof has a pitch on both sides of the ridge of not less than 100 with the horizontal and the chimney or flue pipe passes through the roof at or within 600 mm of the ridge, the top of the chimney or flue pipe (exclusive of any chimney pot or other flue terminal) may be less than 1 m but not less than 600 mm above the ridge;

- (b) 1 m above the top of any part of a window or skylight capable of being opened, or of any ventilator, air inlet to a ventilation system or similar opening, which is situated in any roof or external wall of a building and is not more than 2.3 m, measured horizontally, from the top of the chimney or flue pipe; and
- (c) 1 m above the top of any part of a building (other than a roof, parapet wall or another chimney or flue pipe) which is not more than 2.3 m, measured horizontally, from the top of the chimney or flue pipe.

### **L14 Chimneys for Class II appliances**

(1) Subject to the provisions of paragraph (5), any chimney serving a Class II appliance, not being an appliance ventilation duct, shall be either—

- (a) lined with any one of the following—
  - (i) acid-resistant tiles embedded in, and pointed with, high alumina Cement mortar; or
  - (ii) pipes which comply with specification (a) of rule L16; or
  - (iii) clay flue linings which comply with BS 1181:1971 and are jointed and pointed with high alumina cement mortar; or
- (b) constructed of dense concrete blocks made of, or having inside walls made of, high alumina cement, and in either case jointed and pointed with high alumina cement mortar:

Provided that nothing in sub-paragraph (b) shall prohibit the use of bricks or of dense concrete blocks made otherwise than with high alumina cement, in either case jointed and pointed with cement mortar, for the construction of a chimney without flue linings if—

- (i) the flue serves one appliance only;
- (ii) the appliance served by the flue is of a type described in column (2) of the Table to this rule; and
- (iii) the length of the flue is such as is permitted by the Table having regard to the particulars of the flue and the type of appliance specified therein.

(2) Any flue in a chimney serving a Class II appliance (including an appliance ventilation duct) shall be surrounded and separated from any other flue in the chimney by solid material not less than 25 mm thick:

Provided that where two or more flue pipes are encased in a duct, nothing in this paragraph shall require such flue pipes to be so separated.

(3) No fastening, other than a noncombustible support to a flue liner, shall be built into, or placed in, any chimney serving a Class II appliance (including an appliance ventilation duct) within 25 mm of any flue.

(4) Nothing in this rule shall apply to any part of a flue in a chimney pot or other flue terminal.

(5) Notwithstanding the requirements of paragraph (1), a chimney serving a Class 11 appliance (not being an appliance ventilation duct) may be lined with a flexible flue liner if—

- (a) the chimney is already lined or constructed in accordance with that paragraph; or
- (b) the chimney is not so lined or constructed but was erected under former control.

| <b>Table to Rule L14</b>  |   |   |   |
|---|---|---|---|
| <b>Maximum length of certain flues</b>  |   |   |   |
| Situation of flue<br><br>(1)  | Type of appliance<br><br>(2)  | Maximum length of flue (in m)   |   |
|   |   | If flue is circular or square, or is rectangular and has the major dimension not exceeding three times the minor dimension<br><br>(3) | If flue is rectangular and has the major dimension exceeding three times the dimension<br><br>(4) |
| (a) Flue formed by a chimney or flue pipe which is internally situated (that is to say, otherwise than as (b) below)  | Gasfire   | 21  | 12  |
|   | Heater installed in drying cabinet or airing cupboard or instantaneous water heater | 12  | Not permitted   |
|   | Air heater or continuously burning water heater                                     | 6   | Not permitted   |
| (b) Flue formed by a chimney having one or more external walls; or by a flue pipe which is situated externally or within a duct having one or more external walls | Gas fire  | 11  | 6   |
|   | Heater installed in drying cabinet or airing cupboard or instantaneous water heater | 6   | Not permitted   |

### **L15 Flue pipes for Class II appliances**

Any flue pipe serving a Class II appliance shall, if it is constructed of pipes of the spigot and socket type, have the socket of each component uppermost.

**L16 Deemed-to-satisfy provisions regarding materials for the construction of flue pipes for Class II appliances**

*A flue pipe serving a Class II appliance shall be deemed to satisfy such requirements of rule L2(1)(a) as relate to the nature, quality and thickness of its materials if it complies with any of the following specifications—*

- (a) *clay pipes and fittings which comply with BS65 & 540: Part J: 1971, are of British Standard type, socketed, imperforate and acid resistant and are jointed and pointed with high alumina cement mortar; or*
- (b) *cast iron spigot and socket flue pipes and fittings which comply with BS4I: 1973 and are coated on the Inside with acid-resistant vitreous enamel and jointed with an acid-resistant compound or*
- (c) *sheet metal flue pipes and fittings which comply with BS 715: 1970  
excluding the reference to epoxy resin from Table 2 of that publication; or*
- (d) *stainless steel pipes and fittings; or*
- (e) *asbestos-cement flue pipes and fittings which—*
  - (i) *Comply with BS835: 1973 or (except where they form a flue serving an incinerator) BS567: 1973; and*
  - (ii) *(unless the flue serves one appliance only, and that appliance is of a type specified in column (2) of the Table to rule L14, and the length of the flue is such as is permitted by that Table having regard to the particulars of the flue and the type of appliance specified therein), are coated on the inside with an acid-resistant compound which either is prepared from vinyl acetate polymer or has a rubber derivative base; and are jointed with an acid-resistant compound.*

**L 17 Deemed-to-satisfy provisions regarding placing and shielding of flue pipes for Class II appliances**

(1) *A flue pipe serving a Class II appliance shall be deemed to satisfy such requirements of rule L2(1)(a)(ii) as relate to its placing and shielding if—*



- (a) *no part of the flue pipe is less than 50 mm from any combustible material; and*
- (b) *where it passes through a roof floor, ceiling, wall or partition constructed of combustible materials, the flue pipe is enclosed in a sleeve of non-combustible material and is separated from the sleeve by an air space of not less than 25 mm.*

(2) *A flue pipe serving a Class II appliance (being a pipe which is situated neither in the room or internal space in which the appliance is installed nor in an enclosed space to which no person has access) shall be deemed to satisfy such requirements of rule L2(3)(a) as relate to the placing and shielding of a pipe within a building if—*

- (a) *it is enclosed, either separately or together with one or more other flue pipes serving Class II appliances. in a casing constructed of suitable, but not necessarily imperforate. non-combustible material;*
- (b) *there is a distance of at least 25 mm between the inside of the casing and the outside of any flue pipe; and*
- (c) *no combustible material is built into, or enclosed within, the casing.*

#### **L18 Sizes of flues for Class II appliances**

(1) The measurements in cross-section of a flue serving a Class II appliance (except where any part of that flue is in a ridge terminal) shall be such that—

- (a) no dimension is less than 63 mm; and
- (b) if the flue is rectangular in section and is not in an appliance ventilation duct, the major dimension is not more than—
  - (i) six times the minor dimension if the flue serves only one gas fire; or
  - (ii) five times the minor dimension if the flue serves only one appliance other than a gas fire; or
  - (iii) one and a half times the minor dimension if the flue is a main flue; or

- (c) if the flue is rectangular in section and is in an appliance ventilation duct, the major dimension is not more than twice the minor dimension.
- (2) The cross-sectional area of a flue serving one Class II gas fire shall be not less than 12000 mm<sup>2</sup> and the area of the aperture in any local restrictor unit in the flue shall be not less than 6000 mm<sup>2</sup>
- (3) The cross-sectional area of a flue serving one Class II appliance other than a gas fire shall be not less than the area of the outlet of that appliance.
- (4) The cross-sectional area of a main flue serving two Class II gas appliances (other than gas fires) installed in the same room or internal space shall be not less than the larger of the following, that is to say—
- (a) the area of the larger of the outlets of the appliances; or
- (b) the area specified in the Table to this rule, according to the total input rating of the appliances.
- (5) Subject to the requirements of rule M10(d)(iv), the nominal cross-sectional area of a main flue serving two or more Class II appliances installed in different storeys of a building shall be not less than 40000 mm<sup>2</sup>.
- (6) The cross-sectional area of a flue in an appliance ventilation duct shall be such as will ensure that the requirements of rule M10(b)(iii) are satisfied.

| <b>Table to Rule L18</b>  |                      |  |
|---|----------------------|--|
| <b>Minimum cross-sectional area of a flue serving two Class II gas appliances (other than gas fires) installed in the same room or internal space</b> |                      |  |
| Total input rating of appliances (in kW)  |                      | Minimum cross-sectional area of flue (in mm <sup>2</sup> ) |
| Exceeding<br>(1)  | Not exceeding<br>(2) | (3)  |
| —   | 13                   | 3750   |
| 13  | 18                   | 5750   |
| 18  | 30                   | 7000   |
| 30  | 35                   | 9000   |
| 35  | 45                   | 11500  |

**L19 Openings into flues for Class II appliances**

No opening shall be made into a flue serving a Class II appliance except—

- (a) an opening made for inspection or cleaning and fitted with a gas-tight cover of non-combustible material; or
- (b) (if the flue serves an appliance other than a room-sealed appliance or incinerator) an opening which is in the same room or internal space as the appliance and serves as an air inlet or is fitted with a draught diverter or a draught stabiliser.

**L20 Flues communicating with more than one room or internal space – Class II appliances**

(1) No flue serving a Class II appliance shall communicate with more than one room or internal space in a building except—

- (a) a flue constructed to serve two or more Class II gas appliances installed in accordance with rule M10; or
- (b) a flue constructed to serve two or more Class II incinerators installed in accordance with rule M11:

Provided that nothing in this paragraph shall prohibit the making of an opening as described in rule L19(a) for the purpose of giving access to a flue from any room or internal space other than that in which the appliance is installed.

(2) A main flue serving two or more Class II gas appliances installed in different storeys of a building (being neither a flue in an appliance ventilation duct nor a flue through which the passage of the products of combustion is assisted by a mechanically operated system of extraction) shall be so constructed that—

- (a) it is not formed by a chimney comprising part of an external wall or by a flue pipe encased in a duct comprising part of an external wall or situated externally;
- (b) it is without offsets;
- (c) it is not inclined at an angle greater than 100 from the vertical; and
- (d) each appliance discharges into it by way of a subsidiary flue complying with paragraph (3).

- (3) A subsidiary flue serving a Class II gas appliance, being a flue which discharges into a main flue to which paragraph (2) relates, shall—
- (a) discharge into such main flue at a point not less than 1.2 m above the outlet of the appliance which it serves; and
  - (b) make an angle of not less than 45° with the horizontal except where any other angle is necessary for the purpose of connecting the subsidiary flue to the appliance or to the main flue.

#### **L21 Outlets of flues for Class II appliances**

- (1) The outlet of any flue serving a Class II appliance shall—
- (a) fitted with a flue terminal designed to allow free discharge, to minimise down-draught and to prevent the entry of any matter which might restrict the flue;
  - (b) so situated externally that a current of air may pass freely across it at all times; and
  - (c) so situated in relation to any opening (that is to say, any part of a window or skylight capable of being opened or any ventilator, air inlet to a ventilation system or similar opening in any roof or external wall of a building) that—
    - (i) (if the appliance is a gas appliance) no part of the outlet is less than 600 mm from any opening; or
    - (ii) (if the appliance is an incinerator) no part of the outlet is less than 1 m above the top of any opening situated less than 2.3 m, measured horizontally, from the outlet.
- (2) The outlet of a main flue serving two or more Class II gas appliances installed in different storeys of a building (being neither a flue in an appliance ventilation duct nor a flue through which the passage of the products of combustion is assisted by a mechanically operated system of extraction) and into which each appliance discharges by way of a subsidiary flue shall be so situated that—
- (a) the outlet is not less than 6 m above any appliance served by the flue; and

- (b) where the chimney or flue pipe passes through a pitched roof, the outlet is above the level of the ridge of the roof; or
- (c) where the chimney or flue pipe passes through a flat roof, the outlet is not below the highest of the following levels—
  - (i) 600 mm above the roof; or
  - (ii) 600 mm above any parapet which is within 1.5 m, measured horizontally, from the outlet; or
  - (iii) the level of the top of any other part of the structure which is within 1.5 m, measured horizontally, from the outlet; or
  - (iv) a level corresponding to the height of any part of the structure which is at a distance exceeding 1.5 m, measured horizontally, from the outlet reduced by one third of the difference between such distance and 1.5 m.

**L22 Insulated metal chimneys serving Class I or Class II appliances**

(1) An insulated metal chimney serving a Class I or Class II appliance shall be so constructed as to comply with the relevant requirements of rules L2(4) and (6), L6(4) and (7), L11, L12, L13, L18(1), (2), (3) and (4), L19, L20(1) and L21 and with the provisions of paragraph (2) of this rule:

Provided that rule L20(1)(a) shall have effect as though there were substituted for the reference to rule M10 a reference to rule M10(a).

(2) The provisions to which reference is made in paragraph (1) are as follows—

- (a) the chimney shall be constructed of components complying with BS4543:1970;
- (b) joints between components shall not be situated within the thickness of any wall, floor, ceiling or roof;
- (c) if the chimney serves a Class I appliance, no part of the flue shall make an angle with the horizontal of less than 60° except where necessary to connect the chimney to the appliance;

- (d) no combustible material shall be so placed as to be nearer to the outer surface of the chimney than the distance (X) adopted for the purposes of the test procedure specified in Appendix C to BS4543:1970;
- (e) the chimney shall be readily accessible for inspection and replacement throughout its length;
- (f) if any part of the chimney is situated within a cupboard or storage space—
  - (i) that part shall be enclosed by a removable casing constructed of suitable imperforate material;
  - (ii) the distance between the inside of the casing and the outside of the chimney shall be not less than the distance specified in subparagraph (d); and
  - (iii) no combustible material shall be enclosed within the casing; and
- (g) no part of the chimney shall pass through or be attached to any building or part of a building other than a building or part in the same occupation as that within which the appliance served by the chimney is situated.

**PART M****Heat-producing appliances and incinerators****M1 Interpretation of Part M**

In this Part—

- (a) the provisions of rule L1(1) shall apply except that neither APPLIANCE nor INCINERATOR shall include an incinerator employing electricity as a means of igniting refuse; and
- (b) PERMANENT VENT means a purpose made opening or duct which is designed to allow the passage of air at all times; and

VENTILATION OPENING has the meaning assigned by rule K4(1).

**M2 Prevention of emission of smoke – clean Air**

In any building (other than a building erected under former control) there shall not be installed for the purposes of heating or cooking in that or any other building any appliance which discharges the products of combustion into the atmosphere unless that appliance is designed to burn as fuel either gas, coke or anthracite:

**M3 High-rating appliances**

No high-rating appliance shall be installed in a building unless—

- (a) it discharges into a flue;
- (b) the outlet of the flue is so situated as to comply with the requirements of rule L2(4)(a);
- (c) any chimney, flue pipe, fireplace recess or constructional hearth which serves it, complies with the relevant requirements of rule L2(1), (2), (3) and (6);
- (d) any other part of the building is so constructed, situated or protected as to ensure that it will not be ignited by heat from the appliance; and
- (e) provision is made for the introduction of combustion air in sufficient quantity to ensure the efficient operation of the appliance and the proper discharge from the appliance through the flue which serves it.

**M4 Class I appliances**

(1) Subject to the special provisions relating to certain Class I oil-burning appliances set out in rule M5, no Class I appliance shall be installed in a building unless the installation complies with the provisions of this rule.

(2) Provision shall be made for the introduction of combustion air into the room or other internal space in which the appliance is installed in sufficient quantity to ensure the efficient operation of the appliance and (except in the case of an appliance to which rule M5(4)(b) refers) the proper discharge from the appliance through the flue which serves it.

- (3) The appliance shall be placed upon or over—
  - (a) a constructional hearth which complies with the relevant provisions of Part L; or

- (b) a constructional hearth built under former control and conforming with the relevant provisions of Part L excluding rules LA(1)(c)(ii) and M(1)(d); or
- (c) a superimposed hearth constructed of noncombustible materials, not less than 48 mm thick and placed wholly or partly upon a constructional hearth which complies with either sub-paragraph (a) or subparagraph (b).

(4) Where the appliance is installed upon or over a constructional hearth without an intervening superimposed hearth, the distance measured horizontally from the base of the appliance to the edges of the hearth, or (if combustible material is laid on the hearth as a continuation of the finish of the adjoining floor) from the base of the appliance to the combustible material, shall be not less than—

- (a) at the front, 300 mm (if the appliance is an open fire or a stove which can, when opened, be operated as an open fire) or 225 mm (in any other case); and
- (b) at the back and sides, 150 mm or (if the hearth extends to a wall or partition) such smaller distance as will not contravene the requirements of paragraph (7).

(5) If the appliance is installed upon or over a supposed hearthmire, the appliance shall be so placed that—

- (a) it is wholly over the constructional hearth beneath that superimposed hearth;
- (b) no part of the base of the appliance is within 150 mm, measured horizontally, from any combustible material beside or upon the constructional hearth; and
- (c) the distance measured horizontally from the base of the appliance to the edges of the superimposed hearth is not less than the dimensions given in paragraph (4).

(6) if the appliance is not a free-standing appliance and is placed upon or over a constructional hearth in a fireplace recess, the recess shall be so constructed as to comply with the relevant provisions of Part L.

(7) The appliance shall be so placed that no part of its back or sides is within 150 mm, measured horizontally, from a wall or partition (other than a wall forming part of a fireplace recess which complies with the relevant



provisions of Part L) unless that pan of the wall or partition which is situated between the floor and the level of 300 mm above the top of the appliance is—

- (a) constructed of solid non-combustible material; and
- (b) not less than 200 mm thick (if the wall or partition is less than 50 mm from the appliance) or 75 mm thick (in any other case).

(8) Any part of the building (other than a wall or partition to which the provisions of paragraph (7) relate) which is in proximity to the appliance and above the level of the adjoining floor shall, if it is constructed of combustible materials, be so situated or protected as to ensure that it will not be ignited by heat from the appliance.

(9) The appliance shall discharge into—

- (a) a flue in a chimney which complies with the relevant provisions of Part L; or
- (b) a flue in a chimney built under former control and conforming with the relevant provisions of Part L excluding rule L6; or
- (c) a flue in a flue pipe which complies with the relevant provisions of Part L.

(10) Subject to the exception in respect of incinerators contained in rule M6(2), the flue into which the appliance discharges shall serve no other appliance:

Provided that nothing in this paragraph shall prohibit the installation of two solid fuel appliances or two oil-burning appliances so as to discharge into the same flue if—

- (a) both appliances are in the same room;
- (b) each appliance is a closed slow-burning appliance;
- (c) the aggregate rating of the appliances does not exceed 45 kW; and
- (d) the cross-sectional area of the flue is not less than the area of the larger of the flue connections.

(11) An appliance which is an open fire and is not capable of being used as a closed stove shall not be installed unless secure means of anchorage for

an effective fireguard are, if not provided in the appliance itself, provided in the adjoining structure.

#### **M5 Special provisions for certain Class I oil-burning appliances**

(1) In this rule any reference to hearth temperature, surface temperature or flue gas temperature is a reference to that temperature as determined respectively in accordance with Test procedure No.11, Measurement method 8 or Measurement method 3 prescribed in BS4876:1972.

(2) Paragraphs (3), (4) and (5) of rule M4 shall not apply to the installation of a Class I oil-burning appliance if—

- (a) the hearth temperature of the appliance does not exceed 100° C and is so limited by means other than the interposition of unprotected insulating material between the burner and the base of the appliance; and
- (b) the appliance is placed on, or incorporates, an imperforate rigid seating which is constructed of non-absorbent, noncombustible material and is of such dimensions that no part of the front, back or sides of the appliance extends (if projected on plan) beyond the edges of the seating.

(3) Paragraphs (6), (7) and (8) of rule M4 shall not apply to the installation of a Class I oil-burning appliance if the surface temperature of the side panels of the appliance does not exceed 100° C.

(4) Paragraph (9) of rule M4 shall not apply to the installation of a Class I oil-burning appliance if—

- (a) the flue gas temperature of the appliance does not exceed 260° C and the appliance discharges into—
  - (i) a flue in a chimney (not being an appliance ventilation duct) which is lined or constructed as prescribed in rule L14 (excluding the proviso to paragraph (1) thereof); or
  - (ii) a flue in a flue pipe which complies with rule L15 and with any one of the specifications set out in rule L16 (excluding the words in brackets in specification (e)(ii) therein) and is installed in accordance with rule L17; or
- (b) the appliance has an output rating not exceeding 3 kW and is designed to operate without being connected to a flue.

**M6 Additional provisions and exceptions for Class I incinerators**

- (1) No Class T incinerator shall be installed in a building unless—
  - (a) an after-burner or other means of smoke elimination is fitted; and
  - (b) there are means of access for cleaning the flue which serves it.
- (2) Notwithstanding anything contained in rule M4(10), a gas-fired incinerator may be installed in each of two or more storeys of a building so as to discharge into the same flue if—
  - (a) the discharge through the flue is assisted by a mechanically operated system of extraction;
  - (b) there are means for automatically cutting off the gas supply in the event of failure of the system of extraction; and
  - (c) each incinerator is fitted with a flame-failure device.

**M7 *Deemed-to-satisfy provisions for the supply of combustion air 10 Class I appliances***

- (1) *The provisions of this rule shall not apply if the room or space in which the appliance is installed is served by a warm air heating system or by a mechanical ventilation or air conditioning system.*
- (2) *The requirements of rule M4(2) shall be deemed to be satisfied if the room or space in which the appliance is installed has—*
  - (a) *in the case of an open fire which is not capable of being used as a closed stove or of an appliance to which rule M5(4)(b) refers, a ventilation opening; or*
  - (b) *in any other case, a permanent vent which—*
    - (i) *has an unobstructed cross-sectional area of not less than the minimum area specified in the Table to this rule; and*
    - (ii) *communicates directly either with the external air or with a void space which is situated beneath the lowest floor of the building and has a permanent vent the unobstructed cross-sectional area of which is not less*

*than the minimum area prescribed for the purposes of subparagraph (b)(i).*

| <b>Table to Rule M7</b>  | <b>Deemed-to-satisfy provisions</b>  |
|--|--|
| <b>Minimum unobstructed cross-sectional area of permanent vent</b> |  |
| <b>Number of appliances installed in room or space</b>             | <b>Minimum unobstructed cross-sectional area of permanent vent</b>   |
| (1)  | (2)  |
| 1  | Area equivalent to— <ul style="list-style-type: none"> <li>(i) cross-sectional area of flue connection; or</li> <li>(ii) 550 mm<sup>2</sup> for each kilowatt (or part thereof) of the maximum output per hour of the appliance, whichever is the greater</li> </ul>                           |
| 2 or more  | Area equivalent to— <ul style="list-style-type: none"> <li>(i) cross-sectional area larger or largest flue connection; or</li> <li>(ii) 550 mm<sup>2</sup> for each kilowatt (or part thereof) of the aggregate maximum output per hour of the appliances, whichever is the greater</li> </ul> |

### **M8 Class II appliances**

(1) No Class II appliance shall be installed in a building unless the installation complies with the provisions of this rule.

(2) Unless the appliance is a room-sealed appliance or is a gas heater installed in a cabinet or cupboard as specified in rule M9(1)(c)(ii), provision shall be made for the introduction of combustion air into the room or other internal space in which the appliance is installed in sufficient quantity to ensure the efficient operation of the appliance and, in the case of a flued appliance, the proper discharge from the appliance through the flue which serves it.

(3) Below the appliance there shall be a hearth constructed of non-combustible material not less than 12.5 mm thick which—

- (a) extends not less than 150 mm beyond the back and sides of the appliance or, if there is a wall within 150 mm from the appliance, up to that wall; and
- (b) extends forward not less than 225 mm, measured horizontally, from any flame or incandescent material within the appliance:

Provided that this paragraph shall not apply if the appliance—

- (i) is so installed that no part of any flame or incandescent material is less than 225 mm above the floor; or
- (ii) satisfies the test requirements specified in clause 14 of BS 1250: Part 1: 1966.

(4) The back, top and sides of the appliance, including any draught-diverter associated with it, shall be separated from any combustible material forming part of the building (other than the floor or hearth beneath the appliance) by a shield of non-combustible material not less than 25 mm thick or by an air space of not less than 75 mm:

Provided that this paragraph shall not apply if the appliance satisfies the test requirements specified in clause 14 of 135 1250: Part 1:1966.

(5) Subject to the exceptions in respect of gas appliances contained in rule M9, the appliance shall discharge into either—

- (a) a flue in a chimney, appliance ventilation duct or flue pipe which complies with the relevant provisions of Part L relating to Class II appliances; or
- (b) a flue in a chimney built under former control which complies with the relevant provisions of Part L relating to Class II appliances (excluding rule L14); or
- (c) in the case of a gas fire, a flue in a chimney which complies with the relevant provisions of Part L relating to Class 1 appliances (excluding, if the chimney was built under former control, rule L6).

(6) Subject to the exceptions contained in rule M10 (in the case of a Class II gas appliance) or rule M11 (in the case of a Class II Incinerator), the flue into which the appliance discharges shall serve no other appliance.

(7) An appliance which is required by paragraph (5) to discharge into a flue shall not be installed in a bathroom unless—

- (a) the appliance is a room-sealed appliance; or
- (b) (i) the appliance has an input rating not exceeding 12 kW and does not heat water for a bath; and

- (ii) the room has a permanent vent which communicates directly with the external air and has an unobstructed cross-sectional area which is not less than that of the flue or 7500 mm<sup>2</sup> whichever is the greater.

**M9 Exceptions permitting discharge of Class II gas appliances otherwise than into a flue**

- (1) Notwithstanding anything contained in rule M8(5)–
  - (a) a gas cooker may be installed so as to discharge into the room in which it is situated if the room has a ventilation opening;
  - (b) a room-sealed gas appliance may be installed so as to discharge directly into the external air if–
    - (i) the inlet and outlet of the appliance are incorporated in a terminal which is designed to allow free intake of combustion air and discharge of the products of combustion and to prevent the entry of any matter which may restrict the inlet or outlet;
    - (ii) where the outlet is wholly or partly beneath any opening (that is to say, any ventilation opening, permanent vent, inlet to a ventilation system or similar opening), no part of the outlet is within 300 mm, measured vertically, from the bottom of that opening; and
    - (iii) where the outlet of the appliance is less than 2 m above the level of any ground, balcony, flat roof or place to which any person has access and which adjoins the wall in which the outlet is situated, the outlet is protected by a guard of durable material;
  - (c) a gas heater may be installed in a drying cabinet or airing cupboard so as to discharge otherwise than into a flue if–
    - (i) the cabinet or cupboard has an outlet into a flue which has a cross-sectional area of not less than 12000 mm<sup>2</sup> and complies with the provisions of Part L relating to flues serving Class II appliances and the room in which the cabinet or cupboard is situated has a ventilation opening; or

- (ii) the cabinet or cupboard has an inlet and an outlet connected to an appliance ventilation duct constructed in compliance with the relevant provisions of Part L and the door of the cabinet or cupboard, when opened, operates so as automatically to close the inlet and outlet; or
  - (iii) the input rating of the appliance does not exceed 2 kW and the room or internal space in which the cabinet or cupboard is situated has means of ventilation which comply with the requirements of paragraph (2);
- (d) a water heating gas appliance may be installed so as to discharge otherwise than into a flue if the room or internal space in which the appliance is situated has a capacity exceeding 6 m<sup>3</sup> and has means of ventilation which comply with the requirements of paragraph (2) and the appliance does not heat water for a bath and complies with any one of the following specifications–
- (i) an instantaneous water heater having an input rating not exceeding 12 kW; or
  - (ii) a storage water heater having an input rating not exceeding 3 kW or, if the storage capacity does not exceed 45 litres, having an input rating not exceeding 4.5 kW; or
  - (iii) a wash-boiler or washing-machine having an input rating not exceeding 6 kW; or
  - (iv) a water heating appliance (other than an instantaneous water heater, storage water heater, wash-boiler or washing-machine) having an input rating not exceeding 3 kW; and
- (e) a space heating gas appliance may be installed so as to discharge otherwise than into a flue if the room or internal space in which the appliance is situated has means of ventilation which comply with the requirements of paragraph (2) and the input rating of the appliance does not exceed–
- (i) (if the appliance is installed in a room) 150W per 3 m<sup>3</sup> space of in that room; or

- (ii) (if the appliance is installed in an internal space other than a room) 300 W per 3 m<sup>3</sup> of space surrounding the appliance:

Provided that if more than one space heating gas appliance is so installed in a room or internal space, the total rating of the appliances shall not exceed the rating specified in this sub-paragraph.

(2) No appliance described in paragraph (1)(c)(iii), (d) or (e) shall be installed in a room or internal space so as to discharge otherwise than into a flue unless such room or space has—

- (a) a ventilation opening; and
- (b) if the capacity of the room or space is within the limits specified in column (2) of the Table to this rule, a permanent vent which—
- (i) communicates either directly with the external air or with a ventilated hall, passage or internal space (not being a habitable room); and
- (ii) has an unobstructed cross-sectional area which is not less than the minimum area specified in column (3) of the Table, according to the type of appliance and the capacity of the room or internal space in which the appliance is installed.

| <b>Table to Rule M9</b>   |  |   |
|---|--|---|
| <b>Minimum unobstructed area of permanent vent</b>                                |  |   |
| Type of appliance<br>(1)  | Capacity of room or internal space in which the appliance is installed (in m <sup>3</sup> )<br>(2) | Minimum unobstructed area of vent (in mm <sup>2</sup> )<br>(3)  |
| Instantaneous water heating appliance   | exceeding 6 but not exceeding 11   | 3250  |
| Any other water heating appliance   | Exceeding 6 but not exceeding 11   | 9500  |
|   | Exceeding 11 but not exceeding 21  | 3250  |
| Space heating appliance; or heater installed in drying cabinet or airing cupboard | not exceeding 57   | 9500(if vent opens directly to external air) or 19000 (in any other case)   |
|   | Exceeding 57   | As above, but increased by 3250 and 6500 respectively for each kW or part thereof by which the input rating of the appliance exceeds 3 kW |



**M10 Exceptions permitting discharge from two or more Class II gas appliances into the same flue**

Notwithstanding anything contained in rule M8(6)–

- (a) two or more Class II gas appliances (other than gas fires) may be installed in the same room or internal space so as to discharge into the same flue if–
  - (i) the flue is a main flue which complies with the relevant provisions of Part L; and
  - (ii) each appliance is fitted with a draught-diverter;
- (b) a Class II room-sealed gas appliance may be installed in a room or internal space in each of two or more storeys of a building so as to discharge into the same appliance ventilation duct if–
  - (i) the duct complies with the relevant provisions of Part L;
  - (ii) any appliance having an input rating exceeding 7.5 kW is equipped with a flame-failure device; and
  - (iii) under any conditions of normal operation of the appliances, the combustion air entering the uppermost appliance will not contain more than 2% in volume of carbon dioxide;
- (c) a Class II gas appliance may be installed in a room or internal space in each of two or more storeys of a building so as to discharge into the same flue if
  - (i) the flue is a main flue which complies with the relevant provisions of Part L;
  - (ii) the discharge through the flue is assisted by a mechanically operated system of extraction;
  - (iii) there are means for automatically cutting off the gas supply in the event of failure of the system of extraction; and
  - (iv) each appliance is fitted with a flame-failure device; and

- (d) a Class II gas appliance may be installed in a room or internal space in each of two or more storeys of a building so as to discharge into the same flue if—
- (i) in each such room or internal space the number of windows or parts of windows capable of being opened, and the number of such windows or parts of windows having a similar aspect, are the same as in each other such room or internal space;
  - (ii) the flue is a main flue which complies with the relevant provisions of Part L;
  - (iii) each appliance discharges into the main flue by way of a subsidiary flue which complies with the relevant provisions of Part L;
  - (iv) all appliances are of the same type, being any one of the types specified in the Table to this rule, and the number and total input rating of such appliances do not exceed those specified in the table according to the type of appliance and the cross-sectional area of the main flue; and
  - (v) each appliance is fitted with a flame-failure device.

| <b>Table to Rule M10</b>   |   |                      |                               |                      |
|--|---|----------------------|-------------------------------|----------------------|
| <b>Class II gas appliances discharging by way of subsidiary flues into a main flue</b>           |   |                      |                               |                      |
| Type of appliance  | Nominal cross-sectional area of main flue               |                      |                               |                      |
|  | Not less than 40000 but less than 62000 mm <sup>2</sup> |                      | 62000 mm <sup>2</sup> or more |                      |
|  | Maximum number of appliances                            | Total rating (in kW) | Maximum number of appliances  | Total rating (in kW) |
| (1)  | (2)   | (3)                  | (4)                           | (5)                  |
| Convactor fire with controlled flue flow, having a maximum rate of flow of 70 m <sup>3</sup> /hr | 5   | 30                   | 7                             | 45                   |
| Instantaneous water heater   | 10  | 300                  | 10                            | 450                  |
| Storage water heater, central heating unit or air heater   | 10  | 120                  | 10                            | 180                  |

### **M11 Additional provisions and exceptions for Class II incinerators**

(1) No Class II incinerator shall be installed in any building unless there are means of access for cleaning the flue.

(2) Notwithstanding anything contained in regulation M8(6), a Class 11 incinerator may be installed in each of two or more storeys of a building so as to discharge into the same flue if—

- (a) (i) the flue is a main flue which complies with the relevant provisions of Part L; and
- (ii) each incinerator discharges into the main flue through a subsidiary flue complying with the relevant provisions of Part L; or
- (b) (i) the flue is a main flue which complies with the relevant provisions of Part L;
- (ii) the discharge through the flue is assisted by a mechanically operated system of extraction; and
- (iii) there are means for automatically cutting off the gas supply in the event of failure of the system of extraction; and
- (c) in either case each incinerator is fitted with a flame-failure device.

***M12 Deemed-to-satisfy provisions for the supply of combustion air to Class II appliances***

(1) *The provisions of this rule shall not apply if the room or space in which the appliance is installed is served by a warm air heating system or by a mechanical ventilation or air conditioning system.*

(2) *The requirements of rule M8(2) shall be deemed to be satisfied if the room or space in which the appliance is installed has—*

- (a) *in the case of a gas fire, a ventilation opening; or*
- (b) *in the case of a fluid appliance other than a gas fire, a permanent vent which complies with the requirements specified in rule M7(2)(b); or*
- (c) *in the case of a flueless appliance, such means of ventilation as are specified in rule M9(1).*

**PART N****Drainage, private sewers and cesspools****N1 Application of Part N**

(1) Rules N10 to N16 shall apply to any part of a drainage system intended for use in connection with a building if that part is either wholly below the ground or is a continuation, in the direction of the flow, of any part of the drainage system which is below the ground.

(2) Rules N4 to N9 shall apply to any part of the drainage system of a building other than a part described in paragraph (1).

(3) This Part shall not apply to any drain used solely for the conveyance of subsoil water.

**N2 Interpretation of Part N**

(1) In this Part—

**INSPECTION CHAMBER** means any chamber constructed on a drain so as to provide access thereto for inspection and cleansing;

**RAINWATER PIPE** means a pipe (not being a drain) which conveys only rainwater;

**SOIL APPLIANCE** includes a watercloset or urinal receptacle, bed-pan washer, bed-pan sink and slop sink;

**SOIL PIPE** means a pipe (not being a drain) which conveys soil water either alone or together only with waste water or rainwater or both;

**VENTILATING PIPE** means a pipe (not being a drain) open to the external air at its highest point, which ventilates a drainage system either by connection to a drain or to a soil pipe or waste pipe and does not convey any soil water, waste water or rainwater;

**WASTE APPLIANCE** includes a slipper bath, lavatory basin, bidet, domestic sink, cleaner's bucket sink, drinking fountain, shower tray, wash fountain, washing trough and washtub;

**WASTE PIPE** means a pipe (not being a drain or overflow pipe) which conveys waste water, either alone or together only with rainwater; and

WASTE WATER means used water not contaminated by soil water or trade effluent.

(2) Any reference in this Part to a pipe shall, unless the context otherwise requires, include a reference to a number of pipes and fittings jointed together to form a continuous line of pipes.

**N3 Water seals in traps**

Such provision shall be made in the drainage system of a building, whether above or below the ground, as may be necessary to prevent the destruction under working conditions of the water seal in any trap In the system or in any appliance which discharges into the system.

**N4 Soil pipes, waste pipes and ventilating pipes**

(1) Subject to paragraphs (2) and (3), any soil pipe, waste pipe or ventilating pipe shall be of adequate size for its purpose but in no case shall the internal diameter of a soil pipe or waste pipe be less than the internal diameter of any pipe or of the outlet of any appliance which discharges into it.

(2) Without prejudice to the generality of paragraph (1), the internal diameter of a soil pipe shall be not less than—

- (a) 50 mm if it exclusively serves one or more urinals; or
- (b) 75 mm in any other case.

(3) Without prejudice to the generality of paragraph (1), the internal diameter of a waste pipe shall be not less than 32 mm if it serves a lavatory basin.

(4) Any soil pipe, waste pipe or ventilating pipe shall—

- (a) be composed of suitable materials of adequate strength and durability;
- (b) have all joints formed in a manner appropriate to the materials of which the pipe is composed and in such a way that the joints shall—
  - (i) remain airtight;

- (ii) not cause electrolytic corrosion due to the association of dissimilar materials; and
- (iii) not form any obstruction in the interior of the pipe;
- (c) (if it is necessary to have a bend) be so constructed that the bend does not form an acute angle but has the largest practicable radius of curvature and that there is no change in the cross-section of the pipe throughout the bend;
- (d) be adequately supported throughout its length without restraining thermal movement, any fitting which gives such support being securely attached to the building;
- (e) be so constructed as to be capable of withstanding a smoke or air test for a minimum period of three minutes at a pressure equivalent to a head of not less than 38 mm of water;
- (f) be so placed as to be reasonably accessible for maintenance and repair throughout its length; and
- (g) have such means of access as are necessary to permit internal cleansing.

**N5 Further requirements (or soil pipes and waste pipes**

(1) Any soil pipe from a soil appliance and any waste pipe from a waste appliance shall have fitted close to such appliance a suitable and readily accessible trap of adequate diameter, having an adequate water seal and means of access for internal cleansing:

Provided that this paragraph shall not apply to—

- (a) any soil pipe serving only a soil appliance or any waste pipe serving only a waste appliance if the appliance has an integral trap; or
- (b) any waste pipe serving a bath or lavatory basin where two or more baths or lavatory basins are so fixed in a range that such waste pipe discharges into a semi-circular and accessible open channel of glazed stoneware, or other equally suitable material, formed or fixed in, on or above the floor immediately beneath such baths or lavatory basins and discharging over or into a suitable trap; or

- (c) any waste pipe serving a lavatory basin or shower tray if a number of lavatory basins or shower trays or both are so fixed in a range that each such waste pipe discharges into a common waste pipe which—
  - (i) does not exceed 5 m in length;
  - (ii) is fitted with a suitable trap; and
  - (iii) has means of access suitable and adequate for the internal cleansing of the trap and of the whole length of the pipe.

(2) Subject to paragraph (3)—

- (a) a soil pipe or waste pipe serving an appliance situated within a building shall not be placed outside the external walls thereof unless the building is—
  - (i) a building erected under former control (including such a building as altered or extended); or
  - (ii) a building having not more than three storeys; and
- (b) a waste pipe which is situated outside the external walls of a building shall not discharge waste water into a hopper head or in any other way which would expose the water to the external air.

(3) Notwithstanding the requirements of paragraph (2), any waste pipe which serves an appliance situated within any part of a building the floor of which part is at or about the level of the adjoining ground may discharge into an external trap if the trap has a suitable grating so fitted that the discharge of waste water is effected above the level of the water in the trap but below the level of the grating and the pipe discharges in such a way as not to cause dampness in any building.

## **N6 Overflow pipes**

Any overflow pipe connected to a waste appliance shall either—

- (a) discharge into a waste pipe in such a way as to be disconnected from the drainage system by the trap installed in accordance with rule N5(1); or

- (b) otherwise so discharge as not to cause dampness in, or damage to, any part of any building.

**N7 Further requirements for ventilating pipes**

Any ventilating pipe shall be—

- (a) carried upwards to such a height and so positioned as not to transmit foul air in such a manner as to become prejudicial to health or a nuisance; and
- (b) fitted at its topmost end with a durable wire cage or other cover which does not unduly restrict the flow of air.

**N8 Rainwater gutters**

Any gutter which is on a building and intended for collecting rainwater shall be—

- (a) of adequate size for its purpose;
- (b) composed of suitable materials of adequate strength and durability;
- (c) adequately supported throughout its length without restraining thermal movement, any fitting which gives such support being securely attached to the building;
- (d) so arranged as not to cause dampness in, or damage to, any part of a building;
- (e) so jointed in a manner appropriate to the material or materials of which it is composed as to remain watertight; and
- (f) fitted with an adequate outlet or outlets so placed as to drain the whole length of the gutter.

**N9 Rainwater pipes**

- (1) Any rainwater pipe which is situated outside a building shall be—
  - (a) of adequate size for its purpose;
  - (b) composed of suitable materials of adequate strength and durability;



- (c) adequately supported throughout its length without restraining thermal movement, any fitting which gives such support being securely attached to the building; and
  - (d) so arranged as not to cause dampness in, or damage to, any part of a building.
- (2) Any rainwater pipe which is situated within a building shall be–
- (a) of adequate size for its purpose; and
  - (b) 80 constructed that it complies with the requirements of rule N4(4).
- (3) No rainwater pipe shall be constructed so as to discharge into, or to connect with, any pipe or drain used or intended to be used for conveying soil water or waste water unless provision is made in the design of the sewerage system for the discharge of rainwater.

**N10 Materials and construction of drains and private sewers**

- (1) Any drain or private sewer shall–
- (a) be of sufficient strength having regard to the manner in which it is bedded or supported and the maximum loads and forces to which it may be subjected, and (where necessary) protected against injury;
  - (b) (together with its joints and fittings) be constructed of materials of sufficient durability having regard to the matter passing through it and (if below ground) the nature of the ground and subsoil water through which it passes;
  - (c) have all joints formed in such a manner–
    - (i) as is appropriate to the materials of which such drain or sewer is made;
    - (ii) that the joints remain watertight under all working conditions, including any differential movement as between the pipe and the ground or any structure through or under which it passes; and

(iii) that the joints do not form any obstruction in the interior of such drain or private sewer;

(d) be laid in a straight line between points where changes of direction or gradient occur; and

(e) be so designed and constructed, of such size and (unless the contents are pumped) laid at such a gradient as to ensure that it is self-cleansing and efficiently carries away the maximum volume of matter which may be discharged into it.

(2) The internal diameter of any drain or private sewer shall, at any point, be not less than that of the outlet of any appliance, pipe or drain the discharge from which passes through it at that point:

Provided that the internal diameter shall not be less than 100 mm in the case of any drain or private sewer which is intended for the conveyance of soil water or water contaminated with trade effluent, or not less than 75 mm in any other case.

(3) Where any drain or private sewer passes through a building, that part which is within the building shall—

(a) be adequately supported throughout its length without restricting thermal movement, any fitting giving such support being securely attached to the building; and

(b) be so placed as to be reasonably accessible throughout its length for maintenance and repair.

#### **N11 Tests for drains and private sewers**

Any drain or private sewer shall, after the work of laying the drain or private sewer has been carried out (including any necessary work of haunching or surrounding the drain or private sewer with concrete and backfilling the trench), be capable of withstanding a suitable test for watertightness.

#### **N12 Means of access to drains and private sewers**

(1) Any drain or private sewer shall have such means of access as may be necessary for inspection and cleansing and, without prejudice to the generality of the foregoing—

(a) there shall be an inspection chamber—

- (i) at each point where there is such a change of direction or gradient as would prevent any part of the drain or private sewer being readily cleansed without such a chamber;
  - (ii) on a drain within 12.5 m from a junction between that drain and another drain, a private sewer or a public sewer unless there is an inspection chamber situated at that junction;
  - (iii) on a private sewer within 12.5 m from a junction between that sewer and another private sewer or a public sewer unless there is an inspection chamber situated at that junction; and
  - (iv) at the highest point of a private sewer unless there is a rodding eye at that point; and
- (b) no part of a drain or private sewer shall be at a distance of more than 45 m (measured along the line of the drain or private sewer) from an inspection chamber situated on the same drain or private sewer.
- (2) Subject to the requirements of paragraph (3), any such inspection chamber shall—
- (a) be so designed and constructed of brickwork, concrete or other not less suitable and durable material as to—
    - (i) sustain the loads which may be imposed upon it;
    - (ii) exclude subsoil water; and
    - (iii) be watertight;
  - (b) be of such size and form as to permit ready access to the drain or private sewer for inspection, cleansing and rodding;
  - (c) have a removable and non-ventilating cover of adequate strength, constructed of suitable and durable material;
  - (d) where the depth of the inspection chamber so requires, have such step-irons, ladder or other fitting as will provide safe access to the level of the drain or private sewer; and

- (e) where the 'part of the drainage system within the inspection chamber is constructed of open channels, be provided with benching having a smooth impervious finish and so formed as to guide the flow of matter towards the pipe into which the main channel discharges and to provide a safe foothold.

(3) Any inspection chamber within a building, other than an inspection chamber giving access to part of a drain or private sewer which is constructed with inspection fittings having watertight covers, shall be—

- (a) so constructed, in conjunction with its frame and cover, as to be watertight when subjected to the maximum internal pressure which could be caused by blockage of the draining system at any point below the inspection chamber; and
- (b) fitted with a removable and non-ventilating cover of adequate strength, constructed of suitable and durable material which is—
  - (i) fitted in a frame with an airtight seal; and
  - (ii) secured to the frame by removable bolts made of corrosion-resistant material.

### **N13 Inlets to drains to be trapped**

Any inlet to a drain, other than a junction between the drain and a soil pipe, a waste pipe or a ventilating pipe, shall be effectively trapped by means of a suitable trap having a seal not less than 50 mm in depth:

Provided that this rule shall not apply to any inlet to a drain used solely for the conveyance of surface water from a roof if such drain is intercepted by a suitable trap, having a seal not less than 50 mm in depth, from any drain or sewer used for the conveyance of water contaminated by soil water, waste water, or trade effluent.

### **N14 Trenches for drains and private sewers**

(1) Where any drain or private sewer is constructed adjacent to a loadbearing part of a building, such precautions shall be taken as may be necessary to ensure that the trench in which the drain or private sewer is laid in no way impairs the stability of the building.

(2) Except where the nature of the ground makes it unnecessary, where any drain or private sewer is adjacent to a wall and the bottom of the trench is lower than the foundation of the wall, the trench shall be filled in with

concrete to a level which is not lower than the bottom of the foundation of the wall by more than the distance from that foundation to the near side of the trench less 150 mm:

Provided that, where the trench is within 1 m of the foundation of the wall, the trench shall be filled in with concrete to the level of the underside of the foundation.

(3) The concrete filling required by the foregoing paragraph shall have such expansion joints as are necessary to ensure that no continuous length of filling exceeds 9 m.

**N15 Drains or private sewers passing through or under walls or under buildings**

Where any drain or private sewer passes through a wall (including the wall of an inspection chamber or cesspool) or under a wall or any other part of a building, such precautions shall be taken as may be necessary to prevent damage to, or loss of watertightness in, the drain or private sewer by differential movement.

**N16 Junctions**

- (1) Any connection between—
- (a) a branch drain and any other drain; or
  - (b) a drain and a private sewer or public sewer; or
  - (c) a private sewer and a public sewer,

shall be so made that the tributary drain or sewer discharges its contents into the other drain or sewer obliquely in the direction of flow in that other drain or sewer.

(2) Any connection between a drain and a public sewer, or between a private sewer and a public sewer, shall be so made that the connection will remain watertight and otherwise satisfactory under all working conditions.

**N17 Cesspools, septic tanks and similar structures**

(1) Any cesspool (including a settlement tank, septic tank or other tank for the reception or disposal of foul matter from any building) shall be—

- (a) so constructed as to be impervious to both liquid from the inside and subsoil water from the outside; and
  - (b) so sited—
    - (i) as not to render liable to pollution any spring, stream, well, adit or other source of water which is used, or is likely to be used, for drinking, domestic or kitchen or scullery purposes;
    - (ii) that there is ready means of access for cleansing it and removing its contents without carrying them through any building in which any person resides or is employed in any manufacture, trade or business or to which the public has access; and
    - (iii) as not to be in such proximity to any building in which any person resides or is employed in any manufacture, trade or business or to which the public has access as to be liable to become a source of nuisance or a danger to health.
- (2) Any cesspool, not being a settlement tank or a septic tank, shall be—
- (a) of suitable depth to enable it to be emptied completely;
  - (b) properly covered so as to be impervious to surface water and rainwater;
  - (c) fitted with a suitable manhole cover for the purposes of inspection (including inspection of the inlet), emptying and cleansing;
  - (d) adequately ventilated;
  - (e) without any outlet for overflow or discharge other than the outlet provided for emptying or cleansing; and
  - (f) of a capacity, measured below the level of the inlet, of not less than 18 m<sup>3</sup>.
- (3) Any settlement tank or septic tank shall be—
- (a) of suitable depth;

- (b) of adequate size, having in no case a capacity of less than 2.7 m<sup>3</sup>;
- (c) covered or fenced in; and
- (d) if covered, adequately ventilated and constructed with means of access for the purposes of inspection (including inspection of the inlet and outlet), emptying and cleansing.

**PART P**

**Sanitary conveniences**

**P1 Waterclosets**

(1) This rule shall apply to any watercloset fitting installed for use in connection with a building.

(2) The receptacle shall have a smooth and readily cleansed non-absorbent surface and shall be so constructed and fitted as to discharge through an effective trap of suitable dimensions and thence, without storage, to a soil pipe or a drain.

(3) The flushing apparatus shall be capable of securing the effective cleansing of the receptacle.

(4) No part of the receptacle shall be directly connected with any pipe other than a soil pipe, flush pipe, trap vent pipe or drain.

**P2 Urinals**

(1) This rule shall apply to any urinal or urinal fitting constructed or installed for use in connection with a building.

(2) The urinal shall have one or more slabs, stalls, troughs, bowls or other suitable receptacles which—

- (a) have a smooth and readily cleansed non-absorbent surface;
- (b) have an outlet fitted with an effective grating and trap; and
- (c) are so constructed as to facilitate cleansing.

(3) No urinal or urinal fitting shall be constructed or installed unless it is furnished with a flushing apparatus which is capable of securing the effective cleansing of the receptacle.

(4) No part of the receptacle shall be directly connected to any pipe other than a soil pipe, flush pipe, trap vent pipe or drain.

### **P3 Sanitary accommodation**

(1) In this rule SANITARY ACCOMMODATION means a room or space constructed for use in connection with a building in which contains watercloset fittings or urinal fittings, whether or not it also contains other sanitary or lavatory fittings:

Provided that, if any such room or space contains a cubicle or cubicles so constructed as to allow free circulation of air throughout the room or space, this rule shall be treated as applying to the room or space as a whole and not to the cubicle or cubicles separately.

- (2) No sanitary accommodation shall open directly into—
- (a) a habitable room unless the room is used solely for sleeping or dressing purposes; or
  - (b) a room used for kitchen or scullery purposes; or
  - (c) a room in which any person is habitually employed in any manufacture, trade or business.
- (3) Any sanitary accommodation which includes a watercloset fitting and can be entered directly from a room used for sleeping or dressing purposes shall be so constructed that it can also be entered without passing through any such room unless—
- (a) (in the case of a dwelling) there is other such sanitary accommodation within the dwelling which can be entered without passing through any such room; or
  - (b) (in the case of a private dwelling-house) there is other such sanitary accommodation outside such house which is used exclusively with such house; or
  - (c) (in any other case) there is within the building other such sanitary accommodation which is available for common use.



- (4) Sanitary accommodation shall have either—
- (a) a window, skylight or other similar means of ventilation which opens directly into the external air and of which the area capable of being opened is not less than one-twentieth of the floor area; or
  - (b) mechanical means of ventilation which effects not less than three changes of air per hour and discharges directly into the external air.

**P4 Earthclosets**

(1) This rule shall apply to any earthcloset constructed for use in connection with a building.

- (2) (a) Any earthcloset which is not a chemical closet shall be so constructed. that it can be entered only from—
- (i) the external air; or
  - (ii) a room or space which can itself only be entered directly from the external air.
- (b) No earthcloset whether it is a chemical closet or not) shall open directly into—
- (i) a habitable room or
  - (ii) a room used for kitchen or scullery purposes or
  - (iii) a room in which any person is habitually employed in any manufacture or, trade or business.
- (3) (a) Any earthcloset which can be entered directly from the external air shall have a sufficient opening for ventilation directly to the external air, situated as near to the ceiling as practicable.
- (b) Any earthcloset which cannot be entered from the external air shall have a window, skylight or other similar means of ventilation which opens directly into the external air and of which the area capable of being opened is not less than one twentieth of the floor area.

(4) Any earthcloset shall be so situated as not to render liable to pollution any spring, stream, well, adit or other source of water which is used, or is likely to be used, for drinking, domestic or kitchen or scullery purposes.

(5) The floor of the earthcloset shall be of non-absorbent material and, if the earthcloset can be entered directly from the external air, shall in every part, including the part beneath the seat, be not less than 75 mm above the surface of the adjoining ground and have a fall or inclination towards the entrance door of not less than 1 in 25.

(6) The receptacle shall be of non-absorbent material so constructed and placed that its contents shall not escape by leakage or otherwise or be exposed to rainfall or to the drainage of any waste water or liquid refuse.

(7) The receptacle and other fittings of the earthcloset shall be so constructed and arranged that the use, maintenance and clearance of the earthcloset shall not be prejudicial to health or a nuisance.

(8) No part of the receptacle or of the interior of the earthcloset shall have outlet to a drain.

## SCHEDULE 1

Rule A4(5)(c)(ii)

Amendments to publications to which specific reference is made in these rules

| <b>Table 1: British Standards</b>                 |                       |                         |  |
|---|-----------------------|-------------------------|--|
| <b>Publication</b>                                | <b>Amendment slip</b> |                         | <b>Context</b>   |
|   | <b>Serial number</b>  | <b>Reference number</b> |  |
| <b>(1)</b>  | <b>(2)</b>            | <b>(3)</b>              | <b>(4)</b>   |
| BS 4: Part 1:1972                                 | 1                     | AMD 1785                | Schedule 8, Part V, Section A,<br>Note Schedule 8, Part V, Section B, Note |
| BS 41:1973  | –                     | –                       | L8(a)<br>L16(b)  |
| BS 65 & 540: Part 1:1971                          | 1                     | AMD 1202                | L6(1)(a)(iii)<br>L16(a)  |
| BS 144:1973                                       | 1                     | AMD 1427                | Schedule 5, Table 5, item 1  |
| BS 449: Part 2:1969                               | 1                     | AMD 416                 | D9   |
|   | 2                     | AMD 523                 | Schedule 8, Part V,  |
|   | 3                     | AMD 661                 | section A(A), item 1(b)  |
|   | 4                     | AMD 1135                | Schedule 8, Part V,  |
|   | 5                     | AMD 1787                | section B(A), item 1(b)  |
| Addendum No.1 (April 1975) to BS 449: Part 2:1969 | 1                     | AMD 1765                |  |
| Supplement No.1 (PD 3343) to BS 449: Part 1: 1970 | 1                     | AMD 734                 |  |
| BS 476: Part 4: 1970                              | –                     | –                       | A4(1)  |
| BS 567:1973                                       | –                     | –                       | L16(e)(i)  |
| BS 690: Part 2:1971                               | –                     | –                       | Schedule 5, Table 1, item 2<br>Schedule 5, Table 2, item 2                 |
| BS 690: Part 3:1973                               | 1                     | AMD 1619                | Schedule 5, Table 1, item 2<br>Schedule 5, Table 2, item 2                 |
| BS 690: Part 4:1974                               |                       |                         | Schedule 5, Table 1, item 2<br>Schedule 5, Table 2, item 2                 |
| BS 715: 1970                                      | –                     | –                       | L16(c)   |
| BS 747: Part 2:1970                               | –                     | –                       | Schedule 9, Part 1, Note<br>Schedule 9, Part IV(B), Note                   |
| BS 835: 1973                                      | –                     | –                       | L8(b)  |
|   | –                     | –                       | L16(e)(i)  |
| BS 881 & 589: 1974                                | –                     | –                       | Schedule 5, preamble, (a)<br>Schedule 6, rule 1(c)                         |
| BS 882: Part 2: 1973                              | 1                     | AMD 1780                | C4(a)<br>D7(c)   |
| BS 913: 1973                                      | –                     | –                       | Schedule 5, Table 5, items 1 and 2   |
| BS 1105: 1972                                     | –                     | –                       | Schedule 8, Part V, section B(B),  |

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|                                 |   |          |  |
|---------------------------------|---|----------|--|
|                                 |   |          | item 7   |
| BS 1142: Part 2: 1971           | – | –        | Schedule 5, Table 1, item 3  |
| BS 1181: 1971                   | – | –        | L6(1)(a)(i)<br>L14(1)(a)(iii)  |
| BS 1243: 1972                   | – | –        | Schedule 7, rule 12(1)(b)  |
| BS 1250: Part 1: 1966           | – | –        | M8(3)(b)(ii)<br>M8(4), proviso   |
| BS 1297: 1970                   | – | –        | Schedule 6, rule 2(b)(ii)  |
| BS 2750: 1956                   | 1 | PD 5065  | G6(2)  |
| BS 2989: 1975                   | – | –        | Schedule 5, Table 1, item 6(a)<br>Schedule 5, Table 2, item 4(a)           |
| BS 3051: 1972                   | – | –        | Schedule 5, Table 5, item 2  |
| BS 3083: 1959                   | – | –        | Schedule 5, Table 1, item 6(a)<br>Schedule 5, Table 2, item 4(a)           |
| BS 3452: 1962                   | – | –        | C5(d)  |
| BS 3590: 1970                   | – | –        | Schedule 8, Part VII, footnote ‡<br>Schedule 8, Part VIII, footnote<br>'A' |
| BS 4011: 1966                   | 1 | AMD 1775 | Schedule 7, rule 2(2)  |
| BS 4072: 1974                   | – | –        | B4(a)<br>C5(d)<br>Schedule 5, Table 5, item 3                              |
| BS 4471: Part 1:1969            | 1 | AMD 730  | A4(6)(b)(ii)   |
| BS 4543: 1970                   | 1 | AMD 749  | L22(2)(a)  |
|                                 | 2 | AMD 919  | L22(2)(d)  |
| BS 4876: 1972                   | – | –        | M5(1)  |
| BS 4978:1973                    | – | –        | Schedule 6, rule 1(d)  |
| BS 5056:1974                    | – | –        | Schedule 5, Table 5, item 4  |
| CP3: Chapter V: Part 1:<br>1967 | 1 | AMD 141  | D2(2)(a)   |
|                                 | 2 | AMD 5117 | D2(2)(b)   |
|                                 | 3 | AMD 1024 | H6(2)(b)<br>H7   |
| CP3: Chapter V: Part 2:<br>1972 | – | –        | D2(2)(c)   |
| CP101: 1972                     | 1 | AMD 1754 | D6   |
| CP110: Part 1:1972              | 1 | AMD 1553 | D5(1)(a)<br>D(11)(1)(a)<br>D19(1)(a)                                       |
| CP110: Part 2:1972              | – | –        | D5(1)(a)<br>D11(1)(a)  |
| CP110: Part 3:1972              | – | –        | D5(1)(a)<br>D11(1)(a)  |
| CP111: Part 2:1970              | 1 | AMD 744  | D13(a)   |
| CP112: Part 2:1971              | 1 | AMD 1265 | D12(a)   |
|                                 | 2 | AMD 1846 | D12(b)(ii)<br>Schedule 6, rule 1(b)  |
| CP112: Part 3.1973              | – | –        | D12(c)   |
| CP114: 1969                     | 1 | AMD 1241 | D5(1)(b)   |
|                                 | 2 | AMD 1552 | D11(1)(b)<br>D19(1)(b)   |
| CP115: 1969                     | 1 | AMD 1242 | D11(1)(b)  |
|                                 | 2 | AMD 1551 | D19(1)(b)  |
| CP116: 1969                     | 1 | AMD 1239 | D11(1)(b)  |

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|                           | 2 | AMD 1550 | D19(1)(b)<br>D19(4)  |
| CP116: Addendum No 1:1970 | – | –        |  |
| CP117: Part 1: 1965       | – | –        | D16  |
| CP118: 1969               | 1 | AMD 1129 | D10(1)<br>D10(2)   |
| CP121: Part 1: 1973       | 1 | AMD 1751 | D13(b)   |
| CP144: Part 3: 1970       | – | –        | Schedule 5, Table 2, item 3<br>Schedule 9, Part IV B, item 1 |
| CP221: 1960               |   |          | Schedule 5, Table 1, item 4                                  |
| CP2004: 1972              | 1 | AMD 1755 | D4   |

**Table 3: Other publications**

| <b>Publication<br/>(1)</b>  | <b>Amendment<br/>(2)</b> | <b>Context<br/>(3)</b>      |
|---|--------------------------|-----------------------------|
| Standard Grading Rules for Canadian Lumber 1970 published by the National Lumber Grades Authority | –                        | Schedule 6, rule 1(e)       |
| Standard Industrial Classification (Third Edition 1968) issued by the Central Statistical Office  | –                        | Schedule 2, Part A, Class 8 |

| <b>Schedule 2</b>                   |   |  |  |  |
|-------------------------------------|---|--|--|--|
| <b>Rule A5(2)(a)</b>                |   |  |  |  |
| <b>Partially exempted buildings</b> |   |  |  |  |
| <b>Part A: Buildings</b>            |   |  |  |  |
| class                               | Building partially exempted from the provisions of these rules  | Provisions with which compliance is required   |  |  |
|                                     |   | As to notices  | As to materials  | As to buildings  |
|                                     | (1)   | (2)  | (3)  | (4)  |
| 1.                                  | A single storey building (not being a building within class 5 or a building used for any trade or business) which—<br>(i) is used by day only for private occupation or used exclusively for recreational or storage purposes (such as a summer-house, poultry-house, aviary, green-house, conservatory, orchard-house, boat-house, coal-shed, garden tool shed, potting-shed or cycle shed);<br>(ii) is wholly detached from any other building; and<br>(iii) has a floor area not exceeding 30 m <sup>2</sup> | Rules A10 and A11 (if proposal includes work to which any rule listed in column (4) applies) | Rule B1 (in so far as it relates to work to which any rule listed in column (4) applies) | Part E and rule K3(3) (unless the building—<br><br>(i) has a capacity not exceeding 30 m <sup>3</sup> ; and<br><br>(ii) is not less than 2 m from any building which is within the same boundaries and is either of purpose group I other than a building described in the notes to Table D1 in the Approved Document for Part E<br><br>Part L |
| 2.                                  | A building which is used only in connection with and during the construction, alteration, extension or repair of any building or other work   | Rules A10 and A11 (if proposal includes work to which any rule listed in column (4) applies) | Rule B1 (in so far as it relates to work to which any rule listed in column (4) applies) | Parts C and D (unless the building is a single storey building)<br><br>Part L  |
| 3.                                  | A building being any monument specified in the First, Second and Third Schedules to the Museum and Antiquities Act*   | Rules A 10 and A11 (if proposal includes work to which Part L applies)                       | Rule B I (in so far as it relates to work to which Part L applies)                       | Part L   |

\* Repealed by the Gibraltar Heritage Trust Ord. (1989-12) as from 1.5.1989.

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| 4. | A building which—<br>(i) is used, for a limited period only, in connection with the sale or letting of buildings or building plots in the course of the development of an estate;<br>(ii) is erected on or in close proximity to the estate; and<br>(iii) is wholly detached from any other building  | Rules A10 and A11 | Rule B I (in so far as it relates to work to which any rule listed in column (4) applies) | Parts C and D (unless the building is a single storey building)<br><br>Part L   |
| 5. | A single storey building which—<br>(i) is used as a garage;<br>(ii) is wholly detached from any other building; and<br>(iii) has a floor area not exceeding 30 m <sup>2</sup>   | Rules A10 and A11 | Part B  | Rule K3(3)<br><br>Part L  |
| 6. | A single storey building (not being a building within Class 7 or Class 8) which—<br>(i) is used exclusively for the storage of materials or products, for the accommodation of plant or machinery or for the housing of livestock;<br>(ii) is a building wherein the only persons habitually employed are engaged solely in the general care, supervision, rule, maintenance, storage or removal of the materials, products, plant, machinery or livestock in the building; and<br>(iii) is wholly detached from any other building | Rules A10 and A11 | Part B  | Parts C and D (unless—<br>(i) the building is used solely for agriculture or<br>(ii) the building has a capacity not exceeding 100m <sup>3</sup> )<br><br>Part E (except functional requirement E1)<br><br>Rule K3(3)<br><br>Part L |

|    |  |                   |   |        |
|----|--|-------------------|---|--------|
| 7. | <p>A greenhouse (other than a building within Class I or a building wherein the primary purpose is the selling of goods by retail) having a ground storey only the floor of which is not more than 1.2 m below the level of the adjoining ground and which—</p> <p>(i) has not less than three-quarters of its total external area comprised of glass (including glazing bars) or of a single or double skin of plastics material having a total light transmission of not less than 65%;</p> <p>(ii) is used solely for agricultural purposes;</p> <p>(iii) is wholly detached from any building which contains dwelling accommodation; and</p> <p>(iv) is so situated that no part of it is within the permitted boundary of any building which is of purpose group I (other than a building described in the final note under Table D1 in the Approved Document for Part E), purpose group II or purpose group II and has been or is being erected on land occupied in common with the greenhouse.</p> <p>For the purpose of subparagraph (iv) hereof, PERMITTED BOUNDARY means a notional line drawn round that other building at the least distance from every part of it which would ensure that, if the line were the actual boundary and that building were newly constructed, there would be no contravention of functional requirement E4 of the Approved document to Part E</p> | Rules A10 and A11 | <p>Rule BI (in so far as it relates to work to which Part L applies)</p> <p>Rule B3</p> | Part L |
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| 8. | A building which—<br>(i) is used exclusively for the accommodation of plant or machinery whether or not such plant or machinery forms any part of the structure.<br>(ii) forms part of and is within the curtilage of a works;<br>(iii) is a building wherein the only persons habitually employed are engaged solely in the general care, supervision, rule or maintenance of such plant or machinery; and<br>(iv) is wholly detached from any other building | Rules A10 and A11 | Part B | Parts C and D (unless the building is a single storey building having a capacity not exceeding 100 m <sup>3</sup> )<br><br>Functional requirement E3<br><br>Functional requirement E4<br><br>Rule K3(3)<br><br>Part L |
|----|--|-------------------|--------|---|

**Part B: Works and fittings**

| Buildings partially exempted from the provisions of these rules | Provisions with which compliance is required |  |   |
|---|--|--|---|
|   | As to notices                                | As to materials  | As to works and fittings  |
| (1)<br>Classes 1, 2, 4 and 7                                    | (2)<br>Rules A10 and A11                     | (3)<br>Rule B1 (in so far as it relates to matters governed by the provisions to listed in column (4)) | (4)<br>Part M<br><br>Part N (except in relation surface water drainage)<br><br>Part P |
| Classes 3, 5, 6 and 8   | Rules A10 and A11                            | Rule B1 (in so far as it relates to matters governed by the provisions listed in column (4))           | Parts M, N and P  |

**SCHEDULE 3**

## Rule A 10(1)

## Giving of notice and deposit of plans

## Rule A: General

The following provisions shall be observed in relation to the giving of any notices and the deposit of any plans, sections, specifications and particulars referred to in the other rules of this schedule:

1. Notices and particulars shall be in writing.
2. Drawings shall be executed or reproduced in a clear and intelligible manner with suitable and durable materials. Plans and sections shall be to a scale of not less than 1:100 or, if the building is so extensive as to render a smaller scale necessary, not less than 1:200; block plans shall be to a scale of not less than 1:1250; and key plans shall be to a scale of not less than 1:2500. The scale shall be indicated on all plans, sections and other drawings and the north point on all block plans and key plans.
3. Every notice, drawing or other document shall be signed by the person required to furnish it to the Government or by his duly authorised agent and, if it is signed by such agent, it shall state the name and address of the person on whose behalf it has been furnished.
4. Every such application shall be sent or delivered to the Government in accordance with the Town Planning (Applications) Rules, 1976.

## Rule B: Erection of buildings (other than partially exempted buildings)

The notice to be given and the plans, specifications and particulars to be deposited by a person intending to erect a building which is neither wholly exempted nor partially exempted within the meaning of rule A5(2) are as follows:

1. Notice of intention to erect a building not wholly or partially exempted from the operation of these rules.
2. Particulars, so far as necessary to show whether the building complies with all such requirements of these rules as apply to it, of—
  - (a) the intended use of the building;

- (b) the materials of which the building will be constructed;
  - (c) the mode of drainage; and
  - (d) the means of water supply.
3. A block plan showing—
- (a) the size and position of the building and its relationship to adjoining buildings;
  - (b) the width and position of every street adjoining the premises; and
  - (c) the boundaries of the premises and the site and position of every other building and of every garden, yard and other open space within such boundaries.
4. A key plan showing the position of the site when it is not sufficiently identifiable from the block plan.
5. A plan of every floor and roof of the building and a section of every storey of the building upon which shall be shown (where not already shown on the particulars and plans required by Items 2 to 4), so far as necessary to enable the Government to determine whether the building complies with these rule—
- (a) the levels of the site of the building, of the lowest floor of the building and of any street adjoining the premises, in relation to one another and above some known datum;
  - (b) the position of the damp-proof courses and any other barriers to moisture;
  - (c) the position, form and dimensions of the foundations, walls, windows, floors, roofs, chimneys and several parts of the building;
  - (d) the intended use of every room in the building;
  - (e) the provision made in the structure for protection against fire;
  - (f) the provision made in the building or part for means of escape in case of fire and for securing that such means can be safely and effectively used at all material times; and

- (g) the provision made in the structure for insulation against the transmission of heat and sound.

**Rule C: Erection of partially exempted buildings**

The notice to be given and the plans, sections, specifications and particulars to be deposited by a person intending to erect a partially exempted building within the meaning of rule A5(2) if compliance with the provisions of rule A10 is required by Part A of Schedule 2 are as follows:

1. Notice of intention to erect a partially exempted building.
2. Particulars, so far as necessary to show whether the building falls within the relevant class of exemption in Schedule 2 and complies with all such requirements of these rules as apply to it, of—
  - (a) the intended use of the building;
  - (b) the materials of which it will be constructed; and
  - (c) the mode of drain age.
3. A block plan showing the size and position of the building and its relationship to adjoining buildings and indicating its distance from the boundaries of the premises.
4. A key plan showing the position of the site when it is not sufficiently identifiable from the block plan.
5. Plans and sections of the building showing the particulars required by Item 5(a) to (e) of Rule B, so far as may be necessary to enable the Government to determine whether the building complies with these rules.

**Rule D: Alterations and extensions**

The notice to be given and the plans, sections, specifications and particulars to be deposited by a person intending to make any alteration of or extension to a building are as follows:

1. Notice of intention to alter or extend a building—
2. In the case of alterations not involving any extension of a building—

- (a) the plans and sections required by Item 5 of either Rule B or Rule C (whichever is appropriate) of the alterations and of the building so far as affected by the alterations, so far as necessary to establish whether the proposals comply with these rules; and
  - (b) a key plan showing the position of the site when it is not sufficiently identifiable from such plans.
3. In the case of an extension of a building–
- (a) the plans, sections, specifications and particulars referred to in Items 2, 3, 4 and 5 of either Rule B or Rule C (whichever is appropriate) in relation to the extension as if the extension were the building therein referred to; and
  - (b) the plans and sections as required by Item 5 of Rule B or Rule C (whichever is appropriate) of the building so far as affected by the extension,

so far as necessary to enable the Government to determine whether the proposals comply with the requirements of these rules.

Rule E: Additional requirements

Where a duly authorised officer of the Government considers it to be necessary for the purposes of examining any proposals submitted in accordance with Rule B, C, D or G, he may require the deposit of any of the following drawings and particulars in addition to plans, sections, specifications and particulars required by such rule:

1. A specification of any particular material or materials proposed to be used.
2. The proportions of the materials in any concrete or mortar of the specified minimum strength of the concrete or mortar.
3. Calculations of loading and strength:

Provided that where the dimensions of a structural member accord with the provisions of rules D7, D12(b), D13(b), D14 or D15 as the case may be, calculations of strength to demonstrate the adequacy of those dimensions shall not be required.

4. Drawings showing details of particular construction.

5. Calculations relating to the permitted limit of unprotected areas in any side of the building in accordance with the guidance notes to functional requirement E4 in the Approved Document for Part E.
6. In the case of a building, or part of a building, which falls within section 2(a)(b) and (c) of the City Fire Brigade and Fire Services Act 1976.
7. Drawings showing the dimensions of space adjoining the windows of habitable rooms.

**Rule F: Works and fittings**

The notice to be given and the plans, sections, specifications and particulars to be deposited by a person intending to execute any works or install any fittings to which rule A8 relates are as follows:

1. Notice of intention to execute works or install fittings in connection with a building.
2. Particulars of the works or fittings so far as necessary to establish whether they comply with all such requirements of these rules as apply to them.
3. Where it is proposed to execute works of drainage or to construct or install a watercloset fitting, urinal fitting, earthcloset or cesspool (including a settlement tank, septic tank or other tank for the reception or disposal of foul matter from buildings), a block plan. Such plan shall, if the execution of works or installation of fittings is in connection with an operation to which Rule B, C or D relates, be the block plan required by such Rule and the block plan shall in any case show, so far as necessary to establish whether the proposals comply with all such requirements of these rules as apply to them—
  - (a) the position of the works or fittings;
  - (b) the lines of drainage; the size, depth and inclination of every drain and the means of access to be provided for the inspection and cleansing of the drains;
  - (c) the position and level of the outfall of the drains; and
  - (d) where the drainage is intended to be connected to a sewer, the position of the sewer.

4. Where it is proposed to construct or install a watercloset fitting, urinal fitting, earthcloset or cesspool (including a settlement tank, septic tank or other tank for the reception or disposal of foul matter from buildings), plans and sections of the works or fittings, so far as necessary to show that they comply with all such requirements of these rules as apply to them.
5. A key plan showing the position of the site when it is not sufficiently identifiable from the block plan.

#### Rule G: Material changes of use

The notice to be given and the plans, specifications and particulars to be deposited by a person intending to make any material change of use to which these rules are applied by rule A9, in addition to anything required by Rule D in a case to which that rule relates, are as follows:

1. Notice of intention to make, and a description of, any change in the purposes for which the building or part of the building is used.
2. A block plan showing the size and position of the building and its relationship to adjoining buildings.
3. A key plan showing the position of the site when it is not sufficiently identifiable from the block plan.

**SCHEDULE 4**

Rule A12:– Application form for dispensation or relaxation.

PUBLIC HEALTH ACT SECTION 48.  
RELAXATION OF BUILDING RULES

To THE SECRETARY, DEVELOPMENT AND PLANNING  
COMMISSION.

I/We hereby apply under section 48 of the Public Health Act, for a direction  
dispensing with or relaxing the requirement(s) of building rules as specified  
below in connection with the proposed building or works shown on the  
accompanying plans (see note 1).

Particulars to be completed

1. State briefly the nature of proposed building or  
works

2. State address of premises or location of site

3. Has the work already been carried out? (see note  
2)

4. State the requirement(s) of building rules sought  
to be dispensed with or relaxed

5. State grounds for the application (see notes 3 and  
4) (continue overleaf if necessary)

*Applicant:*

Full name ..... (Mr./Mrs./Miss)

Address. ....

.....

.....

Date. .... Signed. ....

Applicant/Authorised to sign on behalf of applicant

(Delete whichever is not applicable)

*If signed by agent:*

Name of agent. ....



Profession or capacity in which acting. ....  
Address of agent. ....  
.....  
Telephone Number. ....

---

Grounds for the application (*continued*)

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Notes for guidance of applicants

1. ACCOMPANYING PLANS means such drawings and/or particulars as will show the nature, extent and effect on the project as a whole of the dispensation or relaxation applied for. The application should indicate why it is considered that the operation of the requirement(s) is unreasonable,

## SCHEDULE 5

Rule A16(1)

Short-lived or otherwise unsuitable materials

In this schedule—

- (a) species of timber are identified by standard names in accordance with BS 881 & 589:1974; and
- (b) VACUUM IMPREGNATION means a treatment in which the timber is placed in a closed container subjected to a vacuum and then flooded with preservative before the vacuum is released.

|   |
|---|
| <b>Table 1: Materials to which the provisions of section 53 of the Public Health Act 1936 apply If used as the weather-resisting part of an external wall</b> |
|---|

1. Any of the following materials without exception—
  - (a) canvas or cloth
  - (b) felt
  - (c) fibrous plaster
  - (d) plaster board
  - (e) straw slabs
  - (f) wood chipboard
  - (g) wood wool building slabs.
2. Any asbestos-cement sheets or slates other than sheets or slates complying with BS 690:Part 2:1971, BS 690: Part 3:1973 or BS 690: Part 4:1974.
3. Any fibre building board other than tempered harboard complying with the appropriate specification In BS 1142: Part 2: 1971.

4. Any plastering or rendering on wood laths or metal lathing other than a rendered finish on metal lathing which complies with the recommendations of CP 221: 1960.
5. Any plywood other than plywood which is not less than 8 mm thick and is satisfactorily manufactured for external use.
6. Any sheet steel other than—
  - (a) galvanised sheet steel complying with Class 1A of BS 2989:1975 or Type 200 of B53083: 1959; or
  - (b) sheet steel which is vitreous enamelled or coated with bitumen or other organic substance of like durability during the course of manufacture.
7. Timber boarding other than boarding which—
  - (a) is manufactured from—
    - (i) the heartwood of timber specified in Table 3; or
    - (ii) timber specified in Table 4 after being subjected to a preservative treatment specified in Table 5; and
  - (b) has a thickness of not less than—
    - (i) in the case of feather-edge boarding, 16 mm at the thicker edge and 6 mm at the thinner edge; or
    - (ii) in any other case, 16 mm.

|                   |
|-------------------|
| <b>Schedule 5</b> |
|-------------------|

|   |
|---|
| <b>Table 2: Materials to which the provisions of section 53 of the Public Health Act 1936 apply If used as the weather-resisting part of a roof</b> |
|---|

1. Any of the following materials without exception—
  - (a) canvas or cloth
  - (b) fibre building board
  - (c) fibrous plaster

- (d) plaster or rendering on wood laths or metal lathing
  - (e) plasterboard
  - (f) plywood
  - (g) straw slabs
  - (h) timber hoarding
  - (j) wood chipboard
  - (k) wood wool building slabs.
2. Any asbestos-cement sheets or slates other than sheets or slates complying with BS 690: Part 2 :1971, BS 690: Part 3: 1973 or BS 690: Part 4:1974.
  3. Any felt other than felt used in a roof covering of a type and construction complying with the recommendations of CP 144: Part 3:1970.
  4. Any sheet steel other than–
    - (a) galvanized sheet steel complying with class 1A of BS 2989: 1975 or Type 200 of BS 3083:1959; or
    - (b) sheet steel which is vitreous enameled or coated with bitumen or other organic substance of like durability during the course of manufacture.

| Table 3: Species of timber for use in natural state |                     |                               |
|---|---------------------|-------------------------------|
| Hardwoods   |                     | Softwoods                     |
| (1)   |                     | (2)                           |
| Afrormosia  | Keruing, Indonesian | Cedar, western red<br>Sequoia |
| Afzelia   | Keruing, Malayan    |                               |
| Agba  | Keruing, Saban      |                               |
| Dahoma  | Keruing, Sarawak    |                               |
| Danta   | Mahogany, African   |                               |
| Gedu nohor  | Makoni              |                               |
| Guarea  | Meranti, dark red   |                               |
| Gurjun, Andaman                                     | Meranti, light red  |                               |
| Gurjun, Burma                                       | Niangon             |                               |
| Gurjun, Indian                                      | Oak, European       |                               |

|        |        |  |
|--------|--------|--|
| Idigbo | Opepe  |  |
| Iroko  | Sapele |  |
| Kapur  | Teak   |  |
| Kempas | Utile  |  |

| Schedule 5   |   |
|--|---|
| Table 4: Species of timber for use after being subjected to a preservative treatment prescribed In Table 5 |   |
| Hardwoods<br>(1)   | Softwoods<br>(2)  |
| Abura<br>Elm   | Fir, Douglas<br>Hemlock, western<br>Larch, European<br>Larch, japanese<br>Redwood (European) or Scots pine<br>Spruce, Sitka<br>Whitewood or European spruce |

| Table 5: Preservative treatments for timber  |  |
|--|--|
| Type of preservative<br>(1)  | Method of application<br>(2)   |
| 1. Coal tar oil to BS 144:1973   | In accordance with BS 913: 1973  |
| 2. Coal tar oil to BS3051: 1972  | (a) In accordance with BS913 1973;<br>or<br>(b) in the case of redwood (European) or Scots pine, steeping for not less than one hour |
| 3. Copper/chrome/arsenic composition to BS 4072: 1974  | In accordance with BS 4072: 1974   |
| 4. Copper naphthenate Type 1 to BS 5056: 1974  | (a) Vacuum impregnation; or<br>(b) in the case of redwood (European) or Scots pine, steeping for not less than one hour              |
| 5. Pentachlorophenol: a solution containing not less than 5% in a suitable organic solvent     |  |
| 6. Tri-butyl-tin-oxide: a solution containing not less than 1.0% in a suitable organic solvent |  |

|  |                              |
|--|------------------------------|
| <b>SCHEDULE 6</b>  | Deemed-to-satisfy provisions |
| Rule D12(b)(ii)  |                              |
| Rules for determining the dimensions of certain timber members |                              |

## 1. Interpretation of Schedule 6

In this schedule—

- (a) FLAT ROOF includes a roof the pitch of which is 10° or less to the horizontal;

SPACING means the distance between the centres of any two adjacent timber members of the same type, measured in a plane parallel to that plane of the floor, ceiling or roof structure of which each such member forms part;

SPAN means the distance between the centres of any two adjacent bearings or other forms of Support given to a timber member, measured in a plane parallel to the plane of the floor, ceiling or roof structure of which that member forms part; and

TIMBER MEMBER means a piece of solid timber of any of the types more particularly specified in the headings to the Tables to this schedule;

- (b) DOUGLAS FIR-LARCH, HEM-FIR and SPRUCE-PINE-FIR refer to timbers of those Species which are collectively so designated in Table 1A in CP 112: Part 2:1971;
- (c) species of timber, other than those to which paragraph (b) refers, are identified by standard names in accordance with BS 881 & 589:1974;
- (d) GS, MGS, SS, MSS, M50 and M75 refer to grades of those designations determined in accordance with BS4978: 1973; and
- (e) No. 2 refers to the grade of that designation determined in accordance with the Structural Joists and Planks Section of the Standard Grading Rules for Canadian Lumber dated 1970 and published by the National Lumber Grades Authority.

## 2. Application of Schedule 6

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The dimensions of a timber member may be determined by reference to a Table to this schedule if–

- (a) the imposed load to be sustained by the floor, ceiling or roof of which the member forms part does not exceed the load specified in subparagraph (a), (b) or (c) of rule D2(3) whichever is appropriate;
- (b) (i) in the case of binder, beam, joist, purlin or rafter, the timber is of a species, origin and grade specified in the Table to this rule; or
- (ii) in the case of a floorboard, the board complies in all respects with BS 1297: 1970; and
- (c) the Table to which reference is made is appropriate having regard to the type of member and (except in the case of Table 25) the grade of timber specified in the subheading thereto.

**Table to Rule 2: Species, origin and grade of timber to which Tables 1 to 24 relate**

| Species                   | Origin                 | Grade   |  |
|---------------------------|------------------------|---|--|
|                           |                        | in relation to which Tables 1 to 12 are appropriate | in relation to which Tables 13 to 24 are appropriate |
| (1)                       | (2)                    | (3)   | (4)  |
| 1. Fir, Douglas           | Home-grown or imported | GS or MGS   | SS or MSS  |
| 2. Hemlock, western       | Imported               | GS or MGS   | SS or MSS  |
| 3. Larch, European        | Home-grown             | GS or MGS   | SS or MSS  |
| 4. Larch, Japanese        | Home-grown             | GS or MGS   | SS or MSS  |
| 5. Pine, American pitch   | Imported               | GS or MGS   | SS or MSS  |
| 6. Pine, Caribbean pitch  | Imported               | GS or MGS   | SS or MSS  |
| 7. Pine, Scots            | Home-grown             | GS or MGS   | SS or MSS  |
| 8. Redwood                | Imported               | GS or MGS   | SS or MSS  |
| 9. Spruce, Norway         | Home-grown             | M75   | –  |
| 10. Spruce, Sitka         | Home-grown             | M75   | –  |
| 11. Spruce, western white | Imported               | M50   | –  |
| 12. Whitewood             | Imported               | GS or MGS   | SS or MSS  |
| 13. Douglas fir-larch     | Imported from Canada   | No.2  | –  |
| 14. Hem-fir               | Imported from Canada   | No.2  | –  |
| 15. Spruce-pine fir       | Imported from Canada   | No.2  | –  |

**Table 1: Floor joists**

GS, MGS, M50, M75 or No.2 grade timber

Size of joist (in mm)

Dead load (in kg/m<sup>2</sup>) supported by joist, excluding the mass of the joist

|          | Not more than 25             |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|----------|------------------------------|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|          | Spacing of joists (in mm)    |      |      |                                   |      |      |                                    |      |      |
|          | 400                          | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|          | Maximum span of joist (in m) |      |      |                                   |      |      |                                    |      |      |
| 38 x 75  | 1.05                         | 0.95 | 0.72 | 0.99                              | 0.90 | 0.69 | 0.87                               | 0.79 | 0.62 |
| 38 x 100 | 1.77                         | 1.60 | 1.23 | 1.63                              | 1.48 | 1.16 | 1.36                               | 1.24 | 1.00 |
| 38 x 125 | 2.53                         | 2.35 | 1.84 | 2.33                              | 2.12 | 1.69 | 1.88                               | 1.73 | 1.40 |
| 38 x 150 | 3.02                         | 2.85 | 2.48 | 2.83                              | 2.67 | 2.26 | 2.41                               | 2.23 | 1.83 |
| 38 x 175 | 3.51                         | 3.32 | 2.89 | 3.29                              | 3.11 | 2.71 | 2.82                               | 2.66 | 2.27 |
| 38 x 200 | 4.00                         | 3.78 | 3.30 | 3.75                              | 3.55 | 3.09 | 3.21                               | 3.03 | 2.64 |
| 38 x 225 | 4.49                         | 4.24 | 3.70 | 4.21                              | 3.98 | 3.47 | 3.61                               | 3.41 | 2.96 |
| 44 x 75  | 1.20                         | 1.08 | 0.83 | 1.13                              | 1.02 | 0.79 | 0.98                               | 0.89 | 0.70 |
| 44 x 100 | 2.01                         | 1.82 | 1.41 | 1.83                              | 1.67 | 1.31 | 1.51                               | 1.39 | 1.12 |
| 44 x 125 | 2.71                         | 2.56 | 2.09 | 2.54                              | 2.38 | 1.90 | 2.08                               | 1.92 | 1.56 |
| 44 x 150 | 3.24                         | 3.06 | 2.67 | 3.04                              | 2.87 | 2.50 | 2.60                               | 2.45 | 2.03 |
| 44 x 175 | 3.77                         | 3.56 | 3.10 | 3.53                              | 3.34 | 2.91 | 3.02                               | 2.86 | 2.48 |
| 44 x 200 | 4.29                         | 4.06 | 3.54 | 4.02                              | 3.80 | 3.31 | 3.45                               | 3.26 | 2.83 |
| 44 x 225 | 4.81                         | 4.55 | 3.97 | 4.51                              | 4.27 | 3.72 | 3.87                               | 3.66 | 3.18 |
| 50 x 75  | 1.35                         | 1.22 | 0.93 | 1.26                              | 1.14 | 0.89 | 1.08                               | 0.99 | 0.78 |
| 50 x 100 | 2.22                         | 2.03 | 1.58 | 2.03                              | 1.85 | 1.46 | 1.66                               | 1.53 | 1.23 |
| 50 x 125 | 2.84                         | 2.72 | 2.33 | 2.70                              | 2.55 | 2.10 | 2.27                               | 2.09 | 1.71 |
| 50 x 150 | 3.40                         | 3.26 | 2.84 | 3.23                              | 3.05 | 2.66 | 2.76                               | 2.61 | 2.21 |
| 50 x 175 | 3.95                         | 3.78 | 3.30 | 3.75                              | 3.55 | 3.09 | 3.22                               | 3.04 | 2.64 |
| 50 x 200 | 4.51                         | 4.31 | 3.76 | 4.27                              | 4.04 | 3.52 | 3.67                               | 3.46 | 3.01 |
| 50 x 225 | 5.06                         | 4.83 | 4.22 | 4.79                              | 4.53 | 3.95 | 4.11                               | 3.89 | 3.39 |
| 63 x 150 | 3.66                         | 3.52 | 3.17 | 3.50                              | 3.38 | 2.97 | 3.09                               | 2.92 | 2.54 |
| 63 x 175 | 4.25                         | 4.10 | 3.68 | 4.07                              | 3.93 | 3.45 | 3.59                               | 3.40 | 2.96 |
| 63 x 200 | 4.84                         | 4.67 | 4.20 | 4.64                              | 4.48 | 3.93 | 4.09                               | 3.87 | 3.37 |
| 63 x 225 | 5.43                         | 5.24 | 4.70 | 5.21                              | 5.02 | 4.41 | 4.59                               | 4.34 | 3.78 |
| 75 x 200 | 5.10                         | 4.93 | 4.51 | 4.90                              | 4.72 | 4.27 | 4.43                               | 4.20 | 3.67 |
| 75 x 225 | 5.72                         | 5.52 | 5.06 | 5.49                              | 5.30 | 4.79 | 4.97                               | 4.71 | 4.11 |

**Table 2: Ceiling joists**

GS, MGS, M50, M75 or No.2 grade timber

| Size of joist (in mm) | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |
|-----------------------|---|------|------|-----------------------------------|------|------|
|                       | Not more than 25  |      |      | More than 25 but not more than 50 |      |      |
|                       | Spacing of joists (in mm)   |      |      |                                   |      |      |
|                       | 400   | 450  | 600  | 400                               | 450  | 600  |
|                       | Maximum span of joist (in m)  |      |      |                                   |      |      |
| 38 x 75               | 1.88  | 1.80 | 1.57 | 1.71                              | 1.61 | 1.40 |
| 38 x 100              | 2.50  | 2.39 | 2.08 | 2.27                              | 1.14 | 1.86 |
| 38 x 125              | 3.11  | 2.97 | 2.59 | 2.82                              | 2.67 | 2.32 |



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|          |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|
| 38 x 150 | 3.72 | 3.55 | 3.10 | 3.37 | 3.19 | 2.78 |
| 3 x 175  | 4.32 | 4.12 | 3.60 | 3.92 | 3.71 | 3.23 |
| 38 x 200 | 4.92 | 4.69 | 4.10 | 4.46 | 4.22 | 3.68 |
| 38 x 225 | 5.51 | 5.25 | 4.60 | 4.99 | 4.73 | 4.13 |
| 44 x 75  | 1.97 | 1.90 | 1.68 | 1.83 | 1.73 | 1.51 |
| 44 x 100 | 2.61 | 2.52 | 2.23 | 1.43 | 2.30 | 2.00 |
| 44 x 125 | 3.25 | 3.14 | 2.78 | 3.03 | 2.86 | 2.49 |
| 44 x 150 | 3.89 | 3.75 | 3.32 | 3.62 | 3.42 | 2.98 |
| 44 x 175 | 4.52 | 4.36 | 3.86 | 4.20 | 3.97 | 3.47 |
| 44 x 200 | 5.14 | 4.96 | 4.39 | 4.77 | 4.52 | 3.95 |
| 44 x 225 | 5.76 | 5.56 | 4.92 | 5.34 | 5.06 | 4.43 |
| 50 x 75  | 2.05 | 1.9~ | 1.79 | 1.91 | 1.84 | 1.60 |
| 50 x 100 | 2.72 | 2.62 | 2.38 | 2.53 | 2.44 | 2.13 |
| 50 x 125 | 3.39 | 3.26 | 2.95 | 3.15 | 3.04 | 2.65 |
| 50 x 150 | 4.04 | 3.90 | 3.53 | 3.77 | 3.63 | 3.17 |
| 50 x 175 | 4.70 | 4.53 | 4.10 | 4.38 | 4.22 | 3.68 |
| 50 x 200 | 5.34 | 5.16 | 4.66 | 4.99 | 4.79 | 4.19 |
| 50 x 225 | 5.98 | 5.78 | 5.22 | 5.59 | 5.37 | 4.70 |

**Table 3: Binders or beams supporting joists to which Table 2 relates**

GS, MGS, M50, M75 or No.2 grade timber

| Size of binder or beam (in mm)        | Dead load (in kg/m <sup>2</sup> ) supported by joist as calculated for the purposes of Table 2 |      |      |      |      |                                   |      |      |      |      |
|---------------------------------------|--|------|------|------|------|-----------------------------------|------|------|------|------|
|                                       | Not more than 25<br>Spacing of binders or beams (in m)   |      |      |      |      | More than 25 but not more than 50 |      |      |      |      |
|                                       | 1.20   | 1.50 | 1.80 | 2.10 | 2.40 | 1.20                              | 1.50 | 1.80 | 2.10 | 2.40 |
| Maximum span of binder or beam (in m) |  |      |      |      |      |                                   |      |      |      |      |
| 38 x 75                               | 1.08   | 0.96 | 0.88 | 0.82 | 0.76 | 0.97                              | 0.87 | 0.79 | 0.73 | 0.69 |
| 38 x 100                              | 1.43   | 1.28 | 1.17 | 1.09 | 1.02 | 1.29                              | 1.16 | 1.06 | 0.98 | 0.91 |
| 38 x 125                              | 1.79   | 1.60 | 1.46 | 1.36 | 1.27 | 1.61                              | 1.44 | 1.32 | 1.22 | 1.14 |
| 38 x 150                              | 2.14   | 1.92 | 1.75 | 1.63 | 1.52 | 1.93                              | 1.73 | 1.58 | 1.46 | 1.37 |
| 38 x 175                              | 2.49   | 2.24 | 2.04 | 1.90 | 1.77 | 2.25                              | 2.01 | 1.84 | 1.71 | 1.60 |
| 38 x 200                              | 2.85   | 2.55 | 2.33 | 2.16 | 2.03 | 2.57                              | 2.30 | 2.10 | 1.95 | 1.82 |
| 38 x 225                              | 3.20   | 2.87 | 2.62 | 2.43 | 2.28 | 2.88                              | 2.58 | 2.36 | 2.19 | 2.05 |
| 44 x 75                               | 1.16   | 1.04 | 0.95 | 0.83 | 0.82 | 1.04                              | 0.93 | 0.85 | 0.79 | 0.74 |
| 44 x 100                              | 1.54   | 1.38 | 1.26 | 1.17 | 1.09 | 1.39                              | 1.24 | 1.13 | 1.05 | 0.98 |
| 44 x 125                              | 1.92   | 1.72 | 1.57 | 1.46 | 1.37 | 1.73                              | 1.55 | 1.42 | 1.31 | 1.23 |
| 44 x 150                              | 2.30   | 2.06 | 1.89 | 1.75 | 1.64 | 2.07                              | 1.86 | 1.70 | 1.57 | 1.47 |
| 44 x 175                              | 2.68   | 2.40 | 2.20 | 2.04 | 1.91 | 2.41                              | 2.16 | 1.98 | 1.83 | 1.72 |
| 44 x 200                              | 3.05   | 2.74 | 2.51 | 2.33 | 2.18 | 2.76                              | 2.47 | 2.26 | 2.09 | 1.96 |
| 44 x 225                              | 3.43   | 3.08 | 2.82 | 2.61 | 2.45 | 3.09                              | 2.78 | 2.54 | 2.35 | 2.20 |
| 50 x 75                               | 1.23   | 1.10 | 1.01 | 0.93 | 0.87 | 1.11                              | 0.99 | 0.91 | 0.84 | 0.79 |
| 50 x 100                              | 1.64   | 1.47 | 1.34 | 1.24 | 1.16 | 1.48                              | 1.32 | 1.21 | 1.12 | 1.05 |
| 50 x 125                              | 2.04   | 1.83 | 1.68 | 1.55 | 1.45 | 1.84                              | 1.65 | 1.51 | 1.40 | 1.31 |
| 50 x 150                              | 2.45   | 2.20 | 2.01 | 1.86 | 1.74 | 2.21                              | 1.98 | 1.81 | 1.68 | 1.57 |
| 50 x 175                              | 2.85   | 2.56 | 2.34 | 2.17 | 2.03 | 2.57                              | 2.30 | 2.11 | 1.95 | 1.83 |
| 50 x 200                              | 3.25   | 2.92 | 2.67 | 2.48 | 2.32 | 2.93                              | 2.63 | 2.41 | 2.23 | 2.09 |

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|          |      |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|------|
| 50 x 225 | 3.65 | 3.28 | 3.00 | 1.78 | 2.61 | 3.29 | 2.95 | 1.70 | 1.51 | 1.35 |
| 63 x 150 | 2.74 | 2.46 | 2.25 | 2.09 | 1.95 | 2.47 | 2.22 | 2.03 | 1.88 | 1.76 |
| 63 x 175 | 3.19 | 2.86 | 1.62 | 1.43 | 2.28 | 2.88 | 2.58 | 2.36 | 2.19 | 2.05 |
| 63 x 200 | 3.63 | 3.26 | 2.99 | 2.77 | 2.60 | 3.28 | 2.94 | 2.69 | 2.50 | 2.34 |
| 63 x 225 | 4.07 | 3.66 | 3.35 | 3.11 | 2.92 | 3.68 | 3.30 | 3.03 | 2.81 | 2.63 |
| 75 x 200 | 3.94 | 3.55 | 3.25 | 3.02 | 2.83 | 3.56 | 3.20 | 2.93 | 2.72 | 1.55 |
| 75 x 225 | 4.42 | 3.98 | 3.65 | 3.39 | 3.17 | 4.00 | 3.59 | 3.29 | 3.06 | 2.86 |

**Table 4: Joists for flat roof with access only for the purposes of maintenance or repair**

GS, MGS, M50, M75 or No.2 grade timber

| Size of joist (in mm) | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |                                    |      |      |
|-----------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|                       | Not more than 25  |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|                       | Spacing of joists (in mm)   |      |      | Spacing of joists (in mm)         |      |      | Spacing of joists (in mm)          |      |      |
|                       | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|                       | Maximum span of joist (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 75               | 1.88  | 1.81 | 1.65 | 1.64                              | 1.58 | 1.44 | 1.56                               | 1.50 | 1.37 |
| 38 x 100              | 2.50  | 2.40 | 2.19 | 2.19                              | 2.11 | 1.92 | 2.08                               | 2.00 | 1.82 |
| 38 x 125              | 3.11  | 1.99 | 2.73 | 2.73                              | 2.63 | 2.39 | 2.59                               | 2.50 | 2.27 |
| 38 x 150              | 3.72  | 3.58 | 3.27 | 3.26                              | 3.14 | 2.87 | 3.11                               | 2.99 | 2.72 |
| 38 x 175              | 4.32  | 4.16 | 3.81 | 3.80                              | 3.66 | 3.34 | 3.62                               | 3.48 | 3.17 |
| 38 x 200              | 4.92  | 4.74 | 4.34 | 4.33                              | 4.17 | 3.81 | 4.12                               | 3.97 | 3.62 |
| 38 x 225              | 5.51  | 5.32 | 4.87 | 4.86                              | 4.68 | 4.28 | 4.63                               | 4.46 | 4.07 |
| 44 x 75               | 1.97  | 1.90 | 1.73 | 1.72                              | 1.66 | 1.51 | 1.64                               | 1.58 | 1.44 |
| 44 x 100              | 2.61  | 2.52 | 2.30 | 2.29                              | 2.21 | 2.01 | 2.18                               | 2.10 | 1.91 |
| 44 x 125              | 3.25  | 3.14 | 2.86 | 2.86                              | 2.75 | 2.51 | 2.72                               | 2.62 | 2.38 |
| 44 x 150              | 3.89  | 3.75 | 3.43 | 3.42                              | 3.29 | 3.00 | 3.25                               | 3.13 | 2.86 |
| 44 x 175              | 4.52  | 4.36 | 3.98 | 3.98                              | 3.83 | 3.50 | 3.79                               | 3.65 | 3.33 |
| 44 x 200              | 5.14  | 4.96 | 4.54 | 4.53                              | 4.37 | 3.99 | 4.32                               | 4.16 | 3.80 |
| 44 x 225              | 5.76  | 5.56 | 5.10 | 5.09                              | 4.90 | 4.48 | 4.85                               | 4.67 | 4.26 |
| 50 x 75               | 2.05  | 1.98 | 1.80 | 1.80                              | 1.73 | 1.58 | 1.71                               | 1.64 | 1.50 |
| 50 x 100              | 2.72  | 2.62 | 2.39 | 2.39                              | 2.30 | 2.10 | 2.27                               | 2.19 | 1.99 |
| 50 x 125              | 3.39  | 3.26 | 2.98 | 2.98                              | 2.87 | 2.61 | 2.83                               | 2.73 | 2.49 |
| 50 x 150              | 4.04  | 3.90 | 3.57 | 3.56                              | 3.43 | 3.13 | 3.39                               | 3.26 | 2.98 |
| 50 x 175              | 4.70  | 4.53 | 4.15 | 4.14                              | 3.99 | 3.64 | 3.94                               | 3.80 | 3.47 |
| 50 x 200              | 5.34  | 5.16 | 4.72 | 4.72                              | 4.55 | 4.16 | 4.49                               | 4.33 | 3.95 |
| 50 x 225              | 5.98  | 5.78 | 5.30 | 5.29                              | 5.10 | 4.67 | 5.04                               | 4.86 | 4.44 |

**Table 5: Joists for flat roofs with access not limited to the purposes of maintenance or repair**

GS, MGS, M50, M75 or No.2 grade timber

| Size of joist (in mm) | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |                                    |      |      |
|-----------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|                       | Not more than 25  |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|                       | Spacing of joists (in mm)   |      |      |                                   |      |      |                                    |      |      |
|                       | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|                       | Maximum span of joist (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 75               | 1.29  | 1.16 | 0.89 | 1.14                              | 1.03 | 0.81 | 1.09                               | 0.99 | 0.78 |
| 38 x 100              | 1.96  | 1.86 | 1.51 | 1.79                              | 1.65 | 1.31 | 1.70                               | 1.55 | 1.24 |
| 38 x 125              | 2.60  | 2.50 | 2.22 | 2.38                              | 2.27 | 1.87 | 2.28                               | 2.16 | 1.75 |
| 38 x 150              | 3.11  | 3.00 | 2.73 | 2.87                              | 2.76 | 2.45 | 2.77                               | 2.67 | 2.28 |
| 38 x 175              | 3.63  | 3.49 | 3.18 | 3.34                              | 3.22 | 2.85 | 3.23                               | 3.11 | 2.71 |
| 38 x 200              | 4.14  | 3.98 | 3.63 | 3.81                              | 3.67 | 3.26 | 3.68                               | 3.55 | 3.09 |
| 38 x 225              | 4.64  | 4.47 | 4.08 | 4.28                              | 4.12 | 3.66 | 4.14                               | 3.98 | 3.47 |
| 44 x 75               | 1.40  | 1.33 | 1.02 | 1.29                              | 1.17 | 0.92 | 1.22                               | 1.11 | 0.88 |
| 44 x 100              | 2.10  | 1.99 | 1.72 | 1.91                              | 1.81 | 1.48 | 1.83                               | 1.73 | 1.39 |
| 44 x 125              | 2.73  | 2.63 | 2.38 | 2.51                              | 2.41 | 2.09 | 2.42                               | 2.31 | 1.95 |
| 44 x 150              | 3.26  | 3A4  | 2.87 | 3.01                              | 2.90 | 2.63 | 2.91                               | 2.80 | 2.50 |
| 44 x 175              | 3.80  | 3.66 | 3.34 | 3.53                              | 3.37 | 3.06 | 3.38                               | 3.26 | 2.91 |
| 44 x 200              | 4.33  | 4.17 | 3.81 | 4.00                              | 3.85 | 3.50 | 3.86                               | 3.72 | 3.32 |
| 44 x 225              | 4.86  | 4.68 | 4.28 | 4.49                              | 4.32 | 3.93 | 4.34                               | 4.18 | 3.73 |
| 50 x 75               | 1.49  | 1.41 | 1.15 | 1.38                              | 1.30 | 1.02 | 1.34                               | 1.23 | 0.98 |
| 50 x 100              | 2.22  | 2.11 | 1.85 | 2.01                              | 1.91 | 1.63 | 1.94                               | 1.84 | 1.54 |
| 50 x 125              | 2.84  | 2.74 | 2.49 | 2.62                              | 2.52 | 2.26 | 2.53                               | 2.43 | 2.14 |
| 50 x 150              | 3.40  | 3.27 | 2.99 | 3.13                              | 3.02 | 2.75 | 3.03                               | 2.92 | 2.66 |
| 50 x 175              | 3.95  | 3.81 | 3.48 | 3.65                              | 3.51 | 3.20 | 3.53                               | 3.40 | 3.09 |
| 50 x 200              | 4.51  | 4.34 | 3.97 | 4.16                              | 4.01 | 3.66 | 4.02                               | 3.87 | 3.53 |
| 50 x 225              | 5.06  | 4.88 | 4.45 | 4.67                              | 4.50 | 4.11 | 4.52                               | 4.35 | 3.96 |
| 63 x 150              | 3.66  | 3.52 | 3.22 | 3.37                              | 3.25 | 2.96 | 3.26                               | 3.14 | 2.86 |
| 63 x 175              | 4.25  | 4.10 | 3.74 | 3.93                              | 3.78 | 3.45 | 3.79                               | 3.66 | 3.33 |
| 63 x 200              | 4.84  | 4.67 | 4.27 | 4.47                              | 4.31 | 3.94 | 4.33                               | 4.17 | 3.80 |
| 63 x 225              | 5.43  | 5.24 | 4.79 | 5.02                              | 4.84 | 4.42 | 4.86                               | 4.68 | 4.27 |
| 75 x 200              | 5.10  | 4.93 | 4.51 | 4.72                              | 4.55 | 4.16 | 4.57                               | 4.40 | 4.02 |
| 75 x 225              | 5.72  | 5.52 | 5.06 | 5.30                              | 5.11 | 4.67 | 5.12                               | 4.94 | 4.52 |

| <b>Table 6: Purlins supporting sheeting or decking for roofs having a pitch of 10° or more</b> |   |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|--|---|------|------|------|------|------|-----------------------------------|------|------|------|------|------|-----------------------------------|------|------|------|------|------|
| <b>GS, MGS, M50, M75 or No.2 grade timber</b>  |   |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| Size of purlin (in mm)   | Dead load (in kg/m <sup>2</sup> ) supported by purlin, excluding the mass of the purlin |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|  | Not more than 25  |      |      |      |      |      | More than 25 but not more than 50 |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      |
|  | Spacing of purlins (in m)   |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|  | 0.90  | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 | 0.90                              | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 | 0.90                              | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 |
| Maximum span of purlin (in m)  |   |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| 50 x 100   | 2.20  | 1.91 | 1.71 | 1.57 | 1.45 | 1.35 | 1.97                              | 1.71 | 1.53 | 1.40 | 1.30 | 1.21 | 1.76                              | 1.56 | 1.40 | 1.28 | 1.18 | 1.11 |
| 50 x 125   | 2.74  | 2.38 | 2.14 | 1.95 | 1.81 | 1.70 | 2.46                              | 2.13 | 1.91 | 1.75 | 1.62 | 1.52 | 2.19                              | 1.95 | 1.75 | 1.60 | 1.48 | 1.38 |
| 50 x 150   | 3.28  | 2.85 | 2.56 | 2.34 | 2.17 | 2.03 | 2.94                              | 2.56 | 2.29 | 2.09 | 1.94 | 1.82 | 2.63                              | 2.33 | 2.09 | 1.91 | 1.77 | 1.66 |
| 50 x 175   | 3.81  | 3.32 | 2.98 | 2.73 | 2.53 | 2.37 | 3.42                              | 2.98 | 2.67 | 2.44 | 2.26 | 2.12 | 3.05                              | 2.72 | 2.44 | 2.23 | 2.07 | 1.93 |
| 50 x 200   | 4.34  | 3.78 | 3.40 | 3.11 | 2.89 | 2.70 | 3.90                              | 3.39 | 3.04 | 2.79 | 2.38 | 2.42 | 3.48                              | 3.10 | 2.78 | 2.54 | 2.36 | 2.21 |
| 50 x 225   | 4.87  | 4.25 | 3.82 | 3.49 | 3.24 | 3.04 | 4.37                              | 3.81 | 3.42 | 3.13 | 2.90 | 2.72 | 3.91                              | 3.48 | 3.13 | 2.86 | 2.65 | 2.48 |
| 63 x 150   | 3.66  | 3.19 | 2.86 | 2.62 | 2.43 | 2.28 | 3.20                              | 2.86 | 2.57 | 2.35 | 2.18 | 2.04 | 2.82                              | 2.58 | 2.34 | 2.14 | 1.99 | 1.86 |
| 63 x 175   | 4.25  | 3.71 | 3.33 | 3.05 | 2.83 | 2.65 | 3.71                              | 3.33 | 2.99 | 2.73 | 2.53 | 2.37 | 3.28                              | 3.00 | 2.73 | 2.50 | 2.31 | 2.17 |
| 63 x 200   | 4.84  | 4.23 | 3.80 | 3.48 | 3.23 | 3.03 | 4.22                              | 3.79 | 3.41 | 3.12 | 2.89 | 2.71 | 3.74                              | 3.42 | 3.11 | 2.85 | 2.64 | 2.47 |
| 63 x 225   | 5.42  | 4.74 | 4.26 | 3.91 | 3.63 | 3.40 | 4.73                              | 4.26 | 3.82 | 3.50 | 3.25 | 3.04 | 4.19                              | 3.84 | 3.50 | 3.20 | 2.97 | 2.78 |

**Table 7: Common or jack rafters for roofs having a pitch more than 10° but not more than 22½° with access only for the purposes of maintenance or repair**

**GS, MGS, M50, M75 or No.2 grade timber**

| Size of rafter (in mm)        | Dead load (in kg/m <sup>2</sup> ) supported by rafter, excluding the mass of the rafter |      |      |                                   |      |      |                                    |      |      |
|-------------------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|                               | Not more than 50  |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|                               | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|                               | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
| Maximum span of rafter (in m) |   |      |      |                                   |      |      |                                    |      |      |
| 38 x 100                      | 2.42  | 2.28 | 1.97 | 2.20                              | 2.08 | 1.79 | 1.03                               | 1.92 | 1.65 |
| 38 x 125                      | 3.01  | 2.84 | 2.46 | 2.74                              | 2.59 | 2.23 | 1.53                               | 2.39 | 2.06 |
| 38 x 150                      | 3.60  | 3.39 | 2.94 | 3.28                              | 3.09 | 2.67 | 3.03                               | 2.86 | 2.46 |
| 44 x 75                       | 1.96  | 1.85 | 1.60 | 1.79                              | 1.68 | 1.45 | 1.65                               | 1.55 | 1.34 |
| 44 x 100                      | 2.60  | 2.45 | 2.12 | 2.37                              | 2.24 | 1.93 | 2.19                               | 2.06 | 1.78 |
| 44 x 125                      | 3.23  | 3.05 | 2.65 | 2.95                              | 2.78 | 2.41 | 2.73                               | 2.57 | 2.22 |
| 44 x 150                      | 3.86  | 3.65 | 3.16 | 3.53                              | 3.33 | 2.88 | 3.26                               | 3.08 | 2.66 |
| 50 x 75                       | 2.09  | 1.97 | 1.71 | 1.91                              | 1.80 | 1.55 | 1.76                               | 1.66 | 1.43 |
| 50 x 100                      | 2.77  | 2.61 | 2.27 | 2.53                              | 2.38 | 2.06 | 2.34                               | 2.20 | 1.90 |
| 50 x 125                      | 3.44  | 3.25 | 2.82 | 3.14                              | 2.97 | 2.57 | 2.91                               | 2.74 | 2.37 |
| 50 x 150                      | 4.10  | 3.88 | 3.37 | 3.75                              | 3.54 | 3.07 | 3.48                               | 3.28 | 2.84 |

| Table 8: Purlins supporting rafters to which Table 7 relates |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|--|---|------|------|------|------|------|-----------------------------------|------|------|------|------|------|------------------------------------|------|------|------|------|------|
| GS, MGS, M50, M75 or No.2 grade timber                       |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| Size of purlin (in mm)                                       | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 7 |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|  | Not more than 50  |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      | More than 75 but not more than 100 |      |      |      |      |      |
|  | Spacing of purlins (in m)   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|  | 1.50  | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                               | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)                                |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| 50 x 100   | 1.35  | 1.23 | 1.14 | 1.07 | 1.01 | 0.95 | 1.23                              | 1.13 | 1.04 | 0.98 | 0.92 | 0.87 | 1.14                               | 1.04 | 0.97 | 0.91 | 0.85 | 0.81 |
| 50 x 125   | 1.68  | 1.54 | 1.42 | 1.33 | 1.26 | 1.19 | 1.54                              | 1.41 | 1.30 | 1.22 | 1.15 | 1.09 | 1.43                               | 1.30 | 1.21 | 1.13 | 1.07 | 1.01 |
| 50 x 150   | 2.01  | 1.84 | 1.71 | 1.60 | 1.51 | 1.43 | 1.85                              | 1.69 | 1.56 | 1.46 | 1.38 | 1.31 | 1.71                               | 1.56 | 1.45 | 1.36 | 1.28 | 1.21 |
| 50 x 175   | 2.35  | 2.15 | 1.99 | 1.86 | 1.76 | 1.67 | 2.15                              | 1.97 | 1.82 | 1.70 | 1.61 | 1.53 | 2.00                               | 1.82 | 1.69 | 1.58 | 1.49 | 1.42 |
| 50 x 200   | 2.68  | 2.45 | 2.27 | 2.13 | 2.01 | 1.90 | 2.46                              | 2.24 | 2.08 | 1.95 | 1.84 | 1.74 | 2.28                               | 2.08 | 1.93 | 1.81 | 1.70 | 1.62 |
| 50 x 225   | 3.01  | 2.75 | 2.55 | 2.39 | 2.26 | 2.14 | 2.76                              | 2.52 | 2.34 | 2.19 | 2.07 | 1.96 | 2.56                               | 2.34 | 2.17 | 2.03 | 1.92 | 1.82 |
| 63 x 150   | 2.26  | 2.06 | 1.91 | 1.79 | 1.69 | 1.60 | 2.07                              | 1.89 | 1.75 | 1.64 | 1.55 | 1.47 | 1.92                               | 1.75 | 1.63 | 1.52 | 1.43 | 1.36 |
| 63 x 175   | 2.63  | 2.40 | 2.23 | 2.09 | 1.97 | 1.87 | 2.41                              | 2.20 | 2.04 | 1.91 | 1.80 | 1.71 | 2.24                               | 2.04 | 1.89 | 1.77 | 1.67 | 1.59 |
| 63 x 200   | 3.00  | 2.74 | 2.54 | 2.38 | 2.25 | 2.13 | 2.75                              | 2.52 | 2.33 | 2.18 | 2.06 | 1.95 | 2.55                               | 2.33 | 2.16 | 2.03 | 1.91 | 1.81 |
| 63 x 225   | 3.37  | 3.08 | 2.86 | 2.68 | 2.53 | 2.40 | 3.09                              | 2.83 | 2.62 | 2.45 | 2.32 | 2.20 | 2.87                               | 2.62 | 2.43 | 2.28 | 2.15 | 2.04 |
| 75 x 175   | 2.86  | 2.62 | 2.43 | 2.27 | 2.15 | 2.04 | 2.62                              | 2.40 | 2.23 | 2.08 | 1.97 | 1.87 | 2.44                               | 2.23 | 2.06 | 1.93 | 1.82 | 1.73 |
| 75 x 200   | 3.27  | 2.99 | 2.77 | 2.60 | 2.45 | 2.33 | 3.00                              | 2.74 | 2.54 | 2.38 | 2.24 | 2.13 | 2.78                               | 2.54 | 2.36 | 2.21 | 2.08 | 1.98 |
| 75 x 225   | 3.67  | 3.36 | 3.11 | 2.92 | 2.75 | 2.62 | 3.36                              | 3.08 | 2.85 | 2.67 | 2.52 | 2.40 | 3.12                               | 2.86 | 2.65 | 2.48 | 2.34 | 2.22 |

**Table 9: Common or jack rafters for roofs having a pitch more than 22½° but not more than 30° with access only for the purposes of maintenance or repair**

**GS, MGS, M50, M75 or No.2 grade timber**

| Size of rafter (in mm)        | Dead load (in kg/m <sup>2</sup> ) supported by rafter, excluding the mass of the rafter |      |      |                                   |      |      |                                    |      |      |
|-------------------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|                               | Not more than 50  |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|                               | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|                               | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
| Maximum span of rafter (in m) |   |      |      |                                   |      |      |                                    |      |      |
| 38 x 100                      | 2.68  | 2.53 | 2.19 | 2.44                              | 2.30 | 1.99 | 2.25                               | 2.12 | 1.84 |
| 38 x 125                      | 3.33  | 3.15 | 2.73 | 3.04                              | 2.87 | 2.48 | 2.80                               | 2.65 | 2.29 |
| 38 x 150                      | 3.98  | 3.76 | 3.27 | 3.63                              | 3.43 | 2.97 | 3.35                               | 3.16 | 2.74 |
| 44 x 75                       | 2.17  | 2.05 | 1.78 | 1.97                              | 1.86 | 1.61 | 1.82                               | 1.72 | 1.49 |
| 44 x 100                      | 2.88  | 2.72 | 2.36 | 2.62                              | 2.47 | 2.14 | 2.42                               | 2.28 | 1.98 |
| 44 x 125                      | 3.58  | 3.38 | 2.94 | 3.26                              | 3.08 | 2.67 | 3.01                               | 2.84 | 2.47 |
| 44 x 150                      | 4.27  | 4.04 | 3.51 | 3.89                              | 3.68 | 3.20 | 3.60                               | 3.40 | 2.95 |
| 50 x 75                       | 2.31  | 2.18 | 1.89 | 2.10                              | 1.98 | 1.72 | 1.94                               | 1.83 | 1.59 |
| 50 x 100                      | 3.06  | 2.89 | 2.51 | 2.79                              | 2.63 | 2.29 | 2.58                               | 2.43 | 2.11 |
| 50 x 125                      | 3.80  | 3.59 | 3.13 | 3.47                              | 3.28 | 2.85 | 3.21                               | 3.03 | 2.63 |
| 50 x 150                      | 4.53  | 4.29 | 3.74 | 4.14                              | 3.91 | 3.40 | 3.83                               | 3.62 | 3.14 |

| Table 10: Purlins supporting rafters to which Table 9 relate |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|--|---|------|------|------|------|------|-----------------------------------|------|------|------|------|------|------------------------------------|------|------|------|------|------|
| GS, MGS, M50, M75 or No.2 grade timber                       |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| Size of purlin (in mm)                                       | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 9 |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|  | Not more than 50  |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      | More than 75 but not more than 100 |      |      |      |      |      |
|  | Spacing of purlins (in m)   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|  | 1.50  | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                               | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)                                |   |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| 50 x 100   | 1.41  | 1.29 | 1.20 | 1.12 | 1.06 | 1.00 | 1.29                              | 1.18 | 1.09 | 1.02 | 0.96 | 0.92 | 1.20                               | 1.09 | 1.01 | 0.95 | 0.89 | 0.85 |
| 50 x 125   | 1.77  | 1.61 | 1.50 | 1.40 | 1.32 | 1.25 | 1.61                              | 1.47 | 1.37 | 1.28 | 1.21 | 1.14 | 1.49                               | 1.36 | 1.26 | 1.18 | 1.12 | 1.06 |
| 50 x 150   | 2.12  | 1.94 | 1.79 | 1.68 | 1.58 | 1.50 | 1.93                              | 1.77 | 1.64 | 1.53 | 1.45 | 1.37 | 1.79                               | 1.64 | 1.52 | 1.42 | 1.34 | 1.27 |
| 50 x 175   | 2.47  | 2.26 | 2.09 | 1.96 | 1.85 | 1.75 | 2.25                              | 2.06 | 1.91 | 1.79 | 1.69 | 1.60 | 2.09                               | 1.91 | 1.77 | 1.65 | 1.56 | 1.48 |
| 50 x 200   | 2.82  | 2.57 | 2.39 | 2.23 | 2.11 | 2.00 | 2.57                              | 2.35 | 2.18 | 2.04 | 1.92 | 1.83 | 2.38                               | 2.18 | 2.02 | 1.89 | 1.78 | 1.69 |
| 50 x 225   | 3.16  | 2.89 | 2.68 | 2.51 | 2.37 | 2.25 | 2.89                              | 2.64 | 2.45 | 2.29 | 2.16 | 2.05 | 2.68                               | 2.45 | 2.27 | 2.12 | 2.00 | 1.90 |
| 63 x 150   | 2.37  | 2.17 | 2.01 | 1.88 | 1.78 | 1.69 | 2.17                              | 1.98 | 1.84 | 1.72 | 1.62 | 1.54 | 2.01                               | 1.83 | 1.70 | 1.59 | 1.50 | 1.42 |
| 63 x 175   | 2.76  | 2.53 | 2.34 | 2.19 | 2.07 | 1.96 | 2.52                              | 2.31 | 2.14 | 2.00 | 1.89 | 1.79 | 2.34                               | 2.14 | 1.98 | 1.85 | 1.75 | 1.66 |
| 63 x 200   | 3.15  | 2.88 | 2.67 | 2.50 | 2.36 | 2.24 | 2.88                              | 2.63 | 2.44 | 2.29 | 2.16 | 2.05 | 2.67                               | 2.44 | 2.26 | 2.12 | 2.00 | 1.90 |
| 63 x 225   | 3.54  | 3.24 | 3.00 | 2.81 | 2.66 | 2.52 | 3.24                              | 2.96 | 2.75 | 2.57 | 2.43 | 2.30 | 3.00                               | 2.74 | 2.54 | 2.38 | 2.25 | 2.13 |
| 75 x 175   | 3.01  | 2.75 | 2.55 | 2.39 | 2.26 | 2.14 | 2.75                              | 2.51 | 2.33 | 2.18 | 2.06 | 1.96 | 2.52                               | 2.33 | 2.16 | 2.02 | 1.91 | 1.81 |
| 75 x 200   | 3.43  | 3.14 | 2.91 | 2.73 | 2.57 | 2.44 | 3.13                              | 2.87 | 2.66 | 2.49 | 2.35 | 2.23 | 2.87                               | 2.66 | 2.46 | 2.31 | 2.18 | 2.07 |
| 75 x 225   | 3.85  | 3.53 | 3.27 | 3.07 | 2.89 | 2.75 | 3.52                              | 3.22 | 2.99 | 2.80 | 2.64 | 2.51 | 3.23                               | 2.99 | 2.77 | 2.59 | 2.45 | 2.32 |



**Table 11: Common or jack rafters for roofs having a pitch more than 30° but not more than 42½° with access only for the purposes of maintenance or repair**

**GS, MGS, M50, M75 or No.2 grade timber**

| Size of rafter (in mm)        | Dead load (in kg/m <sup>2</sup> ) supported by rafter, excluding the mass of the rafter |      |      |                                   |      |      |                                    |      |      |
|-------------------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
|                               | Not more than 50  |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|                               | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|                               | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
| Maximum span of rafter (in m) |   |      |      |                                   |      |      |                                    |      |      |
| 38 x 100                      | 2.84  | 2.69 | 2.33 | 2.58                              | 2.44 | 2.11 | 2.38                               | 2.24 | 1.94 |
| 38 x 125                      | 3.54  | 3.34 | 2.91 | 3.21                              | 3.04 | 2.63 | 2.96                               | 2.80 | 2.42 |
| 38 x 150                      | 4.22  | 3.99 | 3.48 | 3.84                              | 3.63 | 3.15 | 3.54                               | 3.33 | 2.90 |
| 44 x 75                       | 2.30  | 2.17 | 1.89 | 2.09                              | 1.97 | 1.71 | 1.93                               | 1.82 | 1.57 |
| 44 x 100                      | 3.05  | 2.88 | 2.51 | 2.77                              | 2.62 | 2.27 | 2.56                               | 2.41 | 2.09 |
| 44 x 125                      | 3.79  | 3.59 | 3.12 | 3.45                              | 3.26 | 2.83 | 3.18                               | 3.01 | 2.61 |
| 44 x 150                      | 4.53  | 4.28 | 3.73 | 4.12                              | 3.90 | 3.39 | 3.81                               | 3.59 | 3.12 |
| 50 x 75                       | 2.45  | 2.31 | 2.01 | 2.21                              | 2.10 | 1.82 | 2.01                               | 1.93 | 1.68 |
| 50 x 100                      | 3.24  | 3.07 | 2.67 | 2.92                              | 2.79 | 2.42 | 2.67                               | 2.57 | 2.23 |
| 50 x 125                      | 4.03  | 3.81 | 3.32 | 3.63                              | 3.47 | 3.02 | 3.33                               | 3.20 | 2.78 |
| 50 x 150                      | 4.31  | 4.55 | 3.97 | 4.33                              | 4.14 | 3.61 | 3.97                               | 3.82 | 3.32 |

| <b>Table 12: Purlins supporting rafters to which Table 11 relates</b> |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|---|--|------|------|------|------|------|-----------------------------------|------|------|------|------|------|------------------------------------|------|------|------|------|------|
| <b>GS, MGS, M50, M75 or No.2 grade timber</b>                         |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| Size of purlin (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 11 |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | Not more than 50   |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      | More than 75 but not more than 100 |      |      |      |      |      |
|   | Spacing of purlins (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | 1.50   | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                               | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| 50 x 100  | 1.49   | 1.36 | 1.26 | 1.18 | 1.11 | 1.05 | 1.35                              | 1.24 | 1.15 | 1.07 | 1.01 | 0.96 | 1.25                               | 1.14 | 1.06 | 0.99 | 0.93 | 0.89 |
| 50 x 125  | 1.86   | 1.70 | 1.57 | 1.47 | 1.39 | 1.32 | 1.69                              | 1.54 | 1.43 | 1.34 | 1.26 | 1.20 | 1.56                               | 1.43 | 1.32 | 1.24 | 1.17 | 1.11 |
| 50 x 150  | 2.22   | 2.03 | 1.88 | 1.76 | 1.66 | 1.58 | 2.03                              | 1.85 | 1.72 | 1.61 | 1.51 | 1.44 | 1.87                               | 1.71 | 1.58 | 1.48 | 1.40 | 1.33 |
| 50 x 175  | 2.59   | 2.37 | 2.20 | 2.06 | 1.94 | 1.84 | 2.36                              | 2.16 | 2.00 | 1.87 | 1.77 | 1.68 | 2.18                               | 1.99 | 1.85 | 1.73 | 1.63 | 1.55 |
| 50 x 200  | 2.96   | 2.71 | 2.51 | 2.35 | 2.22 | 2.10 | 2.70                              | 2.46 | 2.28 | 2.14 | 2.02 | 1.91 | 2.49                               | 2.28 | 2.11 | 1.97 | 1.86 | 1.77 |
| 50 x 225  | 3.32   | 3.04 | 2.82 | 2.64 | 2.49 | 2.36 | 3.03                              | 2.77 | 2.57 | 2.40 | 2.27 | 2.15 | 2.80                               | 2.56 | 2.37 | 2.22 | 2.09 | 1.99 |
| 63 x 150  | 2.49   | 2.28 | 2.11 | 1.98 | 1.87 | 1.77 | 2.27                              | 2.08 | 1.92 | 1.80 | 1.70 | 1.61 | 2.09                               | 1.92 | 1.78 | 1.66 | 1.57 | 1.49 |
| 63 x 175  | 2.90   | 2.65 | 2.46 | 2.30 | 2.17 | 2.06 | 2.64                              | 2.42 | 2.24 | 2.10 | 1.98 | 1.88 | 2.43                               | 2.23 | 2.07 | 1.94 | 1.83 | 1.74 |
| 63 x 200  | 3.31   | 3.03 | 2.81 | 2.63 | 2.48 | 2.36 | 3.02                              | 2.76 | 2.56 | 2.40 | 2.26 | 2.15 | 2.77                               | 2.55 | 2.36 | 2.21 | 2.09 | 1.98 |
| 63 x 225  | 3.72   | 3.40 | 3.16 | 2.96 | 2.79 | 2.65 | 3.39                              | 3.10 | 2.88 | 2.69 | 2.54 | 2.41 | 3.12                               | 2.87 | 2.66 | 2.49 | 2.35 | 2.23 |
| 75 x 175  | 3.15   | 2.89 | 2.68 | 2.51 | 2.37 | 2.25 | 2.80                              | 2.63 | 2.44 | 2.29 | 2.16 | 2.05 | 2.57                               | 2.42 | 2.26 | 2.11 | 1.99 | 1.89 |
| 75 x 200  | 3.59   | 3.30 | 3.06 | 2.87 | 2.71 | 2.57 | 3.20                              | 3.01 | 2.79 | 2.61 | 2.46 | 2.34 | 2.93                               | 2.77 | 2.58 | 2.41 | 2.28 | 2.16 |
| 75 x 225  | 4.03   | 3.71 | 3.44 | 3.22 | 3.04 | 2.89 | 3.59                              | 3.38 | 3.13 | 2.93 | 2.77 | 2.63 | 3.30                               | 3.11 | 2.90 | 2.71 | 2.56 | 2.43 |

| <b>Table 13: Floor joists</b> |   |      |      |                                   |      |      |                                    |      |      |
|-------------------------------|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b> |   |      |      |                                   |      |      |                                    |      |      |
| Size of joist (in mm)         | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |                                    |      |      |
|                               | Not more than 25  |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|                               | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|                               | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
| Maximum span of joist (in m)  |   |      |      |                                   |      |      |                                    |      |      |
| 38 x 75                       | 1.41  | 1.32 | 1.01 | 1.35                              | 1.23 | 0.96 | 1.15                               | 1.05 | 0.84 |
| 38 x 100                      | 2.11  | 2.00 | 1.71 | 2.00                              | 1.90 | 1.57 | 1.77                               | 1.63 | 1.32 |
| 38 x 125                      | 2.74  | 2.63 | 2.39 | 2.62                              | 2.52 | 2.25 | 2.34                               | 2.23 | 1.83 |
| 38 x 150                      | 3.28  | 3.15 | 2.87 | 3.14                              | 3.02 | 2.75 | 2.82                               | 2.72 | 2.35 |
| 38 x 175                      | 3.81  | 3.67 | 3.35 | 3.65                              | 3.52 | 3.20 | 3.29                               | 3.17 | 2.76 |
| 38 x 200                      | 4.35  | 4.19 | 3.82 | 4.16                              | 4.01 | 3.66 | 3.76                               | 3.62 | 3.16 |
| 38 x 225                      | 4.88  | 4.70 | 4.29 | 4.68                              | 4.51 | 4.11 | 4.22                               | 4.06 | 3.54 |
| 44 x 75                       | 1.51  | 1.43 | 1.16 | 1.45                              | 1.37 | 1.09 | 1.29                               | 1.18 | 0.94 |
| 44 x 100                      | 2.25  | 2.13 | 1.87 | 2.13                              | 2.02 | 1.77 | 1.89                               | 1.80 | 1.47 |
| 44 x 125                      | 2.87  | 2.76 | 2.52 | 2.74                              | 2.64 | 2.40 | 2.47                               | 2.37 | 2.02 |
| 44 x 150                      | 3.43  | 3.31 | 3.01 | 3.29                              | 3.16 | 2.88 | 2.96                               | 2.85 | 2.55 |
| 44 x 175                      | 3.99  | 3.85 | 3.51 | 3.83                              | 3.68 | 3.36 | 3.45                               | 3.32 | 2.97 |
| 44 x 200                      | 4.55  | 4.39 | 4.00 | 4.36                              | 4.20 | 3.83 | 3.94                               | 3.79 | 3.39 |
| 44 x 225                      | 5.11  | 4.93 | 4.50 | 4.90                              | 4.72 | 4.31 | 4.42                               | 4.26 | 3.81 |
| 50 x 75                       | 1.60  | 1.51 | 1.30 | 1.53                              | 1.45 | 1.21 | 1.39                               | 1.30 | 1.04 |
| 50 x 100                      | 2.38  | 2.26 | 1.98 | 2.25                              | 2.14 | 1.89 | 1.99                               | 1.90 | 1.61 |
| 50 x 125                      | 2.99  | 2.88 | 2.62 | 2.86                              | 2.75 | 2.51 | 2.58                               | 2.48 | 2.21 |
| 50 x 150                      | 3.57  | 3.44 | 3.14 | 3.42                              | 3.30 | 3.01 | 3.09                               | 2.97 | 2.71 |
| 50 x 175                      | 4.16  | 4.01 | 3.66 | 3.98                              | 3.84 | 3.50 | 3.60                               | 3.46 | 3.15 |
| 50 x 200                      | 4.74  | 4.57 | 4.17 | 4.54                              | 4.38 | 3.99 | 4.10                               | 3.95 | 3.60 |
| 50 x 225                      | 5.32  | 5.13 | 4.68 | 5.10                              | 4.91 | 4.49 | 4.61                               | 4.44 | 4.05 |
| 63 x 150                      | 3.84  | 3.70 | 3.38 | 3.68                              | 3.55 | 3.24 | 3.32                               | 3.20 | 2.92 |
| 63 x 175                      | 4.47  | 4.31 | 3.94 | 4.28                              | 4.13 | 3.77 | 3.87                               | 3.73 | 3.40 |
| 63 x 200                      | 5.09  | 4.91 | 4.49 | 4.88                              | 4.71 | 4.30 | 4.41                               | 4.25 | 3.88 |
| 63 x 225                      | 5.71  | 5.51 | 5.04 | 5.48                              | 5.28 | 4.83 | 4.95                               | 4.77 | 4.36 |
| 75 x 200                      | 5.37  | 5.18 | 4.74 | 5.15                              | 4.97 | 4.54 | 4.66                               | 4.49 | 4.10 |
| 75 x 225                      | 6.02  | 5.81 | 5.32 | 5.78                              | 5.57 | 5.10 | 5.23                               | 5.04 | 4.61 |

| <b>Table 14: Ceiling joists</b> |   |      |      |                                   |      |      |
|---------------------------------|---|------|------|-----------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |   |      |      |                                   |      |      |
| Size of joist (in mm)           | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |
|                                 | Not more than 25  |      |      | More than 25 but not more than 50 |      |      |
|                                 | Spacing of rafters (in mm)  |      |      |                                   |      |      |
|                                 | 400   | 450  | 600  | 400                               | 450  | 600  |
|                                 | Maximum span of joist (in m)  |      |      |                                   |      |      |
| 38 x 75                         | 1.98  | 1.90 | 1.73 | 1.84                              | 1.77 | 1.61 |
| 38 x 100                        | 2.62  | 2.53 | 2.30 | 2.44                              | 2.35 | 2.14 |
| 38 x 125                        | 3.27  | 3.15 | 2.87 | 3.04                              | 2.93 | 2.67 |
| 38 x 150                        | 3.91  | 3.77 | 3.44 | 3.64                              | 3.51 | 3.20 |
| 38 x 175                        | 4.54  | 4.38 | 4.00 | 4.23                              | 4.08 | 3.72 |
| 38 x 200                        | 5.17  | 4.99 | 4.56 | 4.82                              | 4.65 | 4.25 |
| 38 x 225                        | 5.80  | 5.59 | 5.12 | 5.41                              | 5.22 | 4.77 |
| 44 x 75                         | 2.07  | 1.99 | 1.82 | 1.93                              | 1.85 | 1.69 |
| 44 x 100                        | 2.75  | 2.65 | 2.42 | 2.56                              | 2.46 | 2.24 |
| 44 x 125                        | 3.42  | 3.30 | 3.01 | 3.19                              | 3.07 | 2.80 |
| 44 x 150                        | 4.09  | 3.94 | 3.60 | 3.81                              | 3.67 | 3.35 |
| 44 x 175                        | 4.75  | 4.58 | 4.19 | 4.43                              | 4.27 | 3.90 |
| 44 x 200                        | 5.41  | 5.22 | 4.78 | 5.05                              | 4.87 | 4.45 |
| 44 x 225                        | 6.06  | 5.85 | 5.36 | 5.66                              | 5.46 | 4.99 |
| 50 x 75                         | 2.16  | 2.08 | 1.9  | 2.01                              | 1.93 | 1.76 |
| 50 x 100                        | 2.86  | 2.76 | 2.52 | 2.66                              | 2.57 | 2.34 |
| 50 x 125                        | 3.56  | 3.43 | 3.14 | 3.32                              | 3.20 | 2.92 |
| 50 x 150                        | 4.25  | 4.10 | 3.75 | 3.97                              | 3.82 | 3.49 |
| 50 x 175                        | 4.94  | 4.77 | 4.36 | 4.61                              | 4.45 | 4.06 |
| 50 x 200                        | 5.62  | 5.42 | 4.97 | 5.25                              | 5.06 | 4.63 |
| 50 x 225                        | 6.29  | 6.08 | 5.57 | 5.88                              | 5.68 | 5.20 |

| <b>Table 15: Binders or beams supporting joists to which Table 14 relates</b> |   |      |      |      |      |                                   |      |      |      |      |
|---|---|------|------|------|------|-----------------------------------|------|------|------|------|
| <b>SS or MSS grade timber</b>   |   |      |      |      |      |                                   |      |      |      |      |
| Size of binder or beam (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by joist as calculated for the purposes of Table 14 |      |      |      |      |                                   |      |      |      |      |
|   | Not more than 25  |      |      |      |      | More than 25 but not more than 50 |      |      |      |      |
|   | Spacing of binders or beams (in m)  |      |      |      |      |                                   |      |      |      |      |
|   | 1.20  | 1.50 | 1.80 | 2.10 | 2.40 | 1.20                              | 1.50 | 1.80 | 2.10 | 2.40 |
|   | Maximum span of binder or beam (in m)   |      |      |      |      |                                   |      |      |      |      |
| 38 x 75   | 1.29  | 1.15 | 1.05 | 0.98 | 0.91 | 1.16                              | 1.04 | 0.95 | 0.88 | 0.82 |
| 38 x 100  | 1.71  | 1.54 | 1.40 | 1.30 | 1.22 | 1.54                              | 1.38 | 1.26 | 1.17 | 1.09 |
| 38 x 125  | 2.14  | 1.92 | 1.75 | 1.62 | 1.52 | 1.93                              | 1.73 | 1.58 | 1.46 | 1.37 |
| 38 x 150  | 2.56  | 2.30 | 2.10 | 1.95 | 1.82 | 2.31                              | 2.07 | 1.89 | 1.75 | 1.64 |

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|          |      |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|------|
| 38 x 175 | 2.98 | 2.68 | 2.45 | 2.27 | 2.12 | 2.69 | 2.41 | 2.20 | 2.04 | 1.91 |
| 38 x 200 | 3.40 | 3.05 | 2.79 | 2.59 | 2.42 | 3.07 | 2.75 | 2.52 | 2.33 | 2.18 |
| 38 x 225 | 3.82 | 3.43 | 3.14 | 2.91 | 2.72 | 3.45 | 3.09 | 2.83 | 2.62 | 2.45 |
| 44 x 75  | 1.38 | 1.24 | 1.13 | 1.05 | 0.98 | 1.25 | 1.12 | 1.02 | 0.94 | 0.88 |
| 44 x 100 | 1.84 | 1.65 | 1.51 | 1.40 | 1.31 | 1.66 | 1.49 | 1.36 | 1.26 | 1.18 |
| 44 x 125 | 2.30 | 2.06 | 1.88 | 1.74 | 1.63 | 2.07 | 1.85 | 1.70 | 1.57 | 1.47 |
| 44 x 150 | 2.75 | 2.47 | 2.26 | 2.09 | 1.96 | 2.48 | 2.22 | 2.03 | 1.88 | 1.76 |
| 44 x 175 | 3.20 | 2.87 | 2.63 | 2.44 | 2.28 | 2.89 | 2.59 | 2.37 | 2.19 | 2.05 |
| 44 x 200 | 3.65 | 3.28 | 3.00 | 2.78 | 2.61 | 3.30 | 2.96 | 2.70 | 2.51 | 2.35 |
| 44 x 225 | 4.10 | 3.68 | 3.37 | 3.13 | 2.93 | 3.70 | 3.32 | 3.04 | 2.82 | 2.64 |
| 50 x 75  | 1.47 | 1.32 | 1.21 | 1.12 | 1.05 | 1.33 | 1.19 | 1.09 | 1.01 | 0.94 |
| 50 x 100 | 1.96 | 1.76 | 1.61 | 1.49 | 1.39 | 1.77 | 1.58 | 1.45 | 1.34 | 1.25 |
| 50 x 125 | 2.45 | 2.19 | 2.01 | 1.86 | 1.74 | 2.20 | 1.98 | 1.81 | 1.67 | 1.57 |
| 50 x 150 | 2.93 | 2.63 | 2.40 | 2.23 | 2.09 | 2.64 | 2.37 | 2.16 | 2.01 | 1.88 |
| 50 x 175 | 3.41 | 3.06 | 2.80 | 2.60 | 2.43 | 3.07 | 2.76 | 2.52 | 2.34 | 2.19 |
| 50 x 200 | 3.89 | 3.49 | 3.19 | 2.96 | 2.77 | 3.51 | 3.15 | 2.88 | 2.67 | 2.50 |
| 50 x 225 | 4.36 | 3.92 | 3.59 | 3.33 | 3.12 | 3.94 | 3.53 | 3.23 | 3.00 | 2.81 |
| 63 x 150 | 3.17 | 2.94 | 2.69 | 2.50 | 2.34 | 2.96 | 2.65 | 2.42 | 2.25 | 2.10 |
| 63 x 175 | 3.69 | 3.42 | 3.13 | 2.91 | 2.72 | 3.44 | 3.09 | 2.82 | 2.62 | 2.45 |
| 63 x 200 | 4.21 | 3.90 | 3.57 | 3.32 | 3.11 | 3.92 | 3.52 | 3.22 | 2.99 | 2.80 |
| 63 x 225 | 4.72 | 4.38 | 4.01 | 3.72 | 3.49 | 4.40 | 3.95 | 3.62 | 3.36 | 3.15 |
| 75 x 200 | 4.44 | 4.14 | 3.89 | 3.61 | 3.38 | 4.16 | 3.83 | 3.51 | 3.25 | 3.05 |
| 75 x 225 | 4.99 | 4.65 | 4.36 | 4.05 | 3.80 | 4.67 | 4.30 | 3.94 | 3.66 | 3.43 |

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| <b>Table 16: Joists for flat roofs with access only for the purposes of maintenance or repair</b> |   |      |      |                                   |      |      |                                    |      |      |
|---|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |   |      |      |                                   |      |      |                                    |      |      |
| Size of joist (in mm)   | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |                                    |      |      |
|   | Not more than 25  |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|   | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|   | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|   | Maximum span of joist (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 75   | 1.98  | 1.90 | 1.73 | 1.73                              | 1.66 | 1.51 | 1.64                               | 1.58 | 1.44 |
| 38 x 100  | 2.62  | 2.53 | 2.30 | 2.30                              | 2.21 | 2.02 | 2.19                               | 2.10 | 1.92 |
| 38 x 125  | 3.27  | 3.15 | 2.87 | 2.87                              | 2.76 | 2.52 | 2.73                               | 2.62 | 2.39 |
| 38 x 150  | 3.91  | 3.77 | 3.44 | 3.43                              | 3.31 | 3.01 | 3.27                               | 3.14 | 2.86 |
| 38 x 175  | 4.54  | 4.38 | 4.00 | 3.99                              | 3.85 | 3.51 | 3.80                               | 3.66 | 3.34 |
| 38 x 200  | 5.17  | 4.99 | 4.56 | 4.55                              | 4.39 | 4.00 | 4.34                               | 4.18 | 3.81 |
| 38 x 225  | 5.80  | 5.59 | 5.12 | 5.11                              | 4.93 | 4.50 | 4.87                               | 4.69 | 4.28 |
| 44 x 75   | 2.07  | 1.99 | 1.82 | 1.81                              | 1.75 | 1.59 | 1.72                               | 1.66 | 1.51 |
| 44 x 100  | 2.75  | 2.65 | 2.42 | 2.41                              | 2.32 | 2.11 | 2.29                               | 2.21 | 2.01 |
| 44 x 125  | 3.42  | 3.30 | 3.01 | 3.01                              | 2.89 | 2.64 | 2.86                               | 2.75 | 2.51 |
| 44 x 150  | 4.09  | 3.94 | 3.60 | 3.60                              | 3.46 | 3.16 | 3.42                               | 3.30 | 3.00 |
| 44 x 175  | 4.75  | 4.58 | 4.19 | 4.18                              | 4.03 | 3.68 | 3.98                               | 3.84 | 3.50 |
| 44 x 200  | 5.41  | 5.22 | 4.78 | 4.77                              | 4.60 | 4.20 | 4.54                               | 4.38 | 3.99 |
| 44 x 225  | 6.06  | 5.85 | 5.36 | 5.35                              | 5.16 | 4.71 | 5.10                               | 4.91 | 4.48 |
| 50 x 75   | 2.16  | 2.08 | 1.89 | 1.89                              | 1.82 | 1.66 | 1.80                               | 1.73 | 1.57 |
| 50 x 100  | 2.86  | 2.76 | 2.52 | 2.51                              | 2.42 | 2.20 | 2.39                               | 2.30 | 2.09 |
| 50 x 125  | 3.56  | 3.43 | 3.14 | 3.13                              | 3.01 | 2.75 | 2.98                               | 2.87 | 2.61 |
| 50 x 150  | 4.25  | 4.10 | 3.75 | 3.74                              | 3.61 | 3.29 | 3.56                               | 3.43 | 3.13 |
| 50 x 175  | 4.94  | 4.77 | 4.36 | 4.35                              | 4.20 | 3.83 | 4.15                               | 4.00 | 3.65 |
| 50 x 200  | 5.62  | 5.42 | 4.97 | 4.96                              | 4.78 | 4.37 | 4.73                               | 4.56 | 4.16 |
| 50 x 225  | 6.29  | 6.08 | 5.57 | 5.56                              | 5.37 | 4.91 | 5.30                               | 5.11 | 4.67 |

| <b>Table 17: Joists for flat roofs with access not limited to the purposes of maintenance or repair</b> |   |      |      |                                   |      |      |                                    |      |      |
|---|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |   |      |      |                                   |      |      |                                    |      |      |
| Size of joist (in mm)   | Dead load (in kg/m <sup>2</sup> ) supported by joist, excluding the mass of the joist |      |      |                                   |      |      |                                    |      |      |
|   | Not more than 25  |      |      | More than 25 but not more than 50 |      |      | More than 50 but not more than 125 |      |      |
|   | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|   | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|   | Maximum span of joist (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 75   | 1.41  | 1.33 | 1.16 | 1.31                              | 1.24 | 1.09 | 1.27                               | 1.20 | 1.05 |

# Public Health

**1950-07**

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|          |      |      |      |      |      |      |      |      |      |
|----------|------|------|------|------|------|------|------|------|------|
| 38 x 100 | 2.11 | 2.00 | 1.75 | 1.91 | 1.82 | 1.60 | 1.84 | 1.75 | 1.55 |
| 38 x 125 | 2.74 | 2.63 | 2.39 | 2.52 | 2.42 | 2.15 | 2.43 | 2.32 | 2.06 |
| 38 x 150 | 3.28 | 3.15 | 2.87 | 3.02 | 2.90 | 2.64 | 2.91 | 2.80 | 2.55 |
| 38 x 175 | 3.81 | 3.67 | 3.35 | 3.51 | 3.38 | 3.08 | 3.39 | 3.27 | 2.98 |
| 38 x 200 | 4.35 | 4.19 | 3.82 | 4.01 | 3.86 | 3.52 | 3.87 | 3.73 | 3.40 |
| 38 x 225 | 4.88 | 4.70 | 4.29 | 4.50 | 4.34 | 3.95 | 4.35 | 4.19 | 3.82 |
| 44 x 75  | 1.51 | 1.43 | 1.24 | 1.39 | 1.32 | 1.16 | 1.35 | 1.28 | 1.13 |
| 44 x 100 | 2.25 | 2.13 | 1.87 | 2.03 | 1.94 | 1.71 | 1.96 | 1.86 | 1.65 |
| 44 x 125 | 2.87 | 2.76 | 2.52 | 2.64 | 2.54 | 2.28 | 2.55 | 2.45 | 2.19 |
| 44 x 150 | 3.43 | 3.31 | 3.01 | 3.16 | 3.04 | 2.77 | 3.06 | 2.94 | 2.68 |
| 44 x 175 | 3.99 | 3.85 | 3.51 | 3.68 | 3.55 | 3.23 | 3.56 | 3.43 | 3.12 |
| 44 x 200 | 4.55 | 4.39 | 4.00 | 4.20 | 4.05 | 3.69 | 4.06 | 3.91 | 3.56 |
| 44 x 225 | 5.11 | 4.93 | 4.50 | 4.72 | 4.54 | 4.14 | 4.56 | 4.39 | 4.00 |
| 50 x 75  | 1.60 | 1.51 | 1.32 | 1.45 | 1.40 | 1.23 | 1.43 | 1.36 | 1.20 |
| 50 x 100 | 2.38 | 2.26 | 1.98 | 2.15 | 2.04 | 1.81 | 2.06 | 1.96 | 1.74 |
| 50 x 125 | 2.99 | 2.88 | 2.62 | 2.75 | 2.65 | 2.41 | 2.66 | 2.56 | 2.31 |
| 50 x 150 | 3.57 | 3.44 | 3.14 | 3.30 | 3.17 | 2.89 | 3.18 | 3.07 | 2.79 |
| 50 x 175 | 4.16 | 4.01 | 3.66 | 3.84 | 3.69 | 3.37 | 3.71 | 3.57 | 3.25 |
| 50 x 200 | 4.74 | 4.57 | 4.17 | 4.37 | 4.21 | 3.84 | 4.23 | 4.07 | 3.71 |
| 50 x 225 | 5.32 | 5.13 | 4.68 | 4.91 | 4.73 | 4.32 | 4.75 | 4.57 | 4.17 |
| 63 x 150 | 3.84 | 3.70 | 3.38 | 3.55 | 3.42 | 3.12 | 3.43 | 3.30 | 3.01 |
| 63 x 175 | 4.47 | 4.31 | 3.94 | 4.13 | 3.98 | 3.63 | 3.99 | 3.84 | 3.51 |
| 63 x 200 | 5.09 | 4.91 | 4.49 | 4.70 | 4.53 | 4.14 | 4.55 | 4.38 | 4.00 |
| 63 x 225 | 5.71 | 5.51 | 5.04 | 5.28 | 5.09 | 4.65 | 5.11 | 4.92 | 4.49 |
| 75 x 200 | 5.37 | 5.18 | 4.74 | 4.97 | 4.79 | 4.37 | 4.80 | 4.63 | 4.23 |
| 75 x 225 | 6.02 | 5.81 | 5.32 | 5.57 | 5.37 | 4.91 | 5.39 | 5.20 | 4.75 |

| <b>Table 18: Purlins supporting sheeting or decking for roofs having a pitch of 10° or more</b> |  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|---|--|------|------|------|------|------|-----------------------------------|------|------|------|------|------|-----------------------------------|------|------|------|------|------|
| <b>SS or MSS grade timber</b>   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| Size of purlin (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 11 |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|   | Not more than 25   |      |      |      |      |      | More than 25 but not more than 50 |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      |
|   | Spacing of purlins (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|   | 0.90   | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 | 0.90                              | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 | 0.90                              | 1.20 | 1.50 | 1.80 | 2.10 | 2.40 |
|   | Maximum span of purlin (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| 50 x 100  | 2.57   | 2.29 | 2.05 | 1.87 | 1.74 | 1.62 | 2.07                              | 1.89 | 1.76 | 1.66 | 1.55 | 1.45 | 1.52                              | 1.66 | 1.54 | 1.45 | 1.38 | 1.32 |
| 50 x 125  | 3.19   | 2.85 | 2.56 | 2.34 | 2.17 | 2.03 | 2.55                              | 2.36 | 2.20 | 2.07 | 1.94 | 1.81 | 2.27                              | 2.07 | 1.93 | 1.82 | 1.73 | 1.65 |
| 50 x 150  | 3.79   | 3.41 | 3.06 | 2.80 | 2.60 | 2.43 | 3.08                              | 2.82 | 2.63 | 2.48 | 2.32 | 2.17 | 2.72                              | 2.48 | 2.31 | 2.18 | 2.07 | 1.98 |
| 50 x 175  | 4.39   | 3.97 | 3.56 | 3.26 | 3.02 | 2.83 | 3.58                              | 3.28 | 3.06 | 2.98 | 2.71 | 2.53 | 3.16                              | 2.89 | 2.69 | 2.53 | 2.41 | 2.31 |
| 50 x 200  | 4.98   | 4.53 | 4.07 | 3.72 | 3.45 | 3.23 | 4.08                              | 3.74 | 3.49 | 3.29 | 3.09 | 2.89 | 3.60                              | 3.29 | 3.07 | 2.89 | 2.75 | 2.64 |
| 50 x 225  | 5.57   | 5.08 | 4.57 | 4.18 | 3.88 | 3.63 | 4.57                              | 4.19 | 3.91 | 3.70 | 3.47 | 3.25 | 4.04                              | 3.70 | 3.44 | 3.25 | 3.09 | 2.96 |
| 63 x 150  | 4.05   | 3.73 | 3.43 | 3.14 | 2.91 | 2.72 | 3.31                              | 3.03 | 2.83 | 2.67 | 2.54 | 2.43 | 2.92                              | 2.67 | 2.49 | 2.34 | 2.23 | 2.14 |
| 63 x 175  | 4.68   | 4.32 | 3.99 | 3.65 | 3.39 | 3.17 | 3.84                              | 3.52 | 3.29 | 3.11 | 2.96 | 2.83 | 3.40                              | 3.11 | 2.89 | 2.73 | 2.60 | 2.49 |
| 63 x 200  | 5.30   | 4.91 | 4.55 | 4.16 | 3.86 | 3.62 | 4.37                              | 4.01 | 3.75 | 3.54 | 3.37 | 3.23 | 3.87                              | 3.54 | 3.30 | 3.11 | 2.96 | 2.84 |
| 63 x 225  | 5.91   | 5.48 | 5.10 | 4.67 | 4.34 | 4.07 | 4.89                              | 4.49 | 4.20 | 3.97 | 3.79 | 3.63 | 4.34                              | 3.97 | 3.70 | 3.50 | 3.33 | 3.19 |

| <b>Table 19: Common or jack rafters for roofs having a pitch more than 10° but not more than 22° with access only for the purposes of maintenance or repair</b> |  |      |      |                                   |      |      |                                    |      |      |
|---|--|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |  |      |      |                                   |      |      |                                    |      |      |
| Size of rafter (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of table 19 |      |      |                                   |      |      |                                    |      |      |
|   | Not more than 50   |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|   | Spacing of rafters (in mm)   |      |      |                                   |      |      |                                    |      |      |
|   | 400  | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|   | Maximum span of rafter (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 100  | 2.88   | 2.72 | 2.36 | 2.63                              | 2.48 | 2.15 | 2.44                               | 2.30 | 1.98 |
| 38 x 125  | 3.59   | 3.39 | 2.94 | 3.28                              | 3.09 | 2.68 | 3.03                               | 2.86 | 2.47 |
| 38 x 150  | 4.29   | 4.05 | 3.52 | 3.92                              | 3.70 | 3.21 | 3.63                               | 3.42 | 2.96 |
| 44 x 75   | 2.33   | 2.20 | 1.91 | 2.13                              | 2.01 | 1.74 | 1.95                               | 1.86 | 1.61 |
| 44 x 100  | 3.10   | 2.92 | 2.54 | 2.83                              | 2.67 | 2.31 | 2.59                               | 2.47 | 2.14 |
| 44 x 125  | 3.85   | 3.64 | 3.16 | 3.52                              | 3.32 | 2.88 | 3.22                               | 3.08 | 2.66 |
| 44 x 150  | 4.60   | 4.35 | 3.78 | 4.20                              | 3.97 | 3.45 | 3.85                               | 3.68 | 3.19 |
| 50 x 75   | 2.48   | 2.34 | 2.04 | 2.22                              | 2.14 | 1.86 | 2.03                               | 1.95 | 1.72 |
| 50 x 100  | 3.29   | 3.11 | 2.70 | 2.95                              | 2.84 | 2.47 | 2.69                               | 2.59 | 2.28 |
| 50 x 125  | 4.09   | 3.87 | 3.37 | 3.66                              | 3.53 | 3.07 | 3.35                               | 3.23 | 2.84 |
| 50 x 150  | 4.88   | 4.62 | 4.02 | 4.37                              | 4.21 | 1.68 | 4.00                               | 3.86 | 3.40 |



| Table 20: Purlins supporting rafters to which Table 19 relates |  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|--|--|------|------|------|------|------|-----------------------------------|------|------|------|------|------|-----------------------------------|------|------|------|------|------|
| SS or MSS grade timber   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| Size of purlin (in mm)   | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 19 |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|  | Not more than 25   |      |      |      |      |      | More than 25 but not more than 50 |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      |
|  | Spacing of purlins (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
|  | 1.50   | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)                                  |  |      |      |      |      |      |                                   |      |      |      |      |      |                                   |      |      |      |      |      |
| 50 x 100   | 1.18   | 1.47 | 1.36 | 1.28 | 1.20 | 1.14 | 1.40                              | 1.32 | 1.25 | 1.17 | 1.06 | 0.96 | 1.28                              | 1.21 | 1.15 | 1.03 | 0.91 | 0.82 |
| 50 x 125   | 1.97   | 1.84 | 1.70 | 1.59 | 1.50 | 1.43 | 1.75                              | 1.65 | 1.56 | 1.46 | 1.33 | 1.20 | 1.60                              | 1.51 | 1.43 | 1.28 | 1.14 | 1.03 |
| 50 x 150   | 2.36   | 2.20 | 2.04 | 1.91 | 1.80 | 1.71 | 2.09                              | 1.97 | 1.87 | 1.75 | 1.59 | 1.43 | 1.92                              | 1.81 | 1.72 | 1.54 | 1.37 | 1.23 |
| 50 x 175   | 2.75   | 2.57 | 2.38 | 2.23 | 2.10 | 1.99 | 2.44                              | 2.30 | 2.18 | 2.04 | 1.85 | 1.67 | 2.24                              | 2.11 | 2.00 | 1.79 | 1.60 | 1.44 |
| 50 x 200   | 3.14   | 2.93 | 2.72 | 2.54 | 2.40 | 2.28 | 2.79                              | 2.63 | 2.49 | 2.33 | 2.12 | 1.91 | 2.55                              | 2.40 | 2.29 | 2.05 | 1.82 | 1.64 |
| 50 x 225   | 3.52   | 3.29 | 3.05 | 2.86 | 2.70 | 2.56 | 3.13                              | 2.95 | 2.80 | 2.62 | 2.41 | 2.14 | 2.87                              | 2.70 | 2.57 | 2.30 | 2.05 | 1.84 |
| 63 x 150   | 2.54   | 2.40 | 2.28 | 2.14 | 2.02 | 1.92 | 2.26                              | 2.13 | 2.02 | 1.94 | 1.83 | 1.76 | 2.07                              | 1.95 | 1.85 | 1.77 | 1.71 | 1.55 |
| 63 x 175   | 2.96   | 2.79 | 2.66 | 2.50 | 2.36 | 2.24 | 2.63                              | 2.48 | 2.36 | 2.26 | 2.16 | 2.05 | 2.41                              | 2.27 | 2.16 | 2.07 | 1.99 | 1.81 |
| 63 x 200   | 3.38   | 3.19 | 3.03 | 2.85 | 2.69 | 2.55 | 3.00                              | 2.83 | 2.69 | 2.58 | 2.46 | 2.34 | 2.75                              | 2.59 | 2.47 | 2.36 | 2.27 | 2.06 |
| 63 x 225   | 3.79   | 3.58 | 3.41 | 3.20 | 3.02 | 2.87 | 3.37                              | 3.18 | 3.03 | 2.90 | 2.77 | 2.63 | 3.09                              | 2.91 | 2.77 | 2.65 | 2.55 | 2.32 |
| 75 x 175   | 3.13   | 2.95 | 2.81 | 2.69 | 2.57 | 2.44 | 2.78                              | 2.62 | 2.50 | 2.39 | 2.30 | 2.22 | 2.55                              | 2.40 | 2.29 | 2.19 | 2.11 | 2.03 |
| 75 x 200   | 3.56   | 3.37 | 3.21 | 3.07 | 2.93 | 2.78 | 3.17                              | 2.99 | 2.85 | 2.73 | 2.63 | 2.54 | 2.91                              | 2.74 | 2.61 | 2.50 | 2.40 | 2.32 |
| 75 x 225   | 4.00   | 3.78 | 3.60 | 3.45 | 3.29 | 3.13 | 3.56                              | 3.36 | 3.20 | 3.07 | 2.95 | 2.85 | 3.27                              | 3.08 | 2.93 | 2.81 | 2.70 | 2.61 |

| <b>Table 21: Common or jack rafters for roofs having a pitch more than 22° but not more than 30° with access only for the purposes of maintenance or repair</b> |  |      |      |                                   |      |      |                                    |      |      |
|---|--|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |  |      |      |                                   |      |      |                                    |      |      |
| Size of rafter (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of table 21 |      |      |                                   |      |      |                                    |      |      |
|   | Not more than 50   |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|   | Spacing of rafters (in mm)   |      |      |                                   |      |      |                                    |      |      |
|   | 400  | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|   | Maximum span of rafter (in m)  |      |      |                                   |      |      |                                    |      |      |
| 38 x 100  | 3.13   | 3.02 | 2.62 | 2.76                              | 2.66 | 2.38 | 2.52                               | 1.43 | 2.20 |
| 38 x 125  | 3.89   | 3.75 | 3.27 | 3.44                              | 3.31 | 2.97 | 3.14                               | 3.03 | 2.74 |
| 38 x 150  | 4.64   | 4.48 | 3.91 | 4.11                              | 3.96 | 3.56 | 3.76                               | 3.62 | 3.28 |
| 44 x 75   | 1.48   | 2.39 | 2.12 | 2.18                              | 2.10 | 1.92 | 1.99                               | 1.92 | 1.75 |
| 44 x 100  | 3.28   | 3.16 | 2.82 | 2.89                              | 2.79 | 2.55 | 2.64                               | 2.55 | 2.32 |
| 44 x 125  | 4.06   | 3.92 | 3.51 | 3.60                              | 3.47 | 3.17 | 3.29                               | 3.17 | 2.89 |
| 44 x 150  | 4.84   | 4.68 | 4.19 | 4.29                              | 4.14 | 3.79 | 3.93                               | 3.79 | 3.46 |
| 50 x 75   | 2.58   | 2.48 | 2.26 | 2.27                              | 2.19 | 2.00 | 2.07                               | 2.00 | 1.82 |
| 50 x 100  | 3.40   | 3.29 | 3.00 | 3.01                              | 2.90 | 2.65 | 2.75                               | 2.65 | 2.42 |
| 50 x 125  | 4.22   | 4.07 | 3.73 | 3.74                              | 3.61 | 3.30 | 3.42                               | 3.30 | 3.01 |
| 50 x 150  | 5.02   | 4.85 | 4.46 | 4.46                              | 4.31 | 3.94 | 4.09                               | 3.94 | 3.60 |

| <b>Table 22: Purlins supporting rafters to which Table 21 relates</b> |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|---|--|------|------|------|------|------|-----------------------------------|------|------|------|------|------|------------------------------------|------|------|------|------|------|
| <b>SS or MSS grade timber</b>   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| Size of purlin (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 21 |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | Not more than 50   |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      | More than 75 but not more than 100 |      |      |      |      |      |
|   | Spacing of purlins (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | 1.50   | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                               | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| 50 x 100  | 1.61   | 1.52 | 1.43 | 1.34 | 1.26 | 1.20 | 1.43                              | 1.35 | 1.28 | 1.22 | 1.15 | 1.05 | 1.31                               | 1.23 | 1.17 | 1.12 | 1.00 | 0.90 |
| 50 x 125  | 2.01   | 1.90 | 1.79 | 1.67 | 1.58 | 1.50 | 1.79                              | 1.68 | 1.60 | 1.53 | 1.44 | 1.31 | 1.63                               | 1.54 | 1.46 | 1.40 | 1.25 | 1.12 |
| 50 x 150  | 2.41   | 2.27 | 2.15 | 2.01 | 1.89 | 1.80 | 2.14                              | 2.02 | 1.92 | 1.83 | 1.73 | 1.57 | 1.96                               | 1.85 | 1.75 | 1.68 | 1.50 | 1.35 |
| 50 x 175  | 2.81   | 2.65 | 2.50 | 2.34 | 2.21 | 2.10 | 2.49                              | 2.35 | 2.23 | 2.14 | 2.02 | 1.83 | 2.28                               | 2.15 | 2.04 | 1.96 | 1.74 | 1.57 |
| 50 x 200  | 3.20   | 3.02 | 2.86 | 2.67 | 2.52 | 2.39 | 2.85                              | 2.68 | 2.55 | 2.44 | 2.30 | 2.09 | 2.61                               | 2.46 | 2.34 | 2.24 | 1.99 | 1.79 |
| 50 x 225  | 3.60   | 3.40 | 3.21 | 3.00 | 2.84 | 2.69 | 3.20                              | 3.01 | 2.87 | 2.74 | 2.59 | 2.35 | 2.93                               | 2.76 | 2.63 | 0.00 | 1Z4  | 2.02 |
| 63 x 150  | 2.60   | 2.45 | 2.33 | 2.23 | 2.12 | 2.02 | 2.31                              | 2.17 | 2.07 | 1.98 | 1.90 | 1.84 | 2.11                               | 1.99 | 1.89 | 1.81 | 1.74 | 1.68 |
| 63 x 175  | 3.02   | 2.85 | 2.72 | 2.60 | 2.48 | 2.35 | 2.69                              | 2.53 | 2.41 | 2.31 | 2.22 | 2.14 | 2.46                               | 2.32 | 2.21 | 2.11 | 2.03 | 1.96 |
| 63 x 200  | 3.45   | 3.25 | 3.10 | 2.97 | 2.83 | 2.68 | 3.07                              | 2.89 | 2.75 | 2.63 | 2.53 | 2.45 | 2.81                               | 2.65 | 2.52 | 2.41 | 2.32 | 2.24 |
| 63 x 225  | 3.87   | 3.65 | 3.48 | 3.33 | 3.18 | 3.02 | 3.44                              | 3.25 | 3.09 | 2.96 | 2.85 | 2.75 | 3.16                               | 2.98 | 2.83 | 2.71 | 2.61 | 2.52 |
| 75 x 175  | 3.19   | 3.02 | 2.87 | 2.75 | 2.65 | 2.56 | 2.84                              | 2.68 | 2.55 | 2.44 | 2.35 | 2.27 | 2.60                               | 2.46 | 2.34 | 2.24 | 2.15 | 2.08 |
| 75 x 200  | 3.64   | 3.44 | 3.28 | 3.14 | 3.02 | 2.92 | 3.24                              | 3.06 | 2.91 | 2.79 | 2.68 | 2.59 | 2.97                               | 2.80 | 2.67 | 2.55 | 2.46 | 2.37 |
| 75 x 225  | 4.09   | 3.86 | 3.68 | 3.53 | 3.40 | 3.28 | 3.64                              | 3.43 | 3.27 | 3.13 | 3.01 | 2.91 | 3.34                               | 3.15 | 3.00 | 2.87 | 2.76 | 2.67 |

| <b>Table 23: Common or jack rafters for roofs having a pitch more than 30° but not more than 42° with access only for the purposes of maintenance or repair</b> |   |      |      |                                   |      |      |                                    |      |      |
|---|---|------|------|-----------------------------------|------|------|------------------------------------|------|------|
| <b>SS or MSS grade timber</b>   |   |      |      |                                   |      |      |                                    |      |      |
| Size of rafter (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter, excluding the mass of the rafter |      |      |                                   |      |      |                                    |      |      |
|   | Not more than 50  |      |      | More than 50 but not more than 75 |      |      | More than 75 but not more than 100 |      |      |
|   | Spacing of rafters (in mm)  |      |      |                                   |      |      |                                    |      |      |
|   | 400   | 450  | 600  | 400                               | 450  | 600  | 400                                | 450  | 600  |
|   | Maximum span of rafter (in m)   |      |      |                                   |      |      |                                    |      |      |
| 38 x 100  | 3.20  | 3.09 | 2.78 | 2.82                              | 2.72 | 2.48 | 2.58                               | 2.48 | 1.26 |
| 38 x 125  | 3.97  | 3.84 | 3.47 | 3.51                              | 3.39 | 3.09 | 3.21                               | 3.09 | 2.82 |
| 38 x 150  | 4.74  | 4.58 | 4.15 | 4.20                              | 4.05 | 3.70 | 3.84                               | 3.70 | 3.38 |
| 44 x 75   | 2.53  | 2.44 | 2.23 | 2.23                              | 2.15 | 1.96 | 2.03                               | 1.96 | 1.78 |
| 44 x 100  | 3.35  | 3.23 | 2.96 | 2.96                              | 2.85 | 2.60 | 2.70                               | 2.60 | 2.37 |
| 44 x 125  | 4.15  | 4.01 | 3.67 | 3.67                              | 3.54 | 3.24 | 3.36                               | 3.24 | 2.96 |
| 44 x 150  | 4.94  | 4.78 | 4.39 | 4.39                              | 4.23 | 3.87 | 4.02                               | 3.87 | 3.54 |
| 50 x 75   | 2.63  | 2.54 | 2.32 | 2.32                              | 2.24 | 2.04 | 2.12                               | 1.96 | 1.86 |
| 50 x 100  | 3.48  | 3.36 | 3.08 | 3.08                              | 2.97 | 2.71 | 2.81                               | 2.71 | 2.47 |
| 50 x 125  | 4.31  | 4.16 | 3.82 | 3.82                              | 3.69 | 3.37 | 3.50                               | 3.37 | 3.08 |
| 50 x 150  | 5.13  | 4.96 | 4.56 | 4.56                              | 4.40 | 4.03 | 4.18                               | 4.03 | 3.68 |

| <b>Table 24: Purlins supporting rafters to which Table 23 relates</b> |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|---|--|------|------|------|------|------|-----------------------------------|------|------|------|------|------|------------------------------------|------|------|------|------|------|
| <b>SS or MSS grade timber</b>   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| Size of purlin (in mm)  | Dead load (in kg/m <sup>2</sup> ) supported by rafter as calculated for the purposes of Table 21 |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | Not more than 50   |      |      |      |      |      | More than 50 but not more than 75 |      |      |      |      |      | More than 75 but not more than 100 |      |      |      |      |      |
|   | Spacing of purlins (in m)  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
|   | 1.50   | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                              | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 | 1.50                               | 1.80 | 2.10 | 2.40 | 2.70 | 3.00 |
| Maximum span of purlin (in m)   |  |      |      |      |      |      |                                   |      |      |      |      |      |                                    |      |      |      |      |      |
| 50 x 100  | 1.65   | 1.55 | 1.48 | 1.41 | 1.33 | 1.26 | 1.46                              | 1.38 | 1.31 | 1.25 | 1.20 | 1.15 | 1.34                               | 1.26 | 1.20 | 1.14 | 1.09 | 0.98 |
| 50 x 125  | 2.06   | 1.94 | 1.84 | 1.76 | 1.66 | 1.58 | 1.82                              | 1.72 | 1.63 | 1.56 | 1.50 | 1.43 | 1.67                               | 1.57 | 1.49 | 1.43 | 1.37 | 1.23 |
| 50 x 150  | 2.46   | 2.32 | 2.21 | 2.11 | 1.99 | 1.89 | 2.19                              | 2.06 | 1.96 | 1.87 | 1.80 | 1.72 | 2.00                               | 1.89 | 1.79 | 1.72 | 1.64 | 1.47 |
| 50 x 175  | 2.87   | 2.71 | 2.57 | 2.46 | 2.32 | 2.20 | 2.55                              | 2.40 | 2.28 | 2.19 | 2.10 | 2.00 | 2.33                               | 2.20 | 2.09 | 2.00 | 1.91 | 1.72 |
| 50 x 200  | 3.27   | 3.09 | 2.94 | 2.81 | 2.65 | 2.52 | 2.91                              | 2.74 | 2.61 | 2.50 | 2.40 | 2.29 | 2.66                               | 2.51 | 2.39 | 2.28 | 2.18 | 1.96 |
| 50 x 225  | 3.68   | 3.47 | 3.30 | 3.16 | 2.98 | 2.83 | 3.27                              | 3.08 | 2.93 | 2.81 | 2.70 | 2.57 | 2.99                               | 2.82 | 2.68 | 2.57 | 2.45 | 2.20 |
| 63 x 150  | 2.65   | 2.50 | 2.38 | 2.28 | 2.20 | 2.12 | 2.36                              | 2.22 | 2.11 | 2.02 | 1.95 | 1.88 | 2.16                               | 2.03 | 1.93 | 1.85 | 1.78 | 1.72 |
| 63 x 175  | 3.09   | 2.92 | 2.77 | 2.66 | 2.56 | 2.47 | 2.74                              | 2.59 | 2.46 | 2.36 | 2.27 | 2.19 | 2.52                               | 2.37 | 2.25 | 2.16 | 2.08 | 2.01 |
| 63 x 200  | 3.52   | 3.33 | 3.17 | 3.03 | 2.92 | 2.82 | 3.13                              | 2.95 | 2.81 | 2.69 | 2.59 | 2.50 | 2.87                               | 2.71 | 2.57 | 2.46 | 2.37 | 2.29 |
| 63 x 225  | 3.95   | 3.73 | 3.56 | 3.41 | 3.28 | 3.17 | 3.52                              | 3.32 | 3.16 | 3.02 | 2.91 | 2.81 | 3.23                               | 3.04 | 2.89 | 2.77 | 2.67 | 2.57 |
| 75 x 175  | 3.26   | 3.08 | 2.93 | 2.81 | 2.71 | 2.62 | 2.90                              | 2.74 | 2.60 | 2.49 | 2.40 | 2.32 | 2.66                               | 2.51 | 2.39 | 2.28 | 2.20 | 2.12 |
| 75 x 200  | 3.72   | 3.51 | 3.35 | 3.21 | 3.09 | 2.99 | 3.31                              | 3.12 | 2.97 | 2.85 | 2.74 | 2.65 | 3.04                               | 2.86 | 2.72 | 2.61 | 2.51 | 2.42 |
| 75 x 225  | 4.17   | 3.94 | 3.76 | 3.60 | 3.47 | 3.35 | 3.72                              | 3.51 | 3.34 | 3.20 | 3.08 | 2.98 | 3.41                               | 3.22 | 3.06 | 2.93 | 2.83 | 2.73 |

| <b>Table 25: Softwood floor boards (tongued and grooved)</b> |                                      |
|--|--------------------------------------|
| Finished thickness of board (in mm)<br>(1)                   | Maximum span of board (in mm)<br>(2) |
| 16   | 505                                  |
| 19   | 600                                  |
| 21   | 635                                  |
| 28   | 790                                  |

**SCHEDULE 7**

Deemed-to-satisfy provisions

Rules D13(b) and D14

Rules for satisfying requirements as to structural stability of certain walls

**PART I: APPLICATION, INTERPRETATION AND RULE FOR MEASUREMENT**

**1. Application**

(1) Subject to the conditions specified in paragraph (2) in respect of the building and in paragraph (3) in respect of the wall, the provisions of this schedule shall apply to—

- (a) any external wall, compartment wall or internal loadbearing wall forming part of the ground storey or an upper storey of a residential building having not more than three storeys;
- (b) any separating wall which is common to two such buildings; and
- (c) any external wall or internal loadbearing wall of a small building or annexe described in rule 14,

being, in each case, a wall of a type more particularly described in Part III of this schedule.

(2) The conditions in respect of the building to which reference is made in paragraph (1) are—

- (a) that the design wind speed ( $V_s$ ) for the building, derived in accordance with rule D2(2)(c) from the basic wind speed ( $V$ ) multiplied by factors  $S_1$ ,  $S_2$  and  $S_3$ , does not exceed 44 m/sec if, for the purposes of determining factor  $S_2$ —
  - (i) Class B building size is assumed; and
  - (ii) allowance is made for the height above ground of the building if it is situated on or near a cliff or escarpment;

- (b) that the imposed load on any floor, ceiling or roof of the building, determined in accordance with the provisions of rule D2, does not exceed—
  - (i) 2.0 kN/m<sup>2</sup> distributed or 1.8 kN concentrated on any floor above the ground storey; or
  - (ii) 0.25 kN/m<sup>2</sup> distributed and 0.9 kN concentrated, or alternatively 720 N/m<sup>2</sup> distributed, on any ceiling; or
  - (iii) 0.75 kN/m<sup>2</sup> distributed or 0.9 kN concentrated on any roof;
- (c) that the building is so designed that—
  - (i) no part of any wall or roof thereof is higher than 15 m above the level of the lowest finished surface of the ground adjoining the building; and
  - (ii) at the level of the finished surface of the ground adjoining the building and at any higher level, the width of the building and the width of any wing thereof which projects more than twice its own width from the remainder of the building are at least one half of the height of the building and one half of the height of the wing respectively, measured in either case from that level to the highest part of any wall or roof thereof;
- (d) that the building is either—
  - (i) wholly bounded, or bounded on all but one of its sides, by walls each of which complies with rule 11, 12, 13 or 14 or with rules 4(1)(a), (b) and (c) and 4(3); or
  - (ii) comprises sub-divisions each of which is so bounded; and
- (e) that the area of each storey within the building or, if the building is subdivided as described, each part of a storey within a sub-division does not exceed—
  - (i) 70 m<sup>2</sup> if the building, or sub-division, is wholly bounded by such walls; or

- (ii) 30 m<sup>2</sup> if the building or sub-division, is bounded by such walls on all but one of its sides.

(3) The conditions in respect of the wall to which reference is made in paragraph (1) are—

- (a) that the wall is constructed of bricks or blocks properly bonded and solidly put together with mortar or, in the case only of a wall of a type to which rule 11 is relevant, of stone, flints, clunches of bricks or other burnt or vitrified material laid otherwise than in horizontal beds or courses and solidly put together with mortar;
- (b) (subject to rule 14(1)(d)) that each end of the wall is bonded or otherwise securely tied to a buttressing wall, pier or chimney;
- (c) that the wall does not exceed 12 m in height or length;
- (d) that the wall in each storey of its height extends the full height or that storey;
- (e) that the wall does not support floor members having a span exceeding 6 m measured between the centres of their bearings or other forms of support given to the members;
- (f) that, if the level of the finished surface of the ground or the surface of the oversite concrete at one side of the wall differs from that at the other side of the wall, the thickness of the wall (being a solid wall or a cavity wall having the cavity filled with fine concrete up to the higher of those levels) or the sum of the thicknesses of the leaves of the wall (being any other cavity wall) is not less than one quarter of that difference, the thickness being measured in either case at the higher level;
- (g) that the wall (except when transmitting wind load) does not sustain or transmit any lateral thrust other than that due to the circumstances described in sub-paragraph (f); and
- (h) that the wall does not transmit a combined dead load and imposed load exceeding 70 kN/m at its base.

## 2. Interpretation

- (1) In this schedule unless the context otherwise requires—



BASE in relation to a wall means the underside of that part of the wall which immediately rests upon the footings or foundations or other structure by which the wall is carried;

BUTTRESSING WALL includes a return wall;

COMPARTMENT WALL means a fire-resisting wall used in the separation of one fire compartment from another;

FLOOR LATERAL SUPPORT has the meaning assigned by paragraph (3);

PIER includes a buttress;

REQUIRED THICKNESS means the thickness required by these Rules;

ROOF LATERAL SUPPORT has the meaning assigned by paragraph (3);

SEPARATING WALL means a wall or part of a wall which is common to two or more adjoining buildings;

SUPPORTED WALL means a wall to which support is afforded by a buttressing wall, pier or chimney or by floor lateral support or roof lateral support as the case may be;

WALL shall be construed in accordance with rule 4(2); and

WIDTH in relation to a building or wing of a building means at any level the least horizontal dimension of the building or wing which can be shown at that level on an elevation of its wall structure from any direction.

(2) Notwithstanding the provisions of rule A4(6)(b)(iv), if a wall or other assembly is to be constructed of bricks or blocks which do not comply with a British Standard but have modular dimensions derived from BS 4011:1966 and a size limit prescribed in this schedule applies to a dimension of that wall or assembly which would be determined by one of the dimensions of a brick or block, that dimension may deviate from the prescribed size limit by an amount not exceeding the deviation from work size permitted by a British Standard which relates to bricks or blocks, as the case may be, of the same material.

(3) For the purposes of this schedule, FLOOR LATERAL SUPPORT and ROOF LATERAL SUPPORT mean support afforded to a wall so as to

restrict movement of that wall in either direction at right angles to its length by a floor or roof as the case may be, which—

- (a) is adequate as a frame or diaphragm to transfer the lateral forces to walls, buttressing walls, piers or chimneys which comply with the relevant rules of this schedule; and
- (b) holds or restrains the supported wall by connections which are specified in the Table to this rule or by other means which are capable of transmitting the lateral forces.

| <b>Table to Rule 2: Specification of connections</b> |                            |   |  |
|--|----------------------------|---|--|
| Description of floor<br>(1)                          | Description of roof<br>(2) | Specification of connections between floor or roof and supported wall<br>(3)  | Circumstances to which reference is made in column (3)<br>(4)  |
| 1. Concrete floor                                    | 1. Concrete roof           | 1. Irrespective of the direction of span of the floor or roof, a bearing onto the supported wall of not less than 90 mm—<br>(a) throughout the length of the wall; or<br>(b) if the circumstances described in column (4) are relevant throughout the length of each, portion of the wall which is situated on either side of the opening | The circumstances to which reference is made in column (3) are as follow—<br>(a) part of the supported wall is adjacent to an opening in a floor or roof for a stairway or other purpose,<br>(b) the opening extends for a distance not exceeding 3 m measured parallel to the wall; and (c) there is no other interruption of the lateral support |
| 2. Concrete or timber floor                          | 2. Concrete or timber roof | 2. Mild steel anchors which have a minimum cross-section of 30 mm x 5 mm and are provided so as to anchor the floor or roof to the supported wall—  |  |

|   |   |  |  |
|---|---|--|--|
|   |   |  | (a) at intervals of not more than 2 m; or<br>(b) if the circumstances described in column (4) are relevant, at such intervals on either side of the opening as will result in the provision of as many anchors as would be provided if there were no opening   |
| 3 Floor which—<br>(a) forms part of a house having not more than two storeys; and<br>(b) has timber members spanning so as to penetrate into the supported wall at intervals of not more than 1.2 m | 3. Roof which—<br>(a) has a pitch of 15° or more;<br>(b) is tiled or slated;<br>(c) is of a type known by local experience to be resistant to damage by wind gusts; and<br>(d) has main timber members spanning onto the supported wall at intervals of not more than 1.2 m | 3. Bearing by each timber member of not less than 90 mm (if bearing is directly on the supported wall) or 75 mm (if bearing is on a timber wall-plate)—<br>(a) throughout the length of the wall; or<br>(b) if the circumstances described in column (4) are relevant, throughout the length of each portion of the wall which is situated on either side of the opening | The circumstances to which reference is made in column (3) are as follows—<br>(a) part of the supported wall is adjacent to an opening in a floor or roof for a stairway or other purpose;<br>(b) the opening extends for a distance not exceeding 3 m measured parallel to the wall; and<br>(c) there is no other interruption of the lateral support |
| 4. Concrete or timber floor   | 4. Concrete or timber roof  | 4. Continuous contact or intermittent contact (that is to say, contact at intervals of not more than 2 m) between each side of the supported wall and a floor or roof, such contact  |  |

being provided on each side—

(a) either—

(i) throughout the length of the wall; or

(ii) if the circumstances described in column (4) are relevant, throughout the length of each portion of the wall which is situated on either side of the opening; and

(b) at or about the same level and (if intermittent contact is provided on both sides of the wall) at or about the same positions on plan

**3. Rule for the measurement of the height of a storey and the height and length of a wall**

(1) For the purposes of this schedule, the height of a storey and the height and length of a wall shall be measured in accordance with this rule.

(2) The height of the ground storey of a building shall be measured from the base of the wall and the height of an upper storey shall be measured from the level of the underside of the floor of that storey in each case to whichever of the following levels is appropriate—

- (a) the level of the underside of the floor next above it; or
- (b) if there is no such floor and the storey does not comprise a gable, the level of the roof lateral support; or
- (c) if there is no such floor and the storey comprises a gable—

- (i) the level midway between the base of the gable and the top of the roof lateral support along the line of the roof slope; or
  - (ii) if, in addition to roof lateral support along the line of the roof slope, there is lateral support at or about the level of the ceiling, the level of that lateral support.
- (3) The height of l wall shall be measured–
- (a) in the case of a wall not comprising a gable, from its base to the highest point excluding any parapet which does not exceed 1.2 m in height; or
  - (b) in the case of a compartment wall or a separating wall comprising a gable, from its base to the base of the gable; or
  - (c) in the case of any other wall comprising a gable, from its base to a level midway between the base of the gable and the top thereof.
- (4) The length of a wall shall be measured from the centre of the buttressing wall, pier or chimney at one end of the wall to the centre of the buttressing wall, pier or chimney at the other end of the wall.

**PART II: DESIGN AND CONSTRUCTION OF WALLS TO WHICH SCHEDULE 7 APPLIES**

**4. Provision of buttressing walls, piers and chimneys**

- (1) Subject to rule 14(1)(d), any wall to which this schedule applies shall be bonded or otherwise securely tied at each end to a buttressing wall, pier or chimney which–
- (a) is so designed and constructed as to afford lateral support to that wall from the base to the top of that wall;
  - (b) is constructed of materials having not less resistance to crushing than that required for the materials of which the supported wall is constructed and is solidly put together with mortar; and
  - (c) notwithstanding paragraphs (4) and (5), is of such a size as will ensure the stability of the supported wall,

(2) If buttressing walls, piers or chimneys complying with the provisions of this rule are bonded or otherwise securely tied to any wall to which this schedule applied intermediately between those provided at the ends of that wall in accordance with paragraph (1)–

- (a) that wall may be regarded as being divided thereby into distinct lengths;
- (b) any such distinct length shall for the purposes of this schedule be deemed to be a wall; and
- (c) any reference in this schedule to a wall to which this schedule applies shall be construed as a reference to any such distinct length.

(3) Any such buttressing wall shall–

- (a) be bonded or otherwise securely tied at on end to the supported wall and at the other end to a buttressing wall, pier or chimney;
- (b) be so designed and constructed that–
  - (i) any opening or recess (other than an opening or recess not exceeding 0.6 m<sup>2</sup> in area) is not nearer to the point of junction with the supported wall than 550 mm; and
  - (ii) the number, size and position of any openings or recesses in the wall are not such as to impair the lateral support afforded to the supported wall;
- (c) measure in length not less than one sixth of the height of the supported wall; and
- (d) if it is not a wall to which rule 11, 12, 13 or 14 applies, measure in thickness not less than the greater of the following dimensions–
  - (i) one half of the thickness prescribed for a wall of the same height and length by rule 11 less 5 mm; or
  - (ii) 75 mm if it forms part of a house and the supported wall does not as a whole exceed 6 m in height and 10 m in length; or

(iii) 90 mm in any other case.

(4) Any such pier may project on one or both sides of the supported wall and shall—

(a) extend from the base of that wall to the roof lateral support or, if there is no such support, to the top of that wall;

(b) have at any level (except in the case of a pier to which rule 14(1)(d) refers)—

(i) a dimension, measured at right angles to the length of that wall and so as to include the thickness of that wall at that level, of not less than three times the required thickness of that wall; and

(ii) a width of not less than 190 mm.

(5) Any such chimney shall have—

(a) a horizontal sectional area (excluding any fireplace opening or flue) of not less than the area required by paragraph (4) for a pier; and

(b) an overall thickness of not less than twice the required thickness of the supported wall.

## 5. Loading

Any load carried by a wall to which this schedule applies shall be properly distributed.

## 6. Openings and recesses

(1) Adequate means of supporting the superstructure shall be provided over every opening and recess in any wall to which this schedule applies.

(2) The number, size and position of openings or recesses in any such wall shall not be such as to impair the stability of the wall or any adjoining wall or any part thereof.

(3) Without prejudice to the requirements of paragraph (2), in any wall to which this schedule applies—

- (a) at each side of every opening or recess there shall be provided a length of wall not less in extent (measured parallel to the length of the wall) than one sixth of the width of the opening or recess;
- (b) any part of the wall between two openings or recesses shall be not less in length than one sixth of the combined width of both openings or recesses; and
- (c) the aggregate width of all openings and recesses formed at any level shall not exceed two thirds of the length of the wall at that level.

**7. Chases**

(1) The number, size or position of chases in any wall to which this schedule applies shall not be such as to impair the stability of the wall or any part of the wall.

(2) Without prejudice to the requirements of paragraph (1)–

- (a) no vertical chase shall be formed in any such wall to a greater depth than one third of the thickness of the wall or, if the wall is a cavity wall, of that leaf of the wall in which the chase is formed; and
- (b) no horizontal chase shall be formed in any such wall to a greater depth than one sixth of the thickness of the wall or, if the wall is a cavity wall, of that leaf of the wall in which the chase is formed.

**8. Overhanging**

The extent to which any part of a wall to which this schedule applies overhangs a part below it shall not be such as to impair the stability of the wall or any part of the wall.

**9. Bricks and blocks**

(1) Bricks or blocks used in any wall to which this schedule applies (other than a wall constructed of materials to which reference is made in rule 11(3)(b)) shall–

- (a) be composed of–



- (i) burnt clay, siliceous sand and lime, crushed siliceous rock and lime, or concrete (including aerated concrete or concrete made with lightweight aggregate); or
- (ii) square-dressed natural stone laid on natural bed;
- (b) have an aggregate volume of solid material not less than 50% of the total volume of the brick or block calculated from its overall dimensions; and
- (c) have a resistance to crushing (expressed in newtons per square millimetre of gross horizontal area) of not less than 5 N/mm<sup>2</sup>, being bricks, or 2.8 N/mm<sup>2</sup>, being blocks, if—
  - (i) the bricks or blocks are used for the construction of a wall of a residential building having one or two storeys or for the construction of any part of a wall, except the outer leaf of an external cavity wall, which is situated in the upper-most two storeys of a residential building having three storeys; and
  - (ii) the height of each storey in which the wall or part is situated (less, in the case of a ground storey, the vertical distance between the base of the wall and the upper surface of the ground floor) does not exceed 2.7 m; or
- (d) have a resistance to crushing of not less than 7 N/mm<sup>2</sup> in any other circumstances.

(2) For the purposes of this rule, aerated concrete and concrete made with lightweight aggregate shall be deemed to be solid material.

## 10. Mortar

Mortar used in any wall to which this schedule applies shall—

- (a) cement-lime mortar composed of Portland cement (either ordinary, rapid-hardening or blast furnace), calcium lime (either non-hydraulic or semi-hydraulic) and fine aggregate in the proportion (measured by volume of the materials when dry) of one part of cement, one part of lime and not more than six parts of fine aggregate; or
- (b) any other type of mortar of equivalent strength or greater strength if appropriate.

**PART III: THICKNESS OF WALLS TO WHICH SCHEDULE 7  
APPLIES**

**11. Thickness of certain, external walls, compartment walls and  
separating walls**

(1) Subject to paragraph (2), this rule shall apply to any external wall, compartment wall or separating wall which—

- (a) is constructed as a solid wall of materials to which paragraph (3) refers; and
- (b) is provided, irrespective of its length, with roof lateral support by every roof which forms a junction with it and, if its length exceeds 3 m, with floor lateral support by every floor which forms a junction with it.

(2) This rule shall not apply to—

- (a) any parapet to such a wall; or
- (b) any part of an external wall which is constructed as a bay for, or as a gable over, a bay window and is situated above the level of the sill of the lowest window opening in that bay.

(3) The thickness of any such wall—

- (a) if constructed of bricks or blocks, shall (subject to rule 14) be—
  - (i) not less than the thickness specified in column (3) of the Table to this rule according to its height and length; and
  - (ii) in any storey, not less than one sixteenth part of the height of that storey; or
- (b) if constructed of stone, flints, clunches of bricks or other burnt or vitrified material, shall be not less than one and one third times the thickness required by this paragraph for a wall constructed of bricks or blocks; and
- (c) irrespective of the materials of which it is constructed, shall in any part, be not less than the thickness of any other part of the wall which that part supports.

**Table to Rule 11: Minimum thickness of certain external walls, compartment walls and separating walls**

| Height of wall<br>(1)                 | length of wall<br>(2)                | Minimum thickness of wall<br>(3)  |
|---------------------------------------|--------------------------------------|---|
| Not exceeding 3.5 m                   | Not exceeding 12 m                   | 190 mm for the whole of its height  |
| Exceeding 3.5 m but not exceeding 9 m | Not exceeding 9 m                    | 190 mm for the whole of its height  |
|                                       | Exceeding 9 m but not exceeding 12 m | 290 mm from the base for the height of one storey, and 190 mm for the rest of its height  |
| Exceeding 9 m but not exceeding 12 m  | Not exceeding 9 m                    | 290 mm from the base for the height of one storey, and 190 mm for the rest of its height  |
|                                       | Exceeding 9 m but not exceeding 12 m | 290 mm from the base for the height of two storeys, and 190 mm for the rest of its height |

**12. Thickness of certain cavity walls**

(1) This rule shall apply to any external wall, compartment wall or separating wall which is constructed as a cavity wall of two leaves, each leaf being constructed of bricks or blocks, and complies with the following conditions—

- (a) the wall is provided, irrespective of its length, with roof lateral support by every roof which forms a junction with it and, if its length exceeds 3 m, with floor lateral support by every floor which forms a junction with it;
- (b) the leaves are each not less than 90 mm in thickness at any level and are securely tied together by ties complying with BS 1243:1972 or other not less suitable ties, the ties being placed at distances apart not exceeding 900 mm measured horizontally and 450 mm measured vertically; and, in addition, there is provided as near as practicable to any opening a tie to every 300 mm of height if the leaves are not connected by a bonded jamb;
- (c) the width of the cavity at any level is neither less than 50 mm nor more than—
  - (i) 100 mm if vertical-twist type ties are used and are placed at distances apart not exceeding 750 mm measured horizontally and 450 mm measured vertically; or
  - (ii) 75 mm in any other case; and

- (d) if the height of courses does not permit the spacing of cavity ties in accordance with sub-paragraph (b) or (c), the spacing is varied but the number of ties per unit area is maintained.

(2) The sum of the thickness of the two leaves of any such wall and 10 mm shall not be less than the thickness which would be required by rule 11 for a solid wall of the same height and length,

### **13. Thickness of certain Internal loadbearing walls**

(1) This rule shall apply to any internal loadbearing wall (not being a compartment wall or a separating wall) which—

- (a) is constructed as a solid wall of bricks or blocks; and
- (b) has floor or roof lateral support at the top of each storey.

(2) The thickness of any such wall shall comply with the following provisions—

- (a) if the wall is situated otherwise than as described in sub-paragraph (b), the sum of the thickness of that wall and 5 mm shall not be less than half the thickness which would be required by rule 11 for an external wall, compartment wall or separating wall of the same height and length; or
- (b) if the wall is situated in the lowest storey of a building having three storeys and carries load from the floors of both upper storeys, the thickness of that wall shall not be less than the thickness required by sub-paragraph (a) or 140 mm whichever is the greater.

### **14. Thickness of external walls of certain small buildings and annexes**

(1) This rule shall apply to any external wall which—

- (a) forms part of—
  - (i) a building having one storey other than a residential building if the width of that building (measured in the direction of the span of the roof) does not exceed 9 m and the height of its walls does not exceed 3 m; or

- (ii) an annexe (which expression includes a porch, verandah, loggia, conservatory, greenhouse, garage, tool shed, fuel store, watercloset, lavatory, wash-house or outbuilding) if such annexe does not exceed 3 m in height and forms part of or is attached to a residential building, whether or not it opens directly into that building;
- (b) is constructed as a solid wall of bricks or blocks;
- (c) is not subjected to any load other than wind load and the distributed load of the roof of the building or annexe of which it forms part; and
- (d) (unless it is a wall of less than 2.5 m height and length) is bonded at each end and intermediately to buttressing walls or piers which—
  - (i) are so placed that the wall is divided into distinct lengths each of which does not exceed 3 m; and
  - (ii) are of such size as will ensure the stability of the supported wall and, in the case of piers, are each not less than 190 mm square in horizontal section including the thickness of the wall.

(2) Notwithstanding rule 11(3)(a), the thickness of any such external wall shall not be less than 90 mm.

### 15. Thickness of parapets

The thickness of any parapet to a wall to which this schedule applies shall not be less than the greater of the following dimensions—

- (a) one quarter of its height; and
- (b) if the parapet is of solid construction, the thickness of the wall on which it is carried or 190 mm whichever is the less; or
- (c) if the parapet is of cavity construction, the thickness of the wall on which it is carried or the least thickness required by rule 12 whichever is the less.

| <b>SCHEDULE 8</b>  |   | <b>Deemed-to-satisfy provisions</b> |       |      |      |                 |       |       |        |        |
|--|---|-------------------------------------|-------|------|------|-----------------|-------|-------|--------|--------|
| Notional periods of fire resistance  |   |                                     |       |      |      |                 |       |       |        |        |
| In the following Table–  |   |                                     |       |      |      |                 |       |       |        |        |
| <p>(a) CLASS 1 AGGREGATE means foamed slag, pumice, blast-furnace slag, pelleted fly ash, crushed brick and burnt clay products (including expanded clay), well-burnt clinker and crushed limestone; and<br/>CLASS 2 AGGREGATE means flint gravel, granite and all crushed natural stones other than limestone;</p> <p>(b) any reference to plaster means–</p> <p style="padding-left: 40px;">(i) in the case of an external wall 1 m or more from the relevant boundary, plaster applied on the internal face only; or</p> <p style="padding-left: 40px;">(ii) in the case of any other wall, plaster applied on both faces; or</p> <p style="padding-left: 40px;">(iii) if to plaster of a given thickness on the external face of a wall, except in the case of a reference to vermiculite-gypsum or perlite-gypsum plaster, rendering on the external face of the same thickness; or</p> <p style="padding-left: 40px;">(iv) if to vermiculite-gypsum plaster, vermiculite-gypsum plaster of a mix within the range of 1½ to 2:1 by volume; and</p> <p>(c) in the case of a cavity wall, the load is assumed to be on the inner leaf only except for fire resistance period of four hours.</p> |   |                                     |       |      |      |                 |       |       |        |        |
| <b>Part I: Walls</b>   |   |                                     |       |      |      |                 |       |       |        |        |
| <b>A Masonry construction</b>  |   |                                     |       |      |      |                 |       |       |        |        |
| Construction and materials   | Minimum thickness excluding plaster (in mm) for period of fire resistance of– |                                     |       |      |      |                 |       |       |        |        |
|  | Loadbearing   |                                     |       |      |      | Non-loadbearing |       |       |        |        |
|  | 4   | 2                                   | 1½    | 1    | ½    | 4               | 2     | 1½    | 1 hour | ½ hour |
|  | hours   | hours                               | hours | hour | hour | hours           | hours | hours | hour   | hour   |
| 1. Reinforced concrete, minimum concrete cover to main reinforcement of 25 mm:   |   |                                     |       |      |      |                 |       |       |        |        |
| (a) unplastered  | 180   | 100                                 | 100   | 75   | 75   |                 |       |       |        |        |
| (b) 12.5 mm cement-sandplaster   | 180   | 100                                 | 100   | 75   | 75   |                 |       |       |        |        |
| (c) 12.5 mm gypsum-sand plaster  | 180   | 100                                 | 100   | 75   | 75   |                 |       |       |        |        |
| (d) 12.5 mm vermiculite-gypsum plaster   | 125   | 75                                  | 75    | 63   | 63   |                 |       |       |        |        |
| 2. No-fines concrete of Class  |   |                                     |       |      |      |                 |       |       |        |        |

|  |     |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2 aggregate:   |     |     |     |     |     |     |     |     |     |     |
| (a) 12.5 mm cement-sand plaster  |     |     |     |     |     |     |     |     |     | 150 |
| (b) 12.5 mm gypsum-sand plaster  |     |     |     |     |     |     |     |     |     | 150 |
| (c) 12.5 mm vermiculite-gypsum plaster                                       |     |     |     |     |     |     |     |     |     | 150 |
| 3. Bricks of clay, concrete or sand-lime:                                    |     |     |     |     |     |     |     |     |     |     |
| (a) unplastered  | 200 | 100 | 100 | 100 | 100 | 170 | 100 | 100 | 75  | 75  |
| (b) 12.5 mm cement-sand plaster  | 200 | 100 | 100 | 100 | 100 | 170 | 100 | 100 | 75  | 75  |
| (c) 12.5 mm gypsum-sand plaster  | 200 | 100 | 100 | 100 | 100 | 170 | 100 | 100 | 75  | 75  |
| (d) 12.5 mm perlite-gypsum plaster (to clay bricks only)                     | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 75  | 75  |
| (e) 12.5 mm vermiculite-gypsum plaster                                       | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 75  | 75  |
| 4. Concrete blocks of Class 1 aggregate:                                     |     |     |     |     |     |     |     |     |     |     |
| (a) unplastered  | 150 | 100 | 100 | 100 | 100 | 150 | 75  | 75  | 75  | 50  |
| (b) 12.5 mm cement-sand plaster  | 150 | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 50  |
| (c) 12.5 mm gypsum-sand plaster  | 150 | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 50  |
| (d) 12.5 mm vermiculite-gypsum plaster                                       | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 62  | 50  | 50  |
| 5. Concrete blocks of Class 2 aggregate:                                     |     |     |     |     |     |     |     |     |     |     |
| (a) unplastered  |     | 100 | 100 | 100 | 100 | 150 | 100 | 100 | 75  | 50  |
| (b) 12.5 mm cement-sand plaster  |     | 100 | 100 | 100 | 100 | 150 | 100 | 100 | 75  | 50  |
| (c) 12.5 mm gypsum-sand plaster  |     | 100 | 100 | 100 | 100 | 150 | 100 | 100 | 75  | 50  |
| (d) 12.5 mm vermiculite-gypsum plaster                                       | 100 | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 50  |
| 6. Autoclaved aerated concrete blocks, density 47-1200 kg/m <sup>3</sup>     | 180 | 100 | 100 | 100 | 100 | 100 | 62  | 62  | 50  | 50  |
| 7. Hollow concrete blocks, one cell in wall thickness, of Class 1 aggregate: |     |     |     |     |     |     |     |     |     |     |
| (a) unplastered  |     | 100 | 100 | 100 | 100 | 150 | 100 | 100 | 100 | 75  |
| (b) 12.5mm cement-sand plaster   |     | 100 | 100 | 100 | 100 | 150 | 100 | 75  | 75  | 73  |
| (c) 12.5 mm gypsum-sand plaster  |     | 100 | 100 | 100 | 100 | 150 | 100 | 75  | 75  | 75  |
| (d) 12.5 mm vermiculite-gypsum plaster                                       |     | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 62  | 62  |
| 8. Hollow concrete blocks, one cell in wall thickness, of class 2 aggregate: |     |     |     |     |     |     |     |     |     |     |
| (a) unplastered  |     |     |     |     |     | 150 | 150 | 125 | 125 | 125 |
| (b) 12.5 mm cement-sand plaster  |     |     |     |     |     | 150 | 150 | 125 | 125 | 100 |
| (c) 12.5 mm gypsum-sand plaster  |     |     |     |     |     | 150 | 150 | 125 | 125 | 100 |
| (d) 12.5 mm vermiculite-gypsum plaster                                       |     |     |     |     |     | 125 | 100 | 100 | 100 | 75  |
| 9. Cellular clay blocks not  |     |     |     |     |     |     |     |     |     |     |

|   |     |     |     |     |     |     |     |     |     |    |  |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|--|
| less than 50% solid:  |     |     |     |     |     |     |     |     |     |    |  |
| (a) 12.5 mm cement-sand plaster   |     |     |     |     |     |     |     |     | 100 | 75 |  |
| (b) 12.5 mm gypsum-sand plaster   |     |     |     |     |     |     |     |     | 100 | 75 |  |
| (c) 12.5 mm vermiculite-gypsum plaster  |     |     |     |     |     | 200 | 100 | 100 | 100 | 62 |  |
| 10. Cavity wall with outer leaf of bricks or blocks of clay, composition, concrete or sand-lime, not less than 100 mm thick and–                            |     |     |     |     |     |     |     |     |     |    |  |
| (a) Inner leaf of bricks or blocks of clay:composition, concrete or sand-lime   | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 75  | 75 |  |
| (b) inner leaf of solid or hollow concrete bricks or blocks of class 1 aggregate  | 100 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 75  | 75 |  |
| 11. Cavity wall with outer leaf of cellular clay blocks as 9 above and inner leaf of autoclaved aerated concrete blocks, density 475-1200 kg/m <sup>3</sup> | 150 | 100 | 100 | 100 | 100 | 75  | 75  | 75  | 75  | 75 |  |
|   |     |     |     |     |     |     |     |     |     |    |  |

**Part I: Walls – continued****B. Framed and composite construction (non-loadbearing)**

| Construction and materials   | Period of fire resistance (in hours) |
|--|--------------------------------------|
| 1. Steel frame with external cladding of 16 mm rendering on metal lathing and internal lining of autoclaved aerated concrete blocks, density 480-1120 kg/m <sup>3</sup> , of thickness of– |                                      |
| 50 mm  | 2                                    |
| 62 mm  | 3                                    |
| 75 mm  | 4                                    |
| 2. Steel frame with external cladding of 100 mm concrete blocks and internal lining of 16 mm gypsum plaster on metal lathing   | 4                                    |
| 3. Steel frame with external cladding of bricks of clay, concrete or sand-lime 100 mm thick and internal lining of asbestos insulating board of thickness of 9 mm                          | 3                                    |
| 4. Steel frame with external cladding of 16 mm rendering on metal lathing and internal lining of–  |                                      |
| 9 mm asbestos insulating board   | 1/2                                  |
| 16 mm gypsum plaster on metal lathing  | 1                                    |
| 5. Steel or timber frame with facings on each side of–   |                                      |
| (a) metal lathing with cement-sand or gypsum plaster of thickness of–  |                                      |
| 19 mm  | 1                                    |
| 12.5 mm  | 1/2                                  |
| (b) metal lathing with vermiculite-gypsum or perlite-gypsum plaster of   |                                      |



## BUILDING RULES 2017

This version is out of date

Subsidiary  
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|  |    |
|--|----|
| thickness of–  |    |
| 25mm   | 2  |
| 19 mm  | 1½ |
| 12.5 mm  | 1  |
| (c) 9.5 mm plasterboard with gypsum plaster of thickness of 5 mm   | ½  |
| (d) 9.5 mm plasterboard with vermiculite-gypsum plaster of thickness of–                                   |    |
| 25 mm  | 2  |
| 16 mm  | 1½ |
| 10 mm  | 1  |
| 5 mm   | ½  |
| (e) 12.5 mm plasterboard–  |    |
| unplastered  | ½  |
| with gypsum plaster of thick ness of 12.5 mm   | 1  |
| (f) 12.5 mm plasterboard with vermiculite-gypsum plaster of thickness of–                                  |    |
| 25 mm  | 2  |
| 16 mm  | 1½ |
| 10 mm  | 1  |
| (g) 19 mm plasterboard (or two layers of 9.5 mm fixed to break joint) without finish                       | 1  |
| (h) 19 mm plasterboard (or two layers of 9.5 mm) with vermiculite-gypsum plaster of thickness of–          |    |
| 16 mm  | 2  |
| 10 mm  | 1½ |
| (j) 12.5 mm fibre insulating board with gypsum plaster of thickness of 12.5 mm                             | ½  |
| (k) asbestos insulating board not less than 9 mm thick with 9 mm fillets to face of studs                  | ½  |
| (l) asbestos insulating board not less than 12 mm thick  | ½  |
| (m) 25 mm wood wool slabs with gypsum plaster of thickness of 12.5 mm                                      | 1  |
| 6. Compressed straw slabs in timber frames finished on both faces with gypsum plaster of thickness of 5 mm | 1  |
| 7. Plasterboard 9.5 mm cellular core partition–  |    |
| (a) unplastered  | ½  |
| (b) 12.5 mm gypsum plaster   | ½  |
| (c) 22 mm vermiculite-gypsum plaster   | 2  |
| 8. Plasterboard 12.5 mm cellular core partition–   |    |
| (a) unplastered  | ½  |
| (b) 12.5 mm gypsum plaster   | 1  |
| (c) 16 mm vermiculite-gypsum plaster   | 2  |
| 9. Plasterboard 19 mm finished on both faces with 16 mm gypsum plaster                                     | 1  |
| 10. Plasterboard 12.5 mm bonded with neat gypsum plaster to each side of 19 mm plasterboard                | 1½ |
| 11. Three layers of 19 mm plasterboard bonded with neat gypsum plaster                                     | 2  |
| 12. Wood wool slab with 12.5 mm rendering or plaster of thickness of–                                      |    |
| 75 mm  | 2  |
| 50 mm  | 1  |
| 13. Compressed straw slabs, with 75 mm by 12.5 mm wood cover strips to joints, of thickness of 50 mm       | ½  |

## Part I: Walls – continued

| <b>C. External walls (non-loadbearing) more than 1 m from the relevant boundary</b>                                      |                                      |
|--|--------------------------------------|
| Construction and materials   | Period of fire resistance (in hours) |
| 1. Steel frame with external cladding of noncombustible sheets and internal lining of–                                   |                                      |
| (a) 9 mm asbestos insulating board   | 4                                    |
| (b) 12.5 mm cement-sand or gypsum plaster on metal lathing   | 4                                    |
| (c) sprayed asbestos of thickness of 12.5 mm   | 4                                    |
| (d) two layers of 9.5 mm plasterboard  | 1/2                                  |
| (e) 9.5 mm plasterboard finished with gypsum plaster of thickness of 12.5 mm   | 1/2                                  |
| (f) 12.5 mm plasterboard finished with 5 mm gypsum plaster   | 1/2                                  |
| (g) 50 mm compressed straw slabs   | 1/2                                  |
| (h) 50 mm compressed straw slabs finished with 5 mm gypsum plaster   | 1                                    |
| 2.† Timber frame with external cladding of 10 mm cement-sand or cement-lime rendering and internal lining of–            |                                      |
| (a) 9 mm asbestos insulating board   | 1                                    |
| (b) 16 mm gypsum plaster on metal lathing  | 1                                    |
| (c) 9.5 mm plasterboard finished with 12.5 mm gypsum plaster   | 1                                    |
| (d) 12.5 mm plasterboard finished with 5 mm gypsum plaster   | 1                                    |
| (e) 50 mm compressed straw slabs   | 1                                    |
| (f) aerated concrete block–  |                                      |
| 50 mm  | 3                                    |
| 62 mm  | 4                                    |
| 75 mm  | 4                                    |
| 10 mm  | 4                                    |
| 3. Timber frame with external cladding of 100 mm clay, concrete or sand-lime bricks or blocks, finished internally with– |                                      |
| (a) asbestos insulating board  | 4                                    |
| (b) 16 mm gypsum plaster on metal lathing  | 4                                    |
| 4.† Timber frame with external cladding of weather boarding or 9.5 mm plywood and internal lining of–                    |                                      |
| (a) 9 mm asbestos insulating board   | 1/2                                  |
| (b) 16 mm gypsum plaster on metal lathing  | 1/2                                  |
| (c) 9.5 mm plasterboard finished with 12.5 mm gypsum plaster   | 1/2                                  |
| (d) 12.5 mm plasterboard finished with 5 mm gypsum plaster   | 1/2                                  |
| (e) 50 mm compressed straw slabs   | 1/2                                  |
| (f) 75 mm wood wool slabs faced each side with asbestos-cement   | 2                                    |
| (g) aerated concrete block–  |                                      |
| 50 mm  | 3                                    |
| 62 mm  | 4                                    |
| 75 mm  | 4                                    |
| 100mm  | 4                                    |

† The presence of a combustible vapour barrier within the thickness of these constructions shall not be regarded as affecting these periods of fire resistance.

| <b>Part U: Reinforced concrete columns</b>  |  |         |          |        |        |
|---|--|---------|----------|--------|--------|
| Construction and materials  | Minimum dimension (in mm) of concrete column* above, excluding finish, for a fire resistance of— |         |          |        |        |
|   | 4 hours  | 2 hours | 1½ hours | 1 hour | ½ hour |
| 1. (a) without plaster  | 450  | 300     | 250      | 200    | 150    |
| (b) with 12.5 mm cement-sand or gypsum-sand plaster on mesh reinforcement fixed around column   | 300  | 225     | 150      | 150    | 150    |
| (c) finished with 12.5 mm encasement of vermiculite-gypsum plaster  | 275  | 200     | 150      | 120    | 120    |
| (d) with 2.5 mm hard drawn steel wire fabric, of maximum pitch 150 mm in each direction, placed in concrete cover to main reinforcement | 300  | 225     | 200      | 150    | 150    |
| (e) with limestone or light-weight aggregate as coarse aggregate  | 300  | 225     | 200      | 200    | 150    |
| 2. Built into any separating wall†, compartment wall or external wall‡:—  |  |         |          |        |        |
| (a) without plaster   | 180  | 100     | 100      | 75     | 75     |
| (b) finished with 12.5 mm of vermiculite-gypsum plaster   | 125  | 75      | 75       | 63     | 63     |

\* The minimum dimension of a circular column is the diameter.

† No part of column projecting beyond either face of wall.

‡ Having not less fire resistance than that of the column and extending to the full height of, and not less than 600 mm on each side of, the column.

| <b>Part III: Reinforced concrete beams</b>  |   |         |          |        |        |
|---|---|---------|----------|--------|--------|
| Construction and materials  | Minimum concrete cover (in mm), excluding finish, to main reinforcement for a fire resistance of— |         |          |        |        |
|   | 4 hours   | 2 hours | 1½ hours | 1 hour | ½ hour |
| (a) without plaster   | 63  | 45      | 35       | 25     | 12.5   |
| (b) finished with 12.5 mm vermiculite-gypsum plaster  | 25  | 12.5    | 12.5     | 12.5   | 12.5   |
| (c) with 12.5 mm cement-sand or gypsum-sand plaster on mesh reinforcement fixed around beam | 50  | 30      | 20       | 12.5   | 12.5   |

| <b>Part IV: Prestressed concrete beams with post-tensioned steel</b> |                       |                           |
|--|-----------------------|---------------------------|
| Cover reinforcement  | Additional protection | Minimum concrete cover to |
|  |                       |                           |

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|   |  | tendons (in mm) for a fire resistance of– |         |          |        |
|---|--|---|---------|----------|--------|
|   |  | 4 hours                                   | 2 hours | 1½ hours | 1 hour |
| None  | (a) none   |   |         |          | 38     |
|   | (b) vermiculite concrete slabs (permanent shuttering) 12.5 mm thick          |   | 38      | 25       | 25     |
|   | (c) plaster 12.5 mm thick on mesh reinforcement fixed around beam            |   | 50      | 38       | 25     |
|   | (d) vermiculite-gypsum plaster 12.5 mm thick or sprayed asbestos 10 mm thick |   | 38      | 25       | 25     |
| Light mesh reinforcement (having a minimum concrete cover of 25 mm) to retain the concrete in position around the tendons | (a) none   | 100                                       | 63      | 63       |        |
|   | (b) plaster 12.5 mm thick on mesh reinforcement                              | 90  |         |          |        |
|   | (c) vermiculite concrete slabs (permanent shuttering) 12.5 mm thick          | 75  |         |          |        |
|   | (d) vermiculite concrete slabs (permanent shuttering) 25 mm thick            | 50  |         |          |        |
|   | (e) vermiculite-gypsum plaster 12.5 mm thick                                 | 75  |         |          |        |
|   | (f) vermiculite-gypsum plaster 22 mm thick                                   | 50  |         |          |        |
|   | (g) sprayed asbestos 10 mm thick   | 75  |         |          |        |
|   | (h) sprayed asbestos 19 mm thick   | 50  |         |          |        |

**Part V: Structural steel****A. Encased steel stanchions (mass per metre not less than 45 kg)**

(Note: In the following table, figures in brackets are applicable only in relation to universal columns of serial size 203 x 203 (8 x 8) as designated in BS 4: Part 1:1972)

| Construction and materials | Minimum thickness (in mm) of protection for a fire resistance of– |
|----------------------------|---|
|----------------------------|---|

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|  | 4<br>hours | 2<br>hours | 1½<br>hours | 1<br>hour | ½<br>hours |
|--|------------|------------|-------------|-----------|------------|
| <b>(A) Solid protection* (unplastered)</b>   |            |            |             |           |            |
| 1. Concrete not leaner than 1:2:4 mix with natural aggregates–   |            |            |             |           |            |
| (a) concrete not assumed to be loadbearing, reinforced †   | 50         | 25         | 25          | 25        | 25         |
| (b) concrete assumed to be loadbearing, reinforced in accordance with BS449: Part 2:1969¶                                      | 75         | 50         | 50          | 50        | 50         |
| 2. Solid bricks of clay, composition or sand-lime  | 75         | 50         | 50          | 50        | 50         |
| 3. Solid blocks of foamed slag or pumice concrete reinforced in every horizontal joint   | 62         | 50         | 50          | 50        | 50         |
| 4. Sprayed asbestos of density 140-240 kg/m³   | (70)       | (30)       | (25)        | (20)      | (10)       |
| 5. Sprayed vermiculite-cement  |            | 38         | 32          | 19        | 12.5       |
| <b>(B) Hollow protection‡</b>  |            |            |             |           |            |
| 1. Solid bricks of clay, composition or sand-lime reinforced in every horizontal joint, unplastered                            | 115        | 50         | 50          | 50        | 50         |
| 2. Solid blocks of foamed slag or pumice concrete reinforced § in every horizontal joint, unplastered                          | 75         | 50         | 50          | 50        | 50         |
| 3. Metal lathing with gypsum or cement-lime plaster of thickness of  |            | 38§        | 25          | 19        | 12.5       |
| 4.(a) Metal lathing with vermiculite-gypsum or perlite-gypsum plaster of thickness of  | 50§        | 19         | 16          | 12.5      | 12.5       |
| (b) Metal lathing spaced 25 mm from flanges with vermiculite-gypsum or perlite-gypsum plaster of thickness of                  | 44         | 19         | 12.5        | 12.5      | 12.5       |
| 5. Gypsum plasterboard with 1.6 mm wire binding at 100 mm pitch–   |            |            |             |           |            |
| (a) 9.5 mm plasterboard with gypsum plaster of thickness of  |            |            |             | 12.5      | 12.5       |
| (b) 19 mm plasterboard with gypsum plaster of thickness of   |            | 12.5       | 10          | 7         | 7          |
| 6. Gypsum plasterboard with 1.6 mm wire binding at 100 mm pitch–   |            |            |             |           |            |
| (a) 9.5 mm plasterboard with vermiculite-gypsum plaster of thickness of  |            | 16         | 12.5        | 10        | 7          |
| (b) 19 mm plasterboard with vermiculite-gypsum plaster of thickness of   | 32§        | 10         | 10          | 7         | 7          |
| 7. Metal lathing with sprayed asbestos of thickness of   | (70)       | (30)       | (25)        | (20)      | (10)       |
| 8. Vermiculite-cement slabs of 4:1 mix reinforced with wire mesh and finished with plaster skim. Slabs of thickness of         | 63         | 25         | 25          | 25        | 25         |
| 9. Asbestos insulating boards of density 510-880 kg/m³ (screwed to 25 mm thick asbestos battens for ½ hour and 1 hour periods) |            | 25         | 19          | 12        | 9          |

| <b>B Encased steel beams (mass per metre not less than 30 kg)</b>   |      |      |      |      |      |
|---|------|------|------|------|------|
| (Note: In the following table, figures in brackets are applicable only in relation to universal beams of serial size 254 x 146 (10 x 5 <sup>3/4</sup> ) as designated in BS 4: Part 1:1972) |      |      |      |      |      |
| <b>(A) Solid protection* (unplastered)</b>  |      |      |      |      |      |
| 1. Concrete not leaner than 1:2:4 mix with natural aggregates–  |      |      |      |      |      |
| (a) concrete not assumed to be loadbearing, reinforced†   | 63   | 25   | 25   | 25   | 25   |
| (b) concrete assumed to be loadbearing, reinforced in accordance with BS 449: Part 2:1969¶  | 75   | 50   | 50   | 50   | 50   |
| 2. Sprayed asbestos of density 140-240 kg/m <sup>3</sup>  | (70) | (30) | (25) | (20) | (10) |
| 3. Sprayed vermiculite-cement   |      | 38   | 32   | 19   | 12.5 |
| <b>(B) Hollow protection‡</b>   |      |      |      |      |      |
| 1. Metal lathing–   |      |      |      |      |      |
| (a) with cement–lime plaster of thickness of  |      | 38   | 25   | 19   | 12.5 |
| (b) with gypsum plaster of thickness of   |      |      | 22   | 19   | 16   |
| (c) with vermiculite-gypsum or perlite-gypsum plaster of thickness of   | 32   | 12.5 | 12.5 | 12.5 | 12.5 |
| 2. Gypsum plasterboard with 1.6 mm wire binding at 100 mm pitch–  |      |      |      |      |      |
| (a) 9.5 mm plasterboard with gypsum plaster of thickness of   |      |      |      | 12.5 | 12.5 |
| (b) 19 mm plasterboard with gypsum plaster of thickness of  |      | 12.5 | 10   | 7    | 7    |
| 3. Plasterboard with 1.6 mm wire binding at 100 mm pitch–   |      |      |      |      |      |
| (a) 9.5 mm plasterboard nailed to wooden cradles finished with gypsum plaster of thickness of   |      |      |      |      | 12.5 |
| (b) 9.5 mm plasterboard with vermiculite-gypsum plaster of thickness of   |      | 16   | 12.5 | 10   | 7    |
| (c) 19 mm plasterboard with vermiculite-gypsum plaster of thickness of  | 32§  | 10   | 10   | 7    | 7    |
| (d) 19 mm plasterboard with gypsum plaster of thickness of  |      |      |      | 12.5 |      |
| 4. Metal lathing with sprayed asbestos of density 140-240 kg/m <sup>3</sup> and of thickness of   | (70) | (30) | (25) | (20) | (10) |
| 5. Asbestos insulating boards of density 510-880 kg/m <sup>3</sup> (screwed to 25 mm thick asbestos battens for. ½ hour and 1 hour periods)   |      | 25   | 19   | 12   | 9    |
| 6. Vermiculite-cement slabs of 4:1 mix reinforced with wire mesh and finished with plaster skim: slabs of thickness of  | 63   | 25   | 25   | 25   | 25   |
| 7. Gypsum-sand plaster 12.5 mm thick applied to heavy duty (Type B as designated in BS 1105:1972) wood wool slabs of thickness of   |      | 50   | 38   | 38   | 38   |

Notes to all sections of Part V.

\* **SOLID PROTECTION** means a casing which is bedded close to the steel without intervening cavities and with all joints in that casing made full and solid.

† Reinforcement shall consist of steel binding wire not less than 2.3 mm in thickness, or a steel mesh weighing not less than 0.48 kg/m<sup>2</sup>. In concrete protection, the spacing of that reinforcement shall not exceed 150 mm in any direction.

‡ **HOLLOW PROTECTION** means that there is a void between the protective material and the steel. All hollow protection to columns shall be effectively sealed at each floor level.

§ Light mesh reinforcement required 12.5 mm to 19 mm below surface unless special corner heads are used.

¶ As read with Addendum No.1 (April 1975) to BS 449: Part 2:1969 and Supplement No.1 (PD 3343) to BS 449: Part 1:1970.

| <b>Part VI: Structural aluminium</b>   |   |         |          |        |        |
|--|---|---------|----------|--------|--------|
| <b>Encased aluminium alloy stanchions and beams (mass per metre not less than 16kg)</b>  |   |         |          |        |        |
| Construction and materials   | Minimum thickness (in mm) of protection for a fire resistance of— |         |          |        |        |
|  | 4 hours   | 2 hours | 1½ hours | 1 hour | ½ hour |
| <b>(A) Solid protection*</b>   |   |         |          |        |        |
| 1. Sprayed vermiculite-cement  |   |         |          | 44     | 19     |
| <b>(B) Hollow protection‡</b>  |   |         |          |        |        |
| 1. Metal lathing with vermiculite-gypsum or perlite-gypsum plaster of thickness of   |   | 32      | 22       | 16     | 12.5   |
| 2. Metal lathing finished with neat gypsum plaster of thickness of   |   |         |          | 19     | 12.5   |
| 3. Gypsum plasterboard 19 mm thick with 1.6 mm wire binding at 100 mm pitch finished with gypsum-vermiculite plaster of thickness of |   | 22      | 16       | 10     | 10     |
| 4. Asbestos insulating board of density 510-880 kg/m <sup>3</sup> (screwed to 25 mm thick asbestos battens for the ½ hour period)    |   |         | 34       | 21     | 9      |

\* SOLID PROTECTION means a casing which is bedded close to the alloy without intervening cavities and with all joints in that casing made full and solid.

‡ HOLLOW PROTECTION means that there is a void between the protected material and the alloy. All hollow protection to columns shall be effectively sealed at each floor level.

| <b>Part VII: Timber floors</b>  |   |          |                     |
|---|---|----------|---------------------|
| Construction and materials  | Minimum thickness (in mm) of protection for a fire resistance of– |          |                     |
|   | 1 hour  | 1/2 hour | modified * 1/2 hour |
| <b>(A) Plain edge boarding on timber joists not less than 38 mm wide with ceiling of–</b>   |   |          |                     |
| (i) timber lath and plaster thickness of plaster  |   |          | 16                  |
| (ii) timber lath and plaster with plaster of minimum thickness of 16 mm covered on underside with plasterboard of thickness                     | 12.5  |          |                     |
| (iii) metal lathing and plaster–thickness of plaster–   |   |          |                     |
| (a) gypsum  | 16  |          |                     |
| (b) vermiculite   | 12.5  |          |                     |
| (iv) one layer of plasterboard of thickness   |   |          | 12.5                |
| (v) one layer of plasterboard of minimum thickness of 9.5 mm finished with gypsum plaster of thickness  |   |          | 12.5                |
| (vi) one layer of plasterboard of minimum thickness of 12.5 mm finished with gypsum plaster of thickness  | 12.5  |          |                     |
| (vii) two layers of plasterboard of total thickness   | 25  |          | 19                  |
| (viii) two layers of plasterboard each of minimum thickness of 9.5 mm finished with gypsum plaster of thickness                                 | 5   |          |                     |
| (ix) one layer of fibre insulating board of minimum thickness of 12.5 mm finished with gypsum plaster of thickness                              | 12.5  |          |                     |
| (x) one layer of asbestos insulating board of minimum thickness   | 12  |          |                     |
| (xi) wood wool slab 25 mm thick finished with gypsum plaster of thickness   | 5   |          |                     |
| <b>(B) Tongued and grooved boarding of not less than 16 mm (finished) thickness‡ on timber joists not less than 38 mm wide with ceiling of–</b> |   |          |                     |
| (i) timber lath and plaster–thickness of plaster  |   |          | 16                  |
| (ii) timber lath and plaster with plaster of minimum thickness of 16 mm covered on underside with plasterboard of thickness                     | 9.5   |          |                     |
| (iii) metal lathing and plaster–thickness of plaster  |   |          |                     |
| (a) gypsum  | 22  | 16       |                     |
| (b) vermiculite   | 12.5  | 12.5     |                     |
| (iv) one layer of plasterboard of thickness   |   |          | 9.5                 |
| (v) one layer of plasterboard of minimum thickness  |   |          |                     |



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|--|--|------|------|
|  | of 9.5 mm finished with–   |      |      |
|  | (a) gypsum plaster of thickness  |      | 12.5 |
|  | (b) vermiculite-gypsum plaster of thickness  | 12.5 |      |
| (vi)   | one layer of plasterboard of minimum thickness of 12.5 mm finished with gypsum plaster of thickness                                |      | 5    |
| (vii)  | two layers of plasterboard of total thickness  |      | 22   |
| (viii)   | one layer of fibre insulating board of minimum thickness of 12.5 mm finished with gypsum plaster of thickness                      |      | 5    |
| (ix)   | one layer of asbestos insulating board of minimum thickness  |      | 9    |
| (x)  | one layer of asbestos insulating board of minimum thickness of 12 mm finished on top with glass fibre or mineral wool of thickness | 25   |      |
| (xi)   | wood wool slab 25 mm thick finished with–  |      |      |
|  | (a) gypsum plaster of thickness  |      | 5    |
|  | (b) vermiculite-gypsum plaster of thickness  | 10   |      |
| <b>(C) Tongued and grooved boarding of not less than 21 mm (finished) thickness† on timber joists not less than 175 mm deep by 50 mm wide with ceiling of–</b> |  |      |      |
| (i)  | timber lath and plaster– thickness of plaster  |      | 16   |
| (ii)   | metal lathing and plaster– thickness of plaster  |      | 16   |
| (iii)  | metal lathing and sprayed asbestos‡ to thickness of  | 19   | 12.5 |
| (iv)   | one layer of plasterboard of thickness   |      | 9.5  |
| (v)  | one layer of plasterboard of minimum thickness of 9.5 mm finished with–  |      |      |
|  | (a) gypsum plaster of thickness  |      |      |
|  | (b) vermiculite-gypsum plaster of thickness  |      | 12.5 |
| (vi)   | one layer of plasterboard of minimum thickness of 12.5 mm finished with gypsum plaster of thickness                                | 12.5 | 5    |
| (vii)  | two layers of plasterboard of total thickness  |      | 19   |
| (viii)   | one layer of fibre insulating board of thickness   |      | 12.5 |
| (ix)   | one layer of fibre insulating board of minimum thickness of 12.5 mm finished with gypsum plaster of thickness                      |      | 12.5 |
| (x)  | one layer of asbestos insulating board of thickness  |      | 6    |
| (xi)   | wood wool slab 25 mm thick finished with–  |      |      |
|  | (a) gypsum plaster of thickness  |      | 5    |
|  | (b) vermiculite-gypsum plaster of thickness  |      | 10   |

\*MODIFIED ½ HOUR refers to the requirements specified in item 3(b) in Table A1 in the Approved Document for Part E.

† or an equivalent thickness of wood chipboard.

‡ Sprayed asbestos in accordance with BS 3590:1970.

| <b>Part VIII: Concrete floors</b>  |  |  |                                      |                                      |                                      |        |
|--|--|--|--------------------------------------|--------------------------------------|--------------------------------------|--------|
| Construction and materials   | Minimum thickness of solid substance including screed(in mm) | Ceiling finish for a fire resistance of-                   |                                      |                                      |                                      |        |
|  |  | 4 hours  | 2 hours                              | 1½ hours                             | 1 hour                               | ½ hour |
| Solid flat slab or filler joist floor.                                       | 90   | 25mm V or 25 mm A  | 10 mm V or 12.5 mm A                 | 10 mm V or 12.5 mm A                 | 7 mm V or 7 mm A                     | nil    |
| Units of channel or T section  | 100  | 19 mm V or 19 mm A   | 7 mm V                               | 7 mm V                               | nil                                  | nil    |
|  | 125  | 10 mm V or 12.5 mm A                                       | nil                                  | nil                                  | nil                                  | nil    |
|  | 150  | nil  | nil                                  | nil                                  | nil                                  | nil    |
| Solid flat slab or filler joist floor with 25 mm wood wool slab ceiling base | 90   |  |                                      | 12.5 mm G                            | nil                                  | nil    |
|  | 100  |  | nil                                  | nil                                  | nil                                  | nil    |
|  | 125  | 12.5 mm G  | nil                                  | nil                                  | nil                                  | nil    |
|  | 150  | nil  | nil                                  | nil                                  | nil                                  | nil    |
| Units of inverted U section with minimum thickness at crown                  | 63   |  |                                      |                                      |                                      | nil    |
|  | 75   |  |                                      |                                      | nil                                  | nil    |
|  | 100  |  | nil                                  | nil                                  | nil                                  | nil    |
|  | 150  | nil  | nil                                  | nil                                  | nil                                  | nil    |
| Hollow block construction or units of box or I section                       | 63   |  |                                      |                                      |                                      | nil    |
|  | 75   |  |                                      |                                      | nil                                  | nil    |
|  | 90   |  | nil                                  | nil                                  | nil                                  | nil    |
|  | 125  | nil  | nil                                  | nil                                  | nil                                  | nil    |
| Cellular steel with concrete topping   | 63   | 12.5 mm V suspended on metal lathing or 12.5 mm A (direct) | 12.5 mm G suspended on metal lathing | 12.5 mm G suspended on metal lathing | 12.5 mm G suspended on metal lathing | nil    |

V = vermiculite-gypsum plaster.

A = Sprayed asbestos in accordance with BS 3590:1970.

G = gypsum plaster.

Note: Where a column relating to ceiling finish contains no entry opposite a specification, the notional period of fire resistance specified in that column, is not applicable.

| <b>SCHEDULE 9</b>   |   | Deemed-to-satisfy provisions           |             |
|---|---|--|-------------|
| Notional designations of roof coverings   |   |  |             |
| <b>Part I: Pitched roofs covered with slates or tiles</b>   |   |  |             |
| Covering material<br>(1)  | Supporting structure<br>(2)   | Designation<br>(3)                     |             |
| 1. Natural slates   | 1. Timber rafters with or without underfelt, sarking, boarding, wood wool slabs, compressed straw slabs, plywood, wood or flax chipboard, or fibre insulating board | AA                                     |             |
| 2. Asbestos-cement slates   |   |  |             |
| 3. Clay tiles   |   |  |             |
| 4. Concrete tiles   |   |  |             |
| 5. Strip slates of bitumen felt Class 1 or 2  | 2. Timber rafters and boarding, plywood, wood wool slabs, compressed straw slabs, wood or flax chipboard, or fibre insulating board                                 | CC                                     |             |
| 6. Bitumen felt strip slates Type 2E, with underlayer of bitumen felt Type 2B or 2C   | 3. Timber rafters and boarding, plywood, wood wool slabs, compressed straw slabs, wood or flax chipboard, or fibre insulating board                                 | BB                                     |             |
| Note: Any reference in this Part of the schedule to bitumen felt of a specified class or type is a reference to bitumen felt as so designated in BS 747: Part 2:1970. |   |  |             |
| <b>Part II: Pitched roofs covered with preformed self-supporting sheets</b>   |   |  |             |
| Details of covering   |   | Supporting structure                   | Designation |
| Material<br>(1)   | Construction<br>(2)   | (3)                                    | (4)         |
| Corrugated sheets of–   | 1. Single skin without underlay or with underlay of–  | Structure of timber, steel or concrete | AA          |
| (i) galvanised steel;   | (i) asbestos insulating board;  |  |             |
| (ii) aluminium;   | (ii) plasterboard;  |  |             |
| (iii) composite steel and asbestos;   | (iii) fibre insulating board;   |  |             |
| (iv) asbestos-cement; or  | (iv) compressed straw slab; or  |  |             |
| (v) PVC coated steel  | (v) wood wool slab  |  |             |
| Corrugated sheets of–   | 2. Double skin without interlayer or with interlayer of–  | Structure of timber, steel or concrete | AA          |
| (i) galvanised steel;   | (i) resin-bonded glass  |  |             |
| (ii) aluminium;   |   |  |             |
| (iii) composite steel   |   |  |             |

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| (iv) and asbestos;<br>asbestos-cement;<br>or<br>(v) PVC coated steel         | (ii) fibre;<br>bitumen-bonded<br>glass fibre;<br>(iii) mineral wool slab<br>or blanket;<br>(iv) polystyrene; or<br>(v) polyurethane                 |                    |
|--|---|--------------------|
| <b>Part III: Pitched or fiat roofs covered with fully supported material</b> |   |                    |
| Covering material<br>(1)   | Supporting structure<br>(2)   | Designation<br>(3) |
| 1. Aluminium sheet   | 1. Timber joists and–   | AA*                |
| 2. Copper sheet  | (i) tongued and grooved boarding;<br>or   |                    |
| 3. Zinc sheet  | (ii) plain edged boarding   |                    |
| 4. lead sheet  |   |                    |
| 5. Mastic asphalt  | 2. Steel or timber joists with deck of–   | AA                 |
| 6. Vitreous enamelled steel sheet  | (i) wood wool slab;<br>(ii) compressed straw slab;<br>(iii) wood or flax chipboard;<br>(iv) fibre insulating board; or<br>(v) 9.5 mm plywood        |                    |
|  | 3. Concrete or clay pot slab (cast in situ or precast); or non-combustible deck of steel, aluminium or asbestos-cement (with or without insulation) | AA                 |

\* Note: Lead sheet supported by timber joists and plain edged boarding shall be deemed to be of designation BA.

**Part IV: Roof covered with bitumen felt.****Part IV(A): Flat roof covered with bitumen felt**

A flat roof comprising a covering of bitumen felt shall (irrespective of the felt specification) be deemed to be of designation AA if the felt is laid on a deck constructed of any of the materials prescribed in the Table in Part IV(B) and has a surface finish of (a) bitumen bedded stone chippings covering the whole surface to a depth of not less than 12.5 mm, (b) bitumen bedded tiles of a non-combustible material, (c) sand and cement screed or (d) macadam

**Part IV(B): Pitched roofs covered with bitumen felt**

| Details of felt   |                     |   | Combustible deck   |                               |                                 | Non-combustible deck  |   |   |
|---|---------------------|---|--|-------------------------------|---------------------------------|---|---|---|
| Number of layers  | Type of upper layer | Type of under-layer(s)  | Deck of either of the following (having minimum thickness stated) plywood (6 mm); wood or flax chipboard (12.5 mm); T & G boarding (16 mm finished); or PE boarding (19 mm finished) | Deck of compressed straw slab | Deck of screeded wood wool slab | Asbestos-cement or steel single skin or cavity deck (without overlay or with overlay of fibre insulating board) | Aluminium single skin or cavity deck with overlay of fibre insulating board | Concrete or clay pot slab (cast in situ or precast) |
| (1)   | (2)                 | (3)   | (4)  | (5)                           | (6)                             | (7)   | (8)   | (9)   |
| 1. Two or three layers built up in accordance with CP 144: Part 3: 1970 | 1. Type 1E          | Type 1B or 1D or type 1C (minimum mass 13 kg/10m <sup>2</sup> ) | CC   | AC                            | AC                              | AC  | AC  | AB  |
| 1. Two or three layers built up in accordance with CP 144: Part 3: 1970 | 2. Type 2E          | Type 1B or 1D or type 1C (minimum mass 13 kg/10m <sup>2</sup> ) | BB   | AB                            | AB                              | AB  | AB  | AB  |
|   | 3. Type 2E          | Type 2B or 2C   | AB   | AB                            | AB                              | AB  | AB  | AB  |
|   | 4. Type 3E          | Type 3B or 3G   | BC   | AC                            | AB                              | AB  | AB  | AB  |
| 2. Single layer   | Type 1E             |   | CC   | AC                            | AC                              | AC  | CC  | AC  |

Note: Any reference in this Part of this schedule to bitumen felt of a specified type is a reference to bitumen felt as so designated in BS 747: Part 2:1970

SCHEDULE 10

*Repealed*

**SCHEDULE 11**

**Conservation of fuel and power.**

F1 Reasonable provision shall be made for the conservation of fuel and power in buildings by–

- (a) limiting heat gains and losses–
  - (i) through thermal elements and other parts of the building fabric; and
  - (ii) from pipes, ducts and vessels used for space heating, space cooling and hot water services;
- (b) providing fixed building services which–
  - (i) are energy efficient;
  - (ii) have effective controls; and
  - (iii) are commissioned by testing and adjusting as necessary to ensure they use no more fuel and power than is reasonable in the circumstances; and
- (c) providing to the owner sufficient information about the building, the fixed building services and their maintenance requirements so that the building can be operated in such a manner as to use no more fuel and power than is reasonable in the circumstances.

**SCHEDULE 12**

Deemed-to-satisfy provisions

Rules G2(2), G4(2) and G5(2)

Sound Insulation

**Part I: Walls providing resistance to the transmission of airborne sound****Rule G2(2)**

| Specification<br>(1) | Construction of wall<br>(2) |
|----------------------|-----------------------------|
|----------------------|-----------------------------|

- |    |  |
|----|--|
| 1. | <p>A solid wall consisting of–</p> <ul style="list-style-type: none"> <li>(a) bricks or blocks with plaster not less than 12.5 mm thick on at least one face; or</li> <li>(b) dense concrete cast in situ or panels of dense concrete having all joints solidly grouted in mortar; or</li> <li>(c) lightweight concrete with plaster not less than 12.5 mm thick on both faces of the wall,</li> </ul> <p>in each case the average mass of the wall (calculated over any portion of the wall measuring 1 metre square and including the mass of any plaster) being not less than 415 kg/m<sup>2</sup>.</p> |
| 2  | <p>A wall having a cavity not less than 50 mm wide constructed of two leaves each consisting of bricks, blocks or dense concrete with plaster not less than 12.5 mm thick on both faces of the wall, and having any wall ties of the butterfly wire type, the average mass of the wall (calculated over any portion measuring 1 metre square and including the mass of the plaster) being not less than 415 kg/m<sup>2</sup>.</p>  |
| 3. | <p>A wall having a cavity not less than 75 mm wide constructed of two leaves each consisting of lightweight concrete with plaster not less than 12.5 mm thick on both faces of the wall and having any wall ties of the butterfly wire type, the average mass of the wall (calculated over any portion of the wall measuring 1 metre square and including the mass of the plaster) being not less than 250 kg/m<sup>2</sup></p>  |

**Part II: Floors providing resistance to the transmission of airborne and impact sound****Rules G4(2) and G5(2)**

| Specification | Construction of floor  |
|---------------|--|
| (1)           | (2)  |
| 1.            | A floor consisting of—   |
|               | (a) a solid concrete slab; or  |
|               | (b) a slab of concrete beams and hollow infilling blocks of clay or concrete or  |
|               | (c) a slab of hollow concrete beams,   |
|               | in each case having an average mass (calculated over any portion of the floor measuring 1 metre square and including the mass of any screed or ceiling plaster directly bonded to the slab but excluding the mass of any floating floor or suspended ceiling) of not less than 365 kg/m <sup>2</sup>   |
| 2.            | Boarding nailed to battens laid to float upon a layer of glass fibre or mineral wool quilt, in either case capable of retaining its resilience under imposed loading, the layer being draped over wooden joists, beneath which a ceiling of lath and plaster or of plasterboard, in either case not less than 19 mm thick, has been constructed, with pugging on the ceiling such that the combined mass of the ceiling and pugging is not less than 120 kg/m <sup>2</sup> |

**Part III: Floors providing resistance to the transmission of airborne sound only****Rule G5(2)**

| Specification | Construction of floor   |
|---------------|---|
| (1)           | (2)   |
| 1             | A floor consisting of a solid concrete slab having an average mass (calculated over any portion of the floor measuring 1 metre square and including the mass of any screed or ceiling plaster directly bonded to the slab but excluding the mass of any floating floor or suspended ceiling) of not less than 365 |



kg/m<sup>2</sup> and having any type of floor finish.