

## 1984 No. 343

## BUILDING REGULATIONS

## Building (Amendment No. 2) Regulations (Northern Ireland) 1984

Made . . . . . 26th September 1984

Coming into operation . . . . . 1st January 1985

The Department of the Environment, in exercise of the powers conferred by Articles 3, 5(1) and (2) and 15(2) of the Building Regulations (Northern Ireland) Order 1979(a) and now vested in it(b) and of every other power enabling it in that behalf, after consultation with the Building Regulations Advisory Committee and such other bodies as appear to the Department to be representative of the interests concerned, hereby makes the following regulations:—

*Citation and commencement*

1. These regulations may be cited as the Building (Amendment No. 2) Regulations (Northern Ireland) 1984 and shall come into operation on 1st January 1985.

*Interpretation*

2. In these regulations “the principal regulations” means the Building Regulations (Northern Ireland) 1977(c).

*Transitional provisions*

3.—(1) The principal regulations shall apply to—

- (a) plans deposited in accordance with the principal regulations before the commencement of these regulations;
- (b) work carried out in accordance with such plans with or without any departure or deviation from those plans;
- (c) work completed before such commencement;

as if the amendments effected by regulation 4 had not been made.

(2) For the purpose of paragraph (1) “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.

*Amendment of principal regulations*

4. The principal regulations shall be amended as follows:—

(1) In regulation A2 (Interpretation)—

(a) for paragraph (1), there shall be substituted the following paragraph:—

“(1) In these regulations—

“agriculture” includes horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing lands, meadow land, market gardens and nursery grounds, and the use of

(a) S.I. 1979/1709 (N.I. 16)

(b) S.I. 1982/338 (N.I. 6) Art. 5 and Sch. 1 Part II

(c) S.R. 1977 No. 149 as amended by S.R. 1979 No. 79, S.R. 1980 No. 86, S.R. 1980 No. 332, S.R. 1982 No. 81 and S.R. 1984 No. 295

land for woodlands where that use is ancillary to the farming of land for other agricultural purposes;

“boundary” means, in relation to a building, the boundary of the land belonging to the building (such land being deemed to include any abutting part of any street, canal or river 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;

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

“district council” has the meaning assigned to it by the Local Government Act (Northern Ireland) 1972(a) and references to “the district council” shall mean the district council having the function of enforcing these regulations;

“drain” means any pipe or drain used solely for or in connection with the drainage of one building or of any buildings or yards appurtenant to buildings within the same curtilage;

“enactment” includes any instrument made under any statute;

“garage” includes a car port;

“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;

“material change of use” has the meaning assigned to it by regulation A9(1);

“newton” means that force which when applied to a body having a mass of one kilogramme 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 BS 476: Part 4: 1970; and “combustible” shall be construed accordingly;

“partially exempted building” has the meaning assigned to it by regulation A5(2);

“private sewer” means any part of a sewer within the curtilage of a building;

“purpose group” has the meaning assigned to it by regulation E2;

“sewer” includes all sewers, pipes or drains other than a drain as defined in this regulation and includes any apparatus used in connection with a sewer;

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

“statutory undertaking” means an undertaking authorised by any enactment being a railway, road transport, air transport, water transport, inland navigation, dock or harbour undertaking or any undertaking for the supply of electricity or gas or the Post Office;

“substantive requirements” means the requirements of these regulations with respect to the design and construction of buildings and the installation of works and fittings, as distinct from procedural requirements;

“under former control”—

- (a) used in relation to any building, refers to a building the erection of which was—
- (i) completed before 1st October 1973; or
  - (ii) completed on or after 1st October 1973 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 October 1973 (being a building the erection of which was exempt from compliance with the provisions of all relevant bye-laws in force immediately before that date); and
- (b) used in relation to any alteration or extension of a building or the execution of any works or installation of any fittings refers to any such alteration or extension, execution or installation which was—
- (i) completed before 1st October 1973; or
  - (ii) completed on or after 1st October 1973 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 October 1973 (being an alteration or extension, execution of works or installation of fittings which was exempt from compliance with the provisions of all relevant bye-laws in force immediately before that date);

“wholly exempted building” has the meaning assigned to it by regulation A5(3)(a);

“work of public utility” means a pipeline, gas holder, gas main, electricity supply line and supports, water main, public sewer or telephone line and supports”;

- (b) in paragraph 7(a) for the date “30th April 1978” there shall be substituted the date “30th April 1981”;
- (c) in paragraph (9)(b), in item (ii), for the reference “BS 4471: Part 1: 1969” there shall be substituted the reference “BS 4471: Part 1: 1978”; and
- (d) after paragraph (9) there shall be inserted the following paragraph:—

“(10) For the purposes of these regulations, the installation of a septic tank, settlement tank or a cesspool shall be treated as the execution of works and not as the erection of a building”.

(2) In regulation A5 (Exemptions) after paragraph (3) there shall be inserted the following paragraph:—

“(4) For the purposes of Schedule 1—

- (a) a building shall not be regarded as attached to another building solely by virtue of it being attached to a fence, garden wall or similar structure; and
- (b) “building to which these regulations apply” means a building which, if it were being newly erected, would be subject to the control of any regulation in Parts C to L.”.

(3) In regulation A6 (Application to erection of buildings), for the reference “Part R” there shall be substituted the reference “parts R and U”.

(4) In regulation A7 (Application to alterations and extensions) for paragraph (1) there shall be substituted the following paragraph:—

“(1) Subject to the provisions of regulations A5 and FF1(2) and (3), Parts A to L and Parts R and U except Part EE shall apply to—

- (a) a structural alteration or extension of an existing building and to the alteration of an existing building by the insertion of material into a cavity

- in a wall for the purpose of insulation (irrespective of when the building altered or extended was erected); and
- (b) the existing building as affected by that alteration or extension to the extent (subject to the provisions of regulations A9 and K3) of prohibiting any alteration or extension which would cause a new or greater contravention of any regulation.”.
- (5) In regulation A8 (Application to works and fittings)—
- (a) for the words “Subject to any express provision to the contrary and to the provisions of regulation A5 — ” there shall be substituted the words “Subject to any express provision to the contrary and to the provisions of regulations A5, S1 and T1— ”; and
- (b) after the entry “Part Q (Ash-pits, wells, tanks and cisterns)” there shall be inserted the following entries:—
- “Part S (Thermal insulation of pipes, ducts and storage vessels);  
Part T (Control of space and water heating systems)”.
- (6) In regulation A10 (Giving of notices and deposit of plans)—
- (a) in paragraph (1) for the words “paragraphs (2) and (3)” there shall be substituted the words “paragraphs (2), (3) and (5)”;
- (b) after paragraph (4) there shall be inserted the following paragraph:—
- “(5) The provisions of paragraph (1) where they relate to the execution of works to which Part S applies shall not apply where the works involve only the extension of an existing system and do not involve the carrying out of any structural work.”.
- (7) In regulation A14 (Exercise of power of dispensation or relaxation) after the entry “Part R (Facilities for disabled persons)” there shall be inserted the following entries:—
- “Part S (Thermal insulation of pipes, ducts and storage vessels)  
Part T (Control of space and water heating systems)  
Part U (Toxic substances).”.
- (8) In the Table to regulation B3 (Unsuitable materials) in columns (2) and (3) opposite Item 12 for the reference “Type 200 of BS 3083: 1959” there shall be substituted the reference “Type 600 of BS 3083: 1980”.
- (9) In paragraph (a) of regulation C4 (Deemed-to-satisfy provisions for suspended timber floors) for the reference “BS 882: Part 2: 1973” there shall be substituted the reference “BS 882, 1201: Part 2: 1973”.
- (10) For regulation C9 (Prevention of damp in certain cavity walls), there shall be substituted the following regulation:—
- “Prevention of damp in cavity walls*
- C9.**—(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 regulation 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 (3) as to bridging.
- (2) 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.
- (3) Wherever a cavity occurs in any kind of wall of a building and that 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,

adequate resistance to the passage of moisture from outside the building shall be provided either by the insertion of a damp-proof course or by the use of flashing or by some other effective means.”.

(11) In paragraph (c) of regulation D7 (Deemed-to-satisfy provisions for strip foundations) for the reference “BS 882: Part 2: 1973” there shall be substituted the reference “BS 882, 1201: Part 2: 1973”.

(12) In paragraph (a) of regulation D13 (Deemed-to-satisfy provisions for structural work of bricks, blocks or plain concrete) for the reference “CP111: Part 2: 1970” there shall be substituted the reference “CP111: 1970”.

(13) In paragraph (1) of regulation E2 (Designation of purpose groups) for the words “For the purposes of this Part” there shall be substituted the words “Subject to regulation H1(2)(c), for the purposes of these regulations”.

(14) For Part F (Thermal Insulation of Dwellings), there shall be substituted the Part set out in Schedule 1.

(15) In paragraph (2) of regulation H1 (Interpretation of Part H), sub-paragraph (b) shall be omitted.

(16) In paragraph (1) of regulation L1 (Application and interpretation of Part L)—  
(a) for the definition of “Class I appliance” there shall be substituted the following definition:—

“ “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 appliance which so burns gas as to simulate a solid fuel fire and has an input rating not exceeding 60 kW but is not provided with an integral flueway for conveying the products of combustion from the combustion space to any flue serving the appliance; or

(c) 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;”;

(b) for the definition of “Class II appliance” there shall be substituted the following definition:—

“ “Class II appliance” means—

(a) any gas appliance having an input rating not exceeding 60 kW other than an appliance of the type described in paragraph (b) of the definition of Class I appliance; 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;”;

(c) in the definition of “high-rating appliance” for the figure “44” in alternative (a) there shall be substituted the figure “45”.

(17) In paragraph (1)(a) of regulation L6 (Chimneys for Class I appliances), in item (iii), for the reference “BS65 and 540: Part 1: 1971” there shall be substituted the reference “BS 65: 1981”.

(18) For regulation L7 (Flue pipes for Class I appliances), there shall be substituted the following regulation:—

“*Flue pipes for Class I appliances*

L7.—(1) For the purposes of this regulation, 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.

(2) Except as provided by paragraph (3) no flue pipe serving a Class I appliance (whether encased or not) shall pass through any roof space, floor, internal wall or partition.

(3) Any such pipe described in paragraph (2) may pass 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.

(4) 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.

(5) No part of a flue pipe serving a Class I appliance shall make an angle above the horizontal of less than 45° except where it is necessary to discharge a back-outlet appliance into a fireplace, vertical flue or flue in a chimney by means of a connection which is accessible for cleaning and does not exceed 300 mm in overall length.”

(19) In paragraph (a) of regulation L16 (Deemed-to-satisfy provisions regarding materials for the construction of flue pipes for Class II appliances) for the reference “BS 65 and 540: Part 1: 1971” there shall be substituted the reference “BS 65: 1981”.

(20) In paragraph (2) of regulation L22 (Insulated metal chimneys serving Class I or Class II appliances)—

(a) for sub-paragraph (a) there shall be substituted the following sub-paragraph:—

“(a) the chimney shall be constructed of components complying with—

- (i) BS 4543: Part 2: 1976 for solid fuel appliances; or
  - (ii) BS 4543: Part 2 or Part 3: 1976 for oil burning appliances;”;
- (b) in sub-paragraph (d) for the reference “test procedure specified in appendix C to BS 4543: 1970” there shall be substituted the reference “test procedures specified in BS 4543: Part I: 1976”.

(21) For regulation M8 (Class II appliances) and regulation M9 (Exceptions permitting discharge of Class II gas appliances otherwise than into a flue), there shall be substituted the following regulations:—

*“Class II appliances*

**M8.**—(1) No Class II appliance shall be installed in a building unless the installation complies with the following provisions of this regulation.

(2) Unless the appliance is a room-sealed appliance or is a gas heater installed in a cabinet or cupboard as specified in regulation M9(5)(b), 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 of solid non-combustible material which—

- (a) in the case of a back-boiler (whether installed alone or in association with any other appliance)—
  - (i) is not less than 25 mm thick and is placed on non-combustible supports of a height not less than 25 mm; and
  - (ii) extends not less than 150 mm beyond the back and sides of the back-boiler or, if there is a wall within 150 mm from the appliances, up to that wall; and

- (iii) extends to the front of the back-boiler; or
- (b) in any other case—
  - (i) is not less than 12.5 mm thick;
  - (ii) 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
  - (iii) extends forward not less than 225 mm measured horizontally beyond any flame or incandescent material that may be present 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 that may be present within the appliance is less than 225 mm above the floor; or
- (ii) is constructed to the same specification as that of the type test specimen which satisfied the appropriate test requirements set out in—

BS 1250: Part 1: 1966 Clause 14;

BS 5258: Part 1: 1975;

BS 5258: Part 2: 1975;

BS 5258: Part 3: 1975;

BS 5258: Part 4: 1977;

BS 5258: Part 5: 1975;

BS 5258: Part 6: 1975;

BS 5258: Part 7: 1977;

BS 5258: Part 8: 1980;

BS 5258: Part 10: 1980;

BS 5258: Part 11: 1980;

BS 5258: Part 12: 1980; or

BS 5386: Part 3: 1980;

whichever is relevant;”

(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 is constructed to the same specification as that of the type test specimen which satisfied the appropriate test requirements set out in whichever is relevant of the publications referred to in proviso (ii) to paragraph (3).

(5) Subject to the provisions of paragraph (6) and to the exceptions in respect of gas appliances contained in regulation 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 regulation 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 I appliances (excluding, if the chimney was built under former control, regulation L6).

(6) No appliance shall be installed so as to discharge into a flue in a chimney which is not constructed in accordance with the requirements of regulation L6(1)(a) or (b) or regulation L14(1)(a) or (b) unless—

(a) the flue connects with a debris catchment space having means of access for the removal of debris which—

(i) in the case of a gas fire, has a capacity of not less than 0.012 m<sup>3</sup> and a depth of not less than 250 mm below the lowest point of entry of the gas fire flue spigot into the chimney; or

(ii) in any other case, has a depth of not less than 250 mm below the lowest point of entry of the appliance flue into the chimney; or

(b) a flue liner is inserted in the chimney.

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

(8) No Class II appliance other than a room sealed appliance shall be installed in a bath or shower room.

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

M9.—(1) Notwithstanding anything contained in regulation M8(5)—

(a) a room-sealed appliance may be installed in accordance with the provisions of paragraph (2); and

(b) an appliance other than a room-sealed appliance may be installed in accordance with the provisions of paragraphs (3), (4), (5), (6), (7) or (8) whichever is relevant.

(2) A room-sealed appliance may be installed in any room or internal space so as to discharge directly into the external air if—

(a) the inlet and outlet of the appliance are incorporated in a terminal which is designed to allow free intake of combustion air and free discharge of the products of combustion and to prevent the entry of any matter which might restrict the inlet or outlet; and

(b) where the outlet is wholly or partly beneath 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

(c) where the outlet of the appliance is less than 2 m above the level of any adjacent ground, balcony, flat roof or place to which any person has access, the outlet is protected by a guard of durable and non-combustible material.

(3) Any oven, hotplate or grill, or any combination thereof comprising a gas cooker, may be installed so as to discharge into the room in which it is situated if the room has a volume not less than 6 m<sup>3</sup> and means of ventilation complying with the requirements of paragraph (9).

(4) A gas heater having an input rating which does not exceed 2 kW may be installed in a drying or airing cupboard situated in any room or internal space other than a bath or shower room if—

(a) the room—

(i) being a bedroom or bed-sitting room, has a volume of not less than 21 m<sup>3</sup>; or

- (ii) in any other case, has a volume not less than  $6\text{ m}^3$ ; and
  - (b) the room or space has a means of ventilation which complies with the requirements of paragraph (9).
- (5) A gas heater of any size may be installed in a drying or airing cupboard situated in any room or internal space, other than a bedroom, bed-sitting room, bath or shower room if—
- (a) (i) the room or space has a ventilation opening; and
  - (ii) the cupboard has an outlet into a flue which has a cross-sectional area of not less than  $12,000\text{ mm}^2$  and complies with the provisions of Part L relating to flues serving Class II appliances; or
  - (b) (i) the cupboard has an inlet and an outlet connected to an appliance ventilation duct constructed in compliance with the provisions of Part L; and
  - (ii) the door of the cupboard, when opened, operates automatically to close the inlet and outlet.
- (6) A water heating gas appliance may be installed in a bedroom or bed-sitting room if—
- (a) the room has a ventilation opening and a volume not less than  $21\text{ m}^3$ ; and
  - (b) the appliance is provided to serve a hand basin or sink and is either—
    - (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 and a storage capacity not exceeding 9 litres.
- (7) A water heating gas appliance may be installed in any room or internal space other than a bedroom, bed-sitting room, bath or shower room, if—
- (a) the room or internal space has a volume not less than  $6\text{ m}^3$  and means of ventilation complying with the requirements of paragraph (9); and
  - (b) the appliance is not provided to heat water for a bath and comprises—
    - (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.
- (8) One or more space heating gas appliances may be installed in any room or internal space other than a bedroom, bed-sitting room, bath or shower room, if—
- (a) the room or internal space has a volume not less than  $6\text{ m}^3$  and means of ventilation complying with the requirements of paragraph (9); and
  - (b) the total input rating of the appliance or appliances does not exceed—
    - (i) if installed in a room, 50 W per  $\text{m}^3$  of space in that room; or
    - (ii) if installed in an internal space other than a room, 100 W per  $\text{m}^3$  of that space.
- (9) The requirements as to means of ventilation to which reference is made in paragraphs (3), (4)(b), (7)(a) and (8)(a) are that the room or internal space shall have—

- (a) a ventilation opening; and  
 (b) a permanent vent which—  
 (i) communicates directly with the external air; and  
 (ii) has an unobstructed cross-sectional area measured in  $\text{mm}^2$ , which is not less than the minimum area specified in columns (2) to (5) of the Table to this regulation, according to the type of the appliance indicated in column (1) of that Table, where the volume of the room or internal space measured in  $\text{m}^3$ , in which the appliance is installed, accords with the specifications set out in columns (2) to (5).

TABLE TO REGULATION M9				
Minimum unobstructed area of permanent vent				
Type of flueless appliance (1)	Volume of room or internal space (in $\text{m}^3$ )			
	(2) 6 to < 9	(3) 9 to < 11	(4) 11 to < 21	(5) 21 or more
	Minimum unobstructed cross-sectional area of permanent vent (in $\text{mm}^2$ )			
	(2)	(3)	(4)	(5)
1. Oven, hotplate or grill or any combination thereof comprising a gas cooker	6500*	3500*	—	—
2. Instantaneous water heater	3500	3500	—	—
3. Storage water heater	9500	9500	3500	—
4. Wash-boiler or washing machine	9500	9500	3500	—
5. Fixed space heater in a room	9500×	9500×	9500×	9500×
6. Fixed space heater not in a room	9500+	9500+	9500+	9500+
7. Gas heater in drying or airing cupboard	9500	9500	9500	9500

## Notes:

If 2 or more flueless appliances are installed in the same room the total required vent area shall be the aggregate of the appropriate areas in columns (2) to (5).

< Means "less than".

\* If the room containing the appliance has a door which opens directly to the external air no permanent vent is required.

× If the input rating exceeds 3 kW, an additional 3500  $\text{mm}^2$  per extra kW or part thereof is required.

+ If the input rating exceeds 6 kW, an additional 3500  $\text{mm}^2$  per extra 2 kW or part thereof is required."

(22) After Part R (Facilities for Disabled Persons) there shall be inserted the Parts set out in Schedule 2.

(23) In Part B (Classes of Wholly Exempted Buildings) of Schedule 1—

(a) for Class 6 there shall be substituted the following Class:—

“6. An air-supported structure which—

- (i) does not exceed 15 m in length or diameter;
- (ii) has alternative means of escape;
- (iii) is not less than 2 m from any building to which these regulations apply; and
- (iv) is used solely in connection with a house falling within purpose group 1.”; and

(b) after Class 21 there shall be inserted the following Class:—

CLASS DESCRIPTION OF WHOLLY EXEMPTED BUILDING

(1)

(2)

“22. Accommodation designed and intended for use solely as a detached shelter to afford protection against the effects of an attack with nuclear, chemical or conventional weapons which:—

- (i) is so situated that the distance of any part of the excavation for the shelter from any exposed part of another building or structure or from any surfaced area to which the public have access or from the boundary is at least 1 m greater than the depth of the lowest point of the excavation below the existing ground level of the building or structure or surfaced area;
- (ii) does not contain any soil or waste appliances, as defined in regulation N2(1), which are or will be connected to a drain or sewer serving any other building; and
- (iii) is so situated that it does not impair the stability of any other building or structure or of any surfaced area to which the public have access, or cause damage to, interfere with or prevent access to any existing drain, sewer, or water, gas or electricity supply.”.

(24) In Schedule 2 (Giving of Notices and Deposit of Plans)—

(a) in Rule E for item 6A there shall be substituted the following item:—

“6A Calculations for the purposes of regulation F3, F6, FF3 or FF4 other than calculations to determine the U value of any part of a wall, floor or roof which is constructed in accordance with the provisions of regulation F4 or FF4(b)(iii).”; and

(b) in item 2 of Rule F there shall be inserted at the end the words “except those in Parts S and T”.

(25) In paragraph (1)(b) of rule 12 in Part III of Schedule 5 (Rules for Satisfying Requirements as to Structural Stability of Certain Walls), for the reference “BS 1243: 1972” there shall be substituted the reference “BS 1243: 1978”.

(26) In Schedule 8 (Notional Designations of Roof Coverings)—

(a) in the Note to Part 1, for the reference “BS 747: Part 2: 1970” there shall be substituted the reference “BS 747: 1977”; and

(b) in the Note to Part IV(B), for the reference “BS 747: Part 2: 1970” there shall be substituted the reference “BS 747: 1977”.

(27) For Schedule 9 (Thermal Insulation of Dwellings), there shall be substituted the schedule set out in Schedule 3.

(28) In Schedule 9A (Conservation of fuel and power in buildings other than dwellings)—

(a) in Part I, for Rule 2 and the Table thereto there shall be substituted the following Rule and Table:—

“2. in the Tables in the following Parts of this Schedule—

- (a) a minimum thickness specified under any capital letter at the head of column (5) is the required minimum thickness of the insulating material identified by that capital letter in the Table below; and
- (b) the words “insulating material” in column 1 refer only to materials in relation to which a minimum thickness is prescribed by a relevant entry in column (5):

Provided that the letter D shall only be taken to refer to urea formaldehyde cavity foam fill in circumstances in which its use is not prohibited by regulation T1.

Table to Rule 2: Insulating materials

Type (1)	Description (2)
A	Wood wool slab (density not exceeding 500 kg/m <sup>2</sup> )
B	Fibre building board: insulating board or bitumen impregnated insulating board Perlite granules
C	Cellular glass
D	Mineral fibre (glass or rock) quilt or loose fill Urea formaldehyde foam cavity fill
E	Mineral fibre (glass or rock) slab or rigid mat Expanded polystyrene insulating board Phenol formaldehyde insulating board
F	Polyurethane core to laminated board

(b) in item 2(b) in column (1) of Table 1 in Part II—

- (i) for the words “either of its boundary faces “there shall be substituted the words “the cavity face of the inner leaf”; and
- (ii) for “20 mm” there shall be substituted “25 mm”; and

(c) in item 2(b) in column (1) of Table 4 in Part III for the words “the cavity is partly filled by insulating material attached to either face of the inner leaf;” there shall be substituted the words “the cavity is partly filled by insulating material attached to the cavity face of the inner leaf so as to preserve a residual air space at least 25 mm wide or the insulating material is attached to the room face of the inner leaf”.

(29) For Schedule 11 (Publications to which Specific Reference is made in the Building Regulations (Northern Ireland) 1977) there shall be substituted the schedule set out in Schedule 4.

Sealed with the Official Seal of the Department of the Environment for Northern Ireland on 26th September 1984.

(L.S.)

Harold Carson

Assistant Secretary

## SCHEDULE 1

Regulation 4(14)

Part to be substituted for Part F (Thermal Insulation of Dwellings) of the principal regulations.

## PART F

## THERMAL INSULATION OF DWELLINGS

*Application of Part F*

F1.—(1) Subject to the provisions of paragraph (2), this Part shall apply to any building, or part of a building, which is intended to be used as a dwelling.

(2) This Part shall not apply to any external wall, floor or roof of any part of a dwelling which consists of a shed or store entered solely from outside or of a garage, boathouse, conservatory or porch.

*Interpretation of Part F*

F2.—(1) In this Part and in Schedule 9—

“dwelling” means a house, flat or maisonette;

“opening” means any window opening, rooflight opening and any opening for a door, ventilator or other purpose;

“partially ventilated space” means a space which—

(a) is either—

(i) a passage, stairway or other common space which is not part of, but adjoins, a dwelling; or

(ii) a part of a dwelling which consists of a shed or store entered solely from outside or of a garage, boathouse, conservatory or porch; and

(b) is ventilated by means of permanent vents having an aggregate area not exceeding 30% of its wall boundary area;

“perimeter walling” means those walls which together enclose all parts of a dwelling other than a partially ventilated space or a ventilated space;

“permanent vent” means an opening or duct which communicates with the external air and is designed to allow the passage of air at all times;

“rooflight opening” means any structural opening in a roof which is provided for a hinged, sliding or fixed light irrespective of its size or function;

“surface resistance” means the reciprocal of the surface heat transfer coefficient and for the purposes of this definition “surface heat transfer coefficient” in relation to a surface, means the rate of heat transfer in watts between each square metre of the surface and the ambient air when there is a difference in temperature of 1°C between the surface and the ambient air;

“U value” means thermal transmittance coefficient, that is to say, the rate of heat transfer in watts through 1 m<sup>2</sup> of a structure when the combined radiant and air temperatures at each side of the structure differ by 1°C and is expressed in W/m<sup>2</sup>°C;

“ventilated space” means a space which—

(a) is either—

(i) a passage, stairway or other common space which is not part of, but adjoins, a dwelling; or

(ii) a part of a dwelling which consists of a shed or store entered solely from outside or of a garage, boathouse, conservatory or porch; and

(b) is ventilated by means of permanent vents having an aggregate area exceeding 30% of its wall boundary area;

“wall” includes any internal or external surface finishes;

“wall boundary area” means the total superficial area of all walling, including any opening, bounding a partially ventilated space or a ventilated space; and

“window opening” means any structural opening which is provided for a window irrespective of its size and function or for a hinged or sliding door or panel having a glazed area of  $2 \text{ m}^2$  or more.

(2) For the purposes of this Part—

- (a) any reference to a dwelling is a reference solely to those parts of a dwelling which are enclosed by perimeter walling;
- (b) any part of a roof which has a pitch of  $70^\circ$  or more shall be treated as an external wall;
- (c) any floor which is so situated that its upper surface is exposed to the external air shall be treated as a roof in relation to that part of the building beneath it;
- (d) in calculating the U value of a roof, wall or floor—
  - (i) the sum of the surface resistances of—
    - (a) the external surface of the roof; and
    - (b) the internal surface of the roof, or the lower surface of the ceiling of the storey immediately below the roof,

shall be taken as 0.14;

- (ii) the sum of the external and internal surface resistances of the wall shall be taken as 0.18; and
- (iii) the sum of the upper and lower surface resistances of the floor shall be taken as 0.18; and
- (e) in the case of an alteration or extension to a dwelling the area of perimeter walls and the area of roof shall be taken to be respectively—
  - (i) the area of all the walls enclosing; and
  - (ii) the area of the roof covering,

the alteration or extension.

*Maximum U values of walls, floors and roofs*

F3.—(1) Subject to the provisions of paragraph (3), the U value of any part of a wall, floor or roof which encloses a dwelling and is described in column (1) of the Table to this regulation (including surface finishes thereof and excluding any openings therein) shall not exceed the appropriate value specified in column (2) of that Table.

(2) Any opening in a wall (other than a window opening) and any recess to accommodate a meter cupboard shall be assumed to have a U value equivalent to that of the wall in which it is situated.

(3) Notwithstanding the requirements of paragraph (1), the U value of any lintel, jamb or sill associated with an opening in a wall shall not exceed  $1.2 \text{ W/m}^{2\circ\text{C}}$ .

## Table to Regulation F3.

(Maximum U value of walls, floors and roofs)

Element of building (1)	Maximum U value (in W/m <sup>2</sup> OC) (2)
1. External wall	0.6
2. Wall between a dwelling and a ventilated space	0.6
3. Wall between a dwelling and a partially ventilated space	1.0
4. Wall between a dwelling and any part of an adjoining building to which Part F is not applicable	1.0
5. Wall or partition between a room and a roof space, including that space and the roof over that space	0.6
6. External wall adjacent to a roof space over a dwelling, including that space and any ceiling below that space	0.6
7. Floor between a dwelling and the external air	0.6
8. Floor between a dwelling and a ventilated space	0.6
9. Roof, including any ceiling to the roof or any roof space and any ceiling below that space	0.35

*Deemed-to-satisfy provisions regarding thermal insulation*

F4. The requirements of regulation F3(1) relating to the U value of any part of a wall, floor or roof shall be deemed to be satisfied if the wall, floor or roof, having regard to the provisions of Part 1 of Schedule 9, is constructed in accordance with a specification contained in Parts II, III or IV of that Schedule whichever is appropriate.

*Specific requirements to limit condensation risks*

F5. Any roof void above an insulated ceiling shall be arranged in accordance with the provisions of BS 5250: 1975 Clauses 22.8 to 22.16.

*Area of window openings*

F6.—(1) The total area of window openings and the total area of rooflight openings in those walls and roofs of a dwelling for which a maximum "U" value is specified in regulation F3 shall not exceed 15% of the area of perimeter walling and 2% of the area of the roof respectively:

Provided that—

- (a) where all the window openings and rooflight openings are single glazed, the total permitted area of window openings or of rooflight openings respectively may be exceeded if the total area of those openings taken together does not exceed the sum of the areas calculated in accordance with the appropriate percentage values specified; and
- (b) where not all the window openings and rooflight openings are single glazed, the total permitted area of both window openings and rooflight openings taken together may be exceeded if the calculated total rate of heat loss through all those openings is not in excess of that which would have been obtained, had all those openings been single

glazed and the total area thereof was equal to the sum of the areas calculated in accordance with the percentage values specified.

- (2) For the purposes of this regulation—
- (a) the area of perimeter walling shall be measured internally, between finished floor and ceiling levels and shall include all openings in the walling;
  - (b) the area of roof shall be measured internally, between flanking walls or partitions and shall include all openings in the roof; and
  - (c) single, double and treble glazed window openings or rooflight openings shall be assumed to have “U” values of 5.7, 2.8 and 2.0 W/m<sup>2</sup>°C respectively, irrespective of whether the light transmitting material is glass or not.

**Parts to be inserted after Part R (Facilities for Disabled Persons) of the principal regulations**

**PART S**

**THERMAL INSULATION OF PIPES, DUCTS AND STORAGE VESSELS**

*Application and interpretation*

S1.—(1) This Part shall apply only in so far as it is necessary for the purpose of furthering the conservation of fuel and power.

(2) Subject to the provisions of paragraphs (1) and (3), this Part shall apply in relation to the installation or complete replacement of, or extension to, any system comprising pipes, ducts or storage vessels or any combination of these where such pipes, ducts or storage vessels are intended to carry or store heated gases or fluids in the heating system of any building.

(3) This Part shall not apply to—

- (a) any pipe or duct, the transmission of heat from which is designed to contribute to any space heating of an area of a building through which it passes;
- (b) any pipe or duct in a building or part of a building comprising a house falling within purpose group I, or a flat or maisonette or any combination of these, where such pipe or duct is contained in any room, passage, stairway, cupboard, intermediate floor or internal wall of the building or part of the building;
- (c) any items, including flexible connections, structural supports, valve handles and control equipment provided for the support or operation of a system or any extension thereto comprising pipes, ducts or storage vessels or any combination of these;
- (d) any pipe, duct or storage vessel intended to carry or store fluids or gases, heated exclusively or otherwise, for industrial purposes; or
- (e) any pipe provided for the purposes of supplying heated water to a tap or other outlet where the outside diameter, measured in mm, and corresponding length, measured in m, of the pipe, conform with the specifications set out in columns (1) and (2) respectively of the Table to this regulation.

Table to Regulation S1

Outside diameter of pipe (in mm)	Maximum length of pipe (in m)
(1)	(2)
1. Not more than 12	20
2. More than 12 but not more than 22	12
3. More than 22 but not more than 28	8
4. More than 28	3

*Conservation of fuel and power*

S2. Where this Part applies, any pipes, ducts or storage vessels shall be so thermally insulated as to provide adequate resistance to the transmission of heat, any loss of which therefrom would entail an increase in the consumption of fuel or power necessary to enable temperature conditions normal for any supply of heated gases or fluids carried or stored therein to be maintained.

*Deemed-to-satisfy provisions for the conservation of fuel and power*

S3.—(1) In this regulation “thermal conductivity” has the meaning assigned to it in BS 5422: 1977.

(2) For the purposes of this regulation heat loss shall be calculated in accordance with BS 5422: 1977.

(3) The requirements of regulation S2, in so far as they relate to any pipe or duct, shall be deemed to be satisfied if—

- (a) the thickness and type of insulation provided is in accordance with BS 5422: 1977; or
- (b) the heat loss (expressed in  $W/m^2$ ) from each pipe is not greater—
  - (i) for a pipe whose diameter (measured in mm) is listed in column (1) of the Table to this regulation, than the value shown in column (2) of that Table for a pipe of that diameter;
  - (ii) for a pipe whose diameter (measured in mm) is of an intermediate size not shown in that Table, than the value calculated from that Table by means of linear interpolation; or
- (c) each duct, irrespective of its size, is thermally insulated so that the heat loss is not greater than  $30 W/m^2$ ; or
- (d) preformed, loose wrap or mat mineral fibre (glass or rock), cellular plastic or any other material with a thermal conductivity of not more than  $0.07 W/m^{\circ}C$  is provided as insulation, having—
  - (i) for a pipe with an outside diameter of less than 50 mm, a thickness equal to the outside diameter of the pipe; or
  - (ii) for a pipe with an outside diameter equal to or greater than 50 mm and for a duct of any size, a thickness not less than 50 mm.

(4) The requirements of regulation S2, in so far as they relate to any storage vessel shall be deemed to be satisfied if—

- (a) the thickness and type of insulation provided is in accordance with BS 5422: 1977; or
- (b) such vessel complies with the requirements of BS 3456: Section 2.7: 1970 or BS 5615: 1978; or
- (c) such vessel, irrespective of its size, is thermally insulated so that the heat loss is not greater than  $90 W/m^2$ .

Table to Regulation S3

Maximum permitted rates of heat loss from pipes

Outside diameter of pipe (in mm)	Heat loss (in $W/m^2$ )
(1)	(2)
10	675
20	400
30	280
40	220
50 or greater	175

## PART T

### CONTROL OF SPACE AND WATER HEATING SYSTEMS

#### Application

T1.—(1) This Part shall apply only in so far as it is necessary for the purpose of furthering the conservation of fuel and power.

- (2) Subject to the provisions of paragraphs (1) and (3), this Part shall apply to—
  - (a) the installation of any heating system (whether by way of new work or by way of replacement) provided to serve a floor area which exceeds  $125 m^2$  in a building; and
  - (b) an extension to an existing heating system where such an extension is provided to serve a further floor area which exceeds  $125 m^2$  in a building in addition to any area served by the existing system.

(3) This Part shall not apply to any heating system or extension thereto provided solely for the purpose of serving—

- (a) a house falling within purpose group I; or
- (b) a flat or maisonette,

or any combination of these, together with any associated common parts.

#### *Interpretation*

T2. In this Part “heating system” means any integral system, provided in a building for the purpose of space or water heating, together with any hot water storage vessels, other than a system provided for the purpose of heating or storing water exclusively or otherwise for industrial purposes.

#### *Control of output from space heating systems*

T3.—(1) Where the provisions of regulation T1(2)(a) apply, provision shall be made for the purpose of regulating the output from a space heating system by the fitting of a thermostat—

- (a) inside the building, for each system or section of the system which is designed to be independently controlled; and
- (b) outside the building, where the system is designed to provide hot water from a central source for use in radiators or non-mechanical convectors.

(2) Where the provisions of regulation T1(2)(b) apply and any controls of the existing heating system are inadequate for the purpose described in this paragraph or are not fitted, provision shall be made for the purpose of regulating the output from the extension to the system by the fitting of a thermostat—

- (a) inside the building for the extension to the system or any section thereof which is designed to be independently controlled; and
- (b) outside the building where the extension to the system is designed to provide hot water from a central source for use in radiators or non-mechanical convectors.

#### *Control of intermittent heating*

T4.—(1) Subject to the provisions of paragraphs (3), (4) and (5), where the provisions of regulation T1(2)(a) apply and the intended use of the building or part of the building does not require continuous heating, the heating system shall be fitted with a form of automatic control which has the capability of ensuring that the temperature conditions normal for the intended use of the building or part are maintained only during periods when the building or part is occupied for that use.

(2) Subject to the provisions of paragraphs (3), (4) and (5), where the provisions of regulation T1(2)(b) apply and the intended use of the part or parts of the building for which the extension is provided does not require continuous heating and any controls of the existing heating system do not have the capability described in this paragraph or are not fitted, the extension shall be fitted with a form of automatic control which has the capability of ensuring that the temperature conditions normal for the intended use of such part or parts are maintained only during periods when the part is or parts are occupied for that use.

(3) Where this Part applies and the output rating of any heating system or of any extension to a heating system is 100 kW or less, it shall be sufficient for the purpose of this regulation to provide an automatic switch which is capable of both shutting down and starting up the system or extension at pre-set times.

(4) Nothing in this regulation shall apply to an individual room or space heater with an output rating of 10 kW or less.

(5) Nothing in this regulation shall prohibit the installation of controls to prevent damage to the structure, services, fittings, equipment or contents of any building by low temperature, excessive humidity or condensation.

#### *Control of the operation selection of boilers*

T5.—(1) Where the provisions of regulation T1(2)(a) apply, any heating system which includes 2 or more interconnected gas or oil fired boilers of an aggregate output rating exceeding 100 kW shall be provided with automatic controls which have the capability of—

- (a) shutting down and starting up the boilers so that only that number of boilers sufficient for maintaining the temperature conditions and hot water supply normal for the intended use of the building or any part of the building is in operation at any one time; and
  - (b) reducing the flow of water through any boiler which is shut down.
- (2) Where the provisions of regulation T1(2)(b) apply and the extension to the heating system includes 2 or more interconnected gas or oil fired boilers of an aggregate output rating exceeding 100 kW, the extension shall be fitted with automatic controls which have the capability of—
- (a) shutting down and starting up the boilers included in the extension so that only that number of such boilers sufficient for maintaining the temperature conditions and hot water supply normal for the intended use of the part or parts of the building for which the extension is provided is in operation at any one time; and
  - (b) reducing the flow of water through any boiler included in the extension which is shut down.

*Control of temperature of stored hot water*

T6. Where this Part applies, provision shall be made for the purpose of regulating the temperature of any contents of any hot water storage vessel by the provision of—

- (a) a thermostat fitted to the storage vessel; and
- (b) in the case of any hot water storage vessel having a capacity which exceeds 150 litres, an automatic switch which has the capability of stopping and starting a supply of heat to any contents of the vessel at preset times.

PART U

TOXIC SUBSTANCES

*General prohibition on use of urea formaldehyde foam for cavity insulation*

U1. Notwithstanding anything in Schedules 9 or 9A (deemed-to-satisfy provisions relating to thermal insulation), urea formaldehyde foam shall not be used for the filling of cavities in cavity walls other than cavity walls with an inner leaf constructed of bricks or blocks.

*Limited permitted use of urea formaldehyde foam for cavity insulation*

U2. Where the cavity of a cavity wall having an inner leaf of bricks or blocks is filled with urea formaldehyde foam all reasonable precautions shall be taken when the work is carried out to prevent the subsequent permeation of formaldehyde fumes into any internal part of a building used or intended to be used for occupation.

*Deemed-to-satisfy provisions for use of urea formaldehyde foam for cavity insulation*

U3. The requirements of regulation U2 shall be deemed to be satisfied if the foam is manufactured, prepared and inserted in accordance with BS 5617: 1978 and BS 5618: 1978.

**Schedule to be substituted for Schedule 9 (Thermal Insulation of Dwellings) of the principal regulations**

**Thermal Insulation of Dwellings**

**PART I: INTERPRETATION OF SCHEDULE 9:**

1. In this Schedule "thermal conductivity"—

(a) means the quantity of heat which passes in unit time through unit area, of a homogeneous flat slab of unit thickness when unit difference of temperature is established between its faces, expressed in  $W/m^2C$ ; and

(b) in the case of any material containing cement, refers exclusively to the thermal conductivity of that material having a moisture content of 3% by volume.

2. In the Tables in Parts II, III and IV—

(a) a minimum thickness specified under any capital letter at the head of column (5) is the required minimum thickness of the insulating material identified by that capital letter in the Table to this rule; and

(b) the words "insulating material" in column (1), refer only to materials in relation to which a minimum thickness is prescribed by a relevant entry in column (5).

Provided that the letter D shall only be taken to refer to urea formaldehyde cavity foam fill in circumstances in which its use is not prohibited by regulation U1.

**TABLE TO RULE 2: INSULATING MATERIALS**

<i>Type</i>	<i>Description</i>
(1)	(2)
A	Wood wool slab (density not exceeding $500 \text{ kg/m}^3$ )
B	Fibre building board; insulation board or bitumen impregnated insulating board Perlite granules
C	Cellular glass
D	Mineral fibre quilt or loose fill Urea formaldehyde foam cavity fill
E	Mineral fibre slab or rigid mat Expanded polystyrene insulating board or loose fill Phenol formaldehyde insulating board
F	Polyurethane core to laminated board
G	Exfoliated vermiculite loose fill
H	Corkboard
J	Autoclaved aerated concrete (density not exceeding $500 \text{ kg/m}^3$ )

3. If, in addition to the component parts described in column (1) of any Table in Part II, III or IV, the construction of a wall, floor or roof includes any one of the surface finishes described in column (1) of the Table to this rule, the minimum thickness of insulating material specified in column (5) of the relevant Table in Part II, III or IV (or if there are no entries in that column, the minimum thickness specified in Column (2) of that Table) shall be taken to be reduced by the percentage in column (2) of the Table to this rule.

TABLE TO RULE 3: REDUCTION OF MINIMUM THICKNESS

<i>Description of internal surface finish</i> (1)	<i>Percentage reduction</i> (2)
1. Dense plaster	2
2. Lightweight plaster	6
3. Plasterboard on dabs, strips or battens	20
4. Insulating plasterboard on battens	30

4. If the density or thermal conductivity of a material is required to conform to a limit specified in column (3) or (4) in any Table in Part II, III or IV and the value is intermediate between 2 adjacent values specified in the relevant column, the appropriate minimum thickness of insulating material for the purposes of column (5) of that Table (or, if there are no entries in that column, the minimum thickness specified in column (2) of that Table) may, at the option of the person intending to erect the building, be determined by linear interpolation.

5. If, in addition to the component parts described in column (1) of the Table to Part IV, a roof includes a layer of fibre insulating board at least 12 mm thick interposed between expanded polystyrene insulating board and the roof covering or screed, the relevant minimum thickness of expanded polystyrene insulating board specified in column (5), type E, of the said Table may be reduced by 8 mm.



(i) the inner leaf is of brickwork; or	100	—	—	—	—	50	—	35	25
(ii) the inner leaf is of concrete blocks or slabs conforming to the limit in column (3) or (4); or	100	2300	1.63	—	—	56	—	39	28
	100	1700	0.76	—	—	53	—	37	26
	100	1400	0.51	—	—	50	—	35	25
	100	1100	0.34	—	—	45	—	31	22
	100	750	0.22	—	—	37	—	27	18
	100	600	0.19	—	—	33	—	23	17
	100	400	0.15	—	—	26	—	18	13
(c) the insulating material is separated from the inner face of the inner leaf by an airspace not less than 25 mm wide; and									
(i) the inner leaf is of brickwork; or	100	—	—	—	—	41	32	28	20
(ii) the inner leaf is of concrete blocks or slabs conforming to the limit in column (3) or (4).	100	2300	1.63	—	—	47	40	33	24
	100	1700	0.76	—	—	44	35	31	22
	100	1400	0.51	—	—	41	32	28	20
	100	1100	0.34	—	—	36	29	25	18
	100	750	0.22	—	—	28	22	19	14
	100	600	0.19	—	—	25	20	17	12
	100	400	0.15	—	—	17	14	12	9

3. A solid wall, rendered externally, consisting of solid cast concrete or solid concrete blocks or slabs and conforming to the limit in column (2) and to the limit in column (3) or (4); and

(a) insulating material is attached directly to the inner face; or	200	2300	1.63	—	—	69	55	48	34
	200	1700	0.76	—	—	62	50	43	31
	200	1400	0.51	—	—	57	45	40	28
	200	1100	0.34	—	—	48	38	33	24
	200	750	0.22	—	—	33	26	23	16
	200	600	0.19	—	—	23	18	16	11
	200	400	0.15	—	—	9	7	6	4
(b) insulating material is separated from the inner face by an airspace not less than 25 mm wide.	200	2300	1.63	—	—	60	48	42	30
	200	1700	0.76	—	—	53	43	37	27
	200	1400	0.51	—	—	48	38	33	24
	200	1100	0.34	—	—	39	31	27	19
	200	750	0.22	—	—	24	19	17	12
	200	600	0.19	—	—	14	11	10	7
	200	400	0.15				No requirement		

PART II: SPECIFICATIONS RELATING TO WALLS—*continued*TABLE I : WALLS REQUIRED TO HAVE A U VALUE NOT EXCEEDING  $0.6 \text{ W/m}^2\text{°C}$ —*continued*

(1) <i>Description of wall</i>	(2) Minimum thickness (in mm)	(3) Maximum density (in $\text{kg/m}^3$ )	(4) Maximum thermal conductivity (in $\text{W/m}^2\text{°C}$ )	(5) Minimum thickness (in mm) of insulating material referred to in column (1) according to type					
				A	B	C	D	E	F
4. A wall, rendered externally, of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (3) or (4)—									
(a) in a single leaf conforming to the limit in column (2); or	565 357 316 250	1100 750 600 400	0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement	
(b) in two leaves of similar thickness and composition, separated by a cavity not less than 25 mm wide, the two leaves together conforming to the limit in column (2).	470 301 263 208	1100 750 600 400	0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement	
5. A composite wall containing a cavity not less than 25 mm wide and comprising—									
(a) an external cladding of metal, glass or plastics sheet; and									
(i) insulating material and an internal lining of gypsum plasterboard secured to studding; or	—	—	—	—	—	69	55	48	34
(ii) an inner leaf of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (2) and to the limit in column (3) or (4); or	444 288 249 196	1100 750 600 400	0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement	

(b) an external veneer of single-leaf brickwork or of tiles or weatherboarding secured on battens with a background of breather paper and counter-battens sufficient to preserve the required cavity; and	—	—	—	—	—	—	50	44	31
(i) insulating material and an internal lining of gypsum plasterboard secured to studding; or	—	—	—	—	—	—	—	—	—
(ii) an inner leaf of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (2) and to the limit in column (3) or (4).	414	1100	0.34	No requirement					
	268	750	0.22	No requirement					
	232	600	0.19	No requirement					
	183	400	0.15	No requirement					



(i) the inner leaf is of brickwork; or	100	—	—	—	—	16	—	11	8
(ii) the inner leaf is of concrete blocks or slabs conforming to the limit in column (3) or (4); or	100	2300	1.63	—	—	21	—	15	11
	100	1700	0.76	—	—	19	—	13	10
	100	1400	0.51	—	—	16	—	11	8
	100	1100	0.34	—	—	10	—	7	5
	100	750	0.22			No requirement			
	100	600	0.19			No requirement			
	100	400	0.15			No requirement			
<hr/>									
(c) the insulating material is separated from the inner face of the inner leaf by an airspace not less than 25 mm wide; and									
(i) the inner leaf is of brickwork; or	100	—	—	—	—	7	6	5	3
(ii) the inner leaf is of concrete blocks or slabs conforming to the limit in column (3) or (4).	100	2300	1.63	—	—	13	10	9	6
	100	1700	0.76	—	—	10	8	7	5
	100	1400	0.51	—	—	7	6	5	3
	100	1100	0.34			No requirement			
	100	750	0.22			No requirement			
	100	600	0.19			No requirement			
	100	400	0.15			No requirement			
<hr/>									
3. A solid wall, rendered externally, consisting of solid cast concrete or solid concrete blocks or slabs and conforming to the limit in column (2) and to the limit in column (3) or (4); and									
(a) insulating material is attached directly to the inner face; or	200	2300	1.63	—	—	34	27	24	17
	200	1700	0.76	—	—	28	23	20	14
	200	1400	0.51	—	—	22	19	16	11
	200	1100	0.34	—	—	14	12	10	7
	200	750	0.22			No requirement			
	200	600	0.19			No requirement			
	200	400	0.15			No requirement			
	<hr/>								
(b) insulating material is separated from the inner face by an airspace not less than 25 mm wide.	200	2300	1.63	—	—	25	20	18	13
	200	1700	0.76	—	—	19	16	13	10
	200	1400	0.51	—	—	13	11	9	7
	200	1100	0.34			No requirement			
	200	750	0.22			No requirement			
	200	600	0.19			No requirement			
	200	400	0.15			No requirement			

PART II: SPECIFICATIONS RELATING TO WALLS *continued*TABLE 2: WALLS REQUIRED TO HAVE A U VALUE NOT EXCEEDING  $1.0 \text{ W/m}^2\text{°C}$  — *continued*

(1) Description of wall	(2) Minimum thickness (in mm)	(3) Maximum density (in $\text{kg/m}^3$ )	(4) Maximum thermal conductivity (in $\text{W/m}^2\text{°C}$ )	(5) Minimum thickness (in mm) of insulating material referred to in column (1) according to type							
				A	B	C	D	E	F		
4. A wall, rendered externally, of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (3) or (4)—											
(a) in a single leaf conforming to the limit in column (2); or	460 307 196 172 136	1400 1100 750 600 400	0.51 0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement No requirement			
(b) in 2 leaves of similar thickness and composition, separated by a cavity not less than 25 mm wide, the 2 leaves together conforming to the limit in column (2).	340 226 146 127 100	1400 1100 750 600 400	0.51 0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement No requirement			
5. A composite wall containing a cavity not less than 25 mm wide and comprising—											
(a) an external cladding of metal, glass or plastics sheet; and	—	—	—	—	—	—	—	32	26	22	16
(i) insulating material and an internal lining of gypsum plasterboard secured to studding; or											
(ii) an inner leaf of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (2) and to the limit in column (3) or (4); or	326 218 141 122 96	1400 1100 750 600 400	0.51 0.34 0.22 0.19 0.15					No requirement No requirement No requirement No requirement No requirement			

	—	—	—	—	—	28	—	20	14
(b) an external veneer of single-leaf brickwork or of tiles of weatherboarding secured on battens with a background of breather paper and counter-battens sufficient to preserve the required cavity; and									
(i) insulating material and an internal lining of gypsum plasterboard secured to studding; or									
(ii) an inner leaf of solid cast concrete or solid concrete blocks or slabs conforming to the limit in column (2) and to the limit in column (3) or (4).	230	1400	0.51				No requirement		
	153	1100	0.34				No requirement		
	99	750	0.22				No requirement		
	86	600	0.19				No requirement		
	68	400	0.15				No requirement		

## PART III: SPECIFICATIONS RELATING TO FLOORS

TABLE: FLOORS EXPOSED TO THE EXTERNAL AIR REQUIRED TO HAVE A U VALUE NOT EXCEEDING  $0.6 \text{ W/m}^2\text{°C}$ 

(1) <i>Description of floor</i>	(2) Minimum thickness (in mm)	(3) Maximum density (in $\text{kg/m}^3$ )	(4) Maximum thermal conductivity (in $\text{W/m}^2\text{°C}$ )	(5) Minimum thickness (in mm) of insulating material referred to in column (1) according to type (dimensions in brackets indicate the minimum thickness required when one side of an enclosed space is faced with bright reflective foil)											
				A	B	C	D	E	F	G	H	I	J		
1. Floor of slabs or hollow beams of dense concrete conforming to the limit in column (2) with—															
(a) insulating material in direct contact with the upper or lower surface of the floor; or	100	—	—	—	—	—	116	—	68	54	47	34			
(b) insulating material separated by an airspace not less than 20 mm wide from the upper or lower surface of the floor.	100	—	—	—	—	—	97	—	57	46	40	29			
2. Floor of slabs or beams of autoclaved aerated concrete conforming to the limit in column (2) and to the limit in column (3) or (4) with—															
(a) no additional insulation; or	250	600	0.18												No requirement
(b) insulating material in direct contact with the upper surface of the floor; or	200	600	0.18	—	—	—	27	19	16	13	11	8			
	150	600	0.18	—	—	—	50	36	30	24	21	15			
	100	600	0.18	—	—	—	74	52	44	35	31	22			
(c) insulating material separated by an airspace not less than 20 mm wide from the upper or lower surface of the floor.	200	600	0.18	—	—	—	9	6	5	4	4	3			
	150	600	0.18	—	—	—	32	23	19	15	13	10			
	100	600	0.18	—	—	—	56	40	33	26	23	16			

## PART IV: SPECIFICATIONS RELATING TO ROOFS

TABLE: ROOFS REQUIRED TO HAVE A U VALUE NOT EXCEEDING  $0.35 \text{ W/m}^2\text{°C}$ 

(1) Description of roof	(2) Minimum thickness (in mm)	(3) Maximum density (in $\text{kg/m}^3$ )	(4) Maximum thermal conductivity (in $\text{W/m}^2\text{°C}$ )	(5) Minimum thickness (in mm) of insulating material referred to in column (1) according to type (dimensions in brackets indicate the minimum thickness required when one side of an enclosed space is faced with bright reflective foil)								
				A	B	C	D	E	F	G	H	J
1. Any roof not precisely specified in this Table which contains insulating material.	—	—	—	—	—	—	108	95	68	176	—	450
2. Pitched roof of slates or tiles on sarking felt or sarking paper (or a pitched or flat roof of any waterproof material on boarding not less than 16 mm thick) having a ventilated space between the underside of the roof and a separate ceiling to the room below with—												
(a) insulating material in direct contact with that ceiling; or	—	—	—	—	—	—	94	82	59	152	98	—
(b) insulating material separated from either surface of the ceiling by an enclosed air space.	—	—	—	—	—	—	—	76 (70)	54 (50)	—	91 (84)	—
3. Pitched or flat roof of asbestos-cement or metal decking with fibre insulating board not less than 12.5 mm thick below the roof finish (or a weatherproof deck of wood wool slabs not less than 50 mm thick) with—												
(a) insulating material in contact with the roof covering the top of the decking or the soffit of the decking; or	—	—	—	—	—	—	—	80	57	—	96	—
(b) insulating material separated from the soffit of the decking by an enclosed air space.	—	—	—	—	—	—	—	74	53	—	89 (82)	—



## SCHEDULE 4

Regulation 4(29)

Schedule to be substituted for Schedule 11 (Publications to which Specific Reference is made in the Building Regulations (Northern Ireland) 1977) to the principal regulations

## SCHEDULE 11

Regulation A2(7)(b)

Publications to which Specific Reference is made in the Building Regulations (Northern Ireland) 1977

TABLE A · British Standards

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
BS 41: 1973	—	—	L8(a) L16(b)
BS 65: 1981	1	AMD 1202	L6(1)(a)(iii) L16(a)
BS 144: 1973	1	AMD 1427	Schedule 3, Table 3, item 1
BS 449: Part 2: 1969	1 2 3 4 5	AMD 416 AMD 523 AMD 661 AMD 1135 AMD 1787	D9 Schedule 6, Part V, section A(A), item 1(b) Schedule 6, Part V, section B(A), item 1(b)
Addendum No. 1 (April 1975) to BS 449: Part 2: 1969	1 2	AMD 1765 AMD 1929	
Supplement No. 1 (PD 3343) to BS 449: Part 1: 1970	1	AMD 734	
BS 476: Part 1: 1953	1 2	AMD 409 AMD 686	E1(5), proviso (a) Table to E1, subheading E15(1)(f), proviso
BS 476: Part 3: 1958	1	PD 3276	E1(6)
BS 476: Part 4: 1970	1	AMD 2483	A2(1)
BS 476: Part 6: 1968	1 2	AMD 549 AMD 3192	E7(4), proviso E7(5)(c)(ii) E14(6)(b)(vi) E15(1)(e)(ii)
BS 476: Part 7: 1971	—	—	E15(1)(f)
BS 476: Part 8: 1972	1	AMD 1873	E1(5) Table 1 to E1, subheading Table 1 to E1, footnotes

SCHEDULE 11 — *continued*TABLE A British Standards — *continued*

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
BS 567: 1973	—	—	L16(e)(i)
BS 690: Part 2: 1971	—	—	Table to B3, item 13
BS 690: Part 3: 1973	1	AMD 1619	Table to B3, item 13
BS 690: Part 4: 1974	1	AMD 3220	Table to B3, item 13
BS 715: 1970	1 2	AMD 3284 AMD 3517	L16(c)
BS 747: 1977	—	—	Schedule 8, part 1, Note Schedule 8, part IV(B), Note
BS 835: 1973	—	—	L8(b) L16(e)(i)
BS 881 and 589: 1974	—	—	Schedule 3, preamble (i) Schedule 4, Rule 1(c)
BS 882, 1201: Part 2: 1973	1	AMD 1780	C4(a) D7(c)
BS 913: 1973	—	—	Schedule 3, Table 3, items 1 and 2
BS 1105: 1972	—	—	Schedule 6, Part V, sec- tion B(B), item 7
BS 1142: Part 2: 1971	—	—	Table to B3, item 7
BS 1181: 1971	—	—	L6(1)(a)(i) L14(1)(a)(iii)
BS 1243: 1978	1	AMD 3651	Schedule 5, rule 12(1)(b)
BS 1250: Part 1: 1966	—	—	M8(3)(b)(ii)
BS 1297: 1970	—	—	Schedule 4, rule 2(b)(ii)
BS 2750: 1956	1	PD 5065	G6(2)
BS 2782 1970	1 2 3 4 5	AMD 936 AMD 999 AMD 1524 AMD 2222 AMD 3177	E1(7) Table 2 to E1
BS 2989: 1975	—	—	Table to B3, item 12
BS 3051: 1972	—	—	Schedule 3, Table 3, item 2

SCHEDULE 11 — *continued*TABLE A British Standards — *continued*

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
BS 3083: 1980	—	—	Table to B3, item 12
BS 3452: 1962	—	—	C5(d)
BS 3456: Section 2.7: 1970	1	AMD 882	S2(2)(iii)
BS 4011: 1966	1	AMD 1775	Schedule 5, rule 2(2)
BS 4072: 1974	1	AMD 2530	C5(d) Schedule 3, Table 3, item 3
BS 4471: Part 1: 1978	—	—	A2(9)(b)(ii)
BS 4514: 1969	1 2 3 4	AMD 712 AMD 1288 AMD 2719 AMD 3562	Table to E12, specification (b)
BS 4543: Part 1: 1976	—	—	L22(2)(d)
BS 4543: Part 2: 1976	1 2	AMD 2794 AMD 3475	L22(2)(a)
BS 4543: Part 3: 1976	1 2	AMD 2981 AMD 3476	L22(2)(a)
BS 4876: 1972	1 2	AMD 2147 AMD 3175	M5(1)
BS 4978: 1973	1 2 3 4	AMD 1869 AMD 2508 AMD 2730 AMD 2935	Schedule 4, Rule 1(d)
BS 5056: 1974	—	—	Schedule 3, Table 3, item 4
BS 5250: 1975	1	AMD 3025	F5
BS 5258: Part 1: 1975	1	AMD 3348	M8(3), proviso (ii)
BS 5258: Part 2: 1975	1	AMD 3285	M8(3), proviso (ii)
BS 5258: Part 3: 1975	—	—	M8(3), proviso (ii)
BS 5258: Part 4: 1977	—	—	M8(3), proviso (ii)
BS 5258: Part 5: 1975	—	—	M8(3), proviso (ii)
BS 5258: Part 6: 1975	—	—	M8(3), proviso (ii)

SCHEDULE 11 — *continued*TABLE A British Standards — *continued*

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
BS 5258: Part 7: 1977	—	—	M8(3), proviso (ii)
BS 5258: Part 8: 1980	—	—	M8(3), proviso (ii)
BS 5258: Part 10: 1980	—	—	M8(3), proviso (ii)
BS 5258: Part 11: 1980	—	—	M8(3), proviso (ii)
BS 5258: Part 12: 1980	—	—	M8(3), proviso (ii)
BS 5262: 1976	1	AMD 2103	Table to B3, item 11
BS 5306: Part 2: 1979	1	AMD 3586	E4(1), proviso Table to E5, Part 1, footnote y
BS 5386: Part 3: 1980	—	—	M8(3), proviso (ii)
BS 5422: 1977	1	AMD 2599	S2(1)(i) S2(2)(i)
BS 5615: 1978	—	—	S2(2)(ii)
BS5617: 1978	1	AMD 2979	U3
BS 5618: 1978	1 2 3	AMD 2980 AMD 3489 AMD 4130	U3
BS 5810: 1979	—	—	R3

SCHEDULE 11. — *continued*

TABLE B BRITISH STANDARD CODES OF PRACTICE

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
CP3: Chapter IV: Part 1; 1971	1 2 3 4	AMD 851 AMD 1007 AMD 1889 AMD 2708	EE4
CP3: Chapter IV: Part 2: 1968	—	—	EE4
CP3: Chapter IV: Part 3: 1968	1	PD 6407	EE4
CP3: Chapter V: Part 1: 1967	1 2 3	AMD 141 AMD 587 AMD 1024	D2(2)(a) D2(2)(b) H6(2)(b) H7
CP3: Chapter V: Part 2: 1972	—	—	D2(2)(c)
CP101: 1972	1 2	AMD 1754 AMD 2471	D6
CP110: Part 1: 1972	1 2 3 4	AMD 1553 AMD 1881 AMD 2289 AMD 3451	D5(1)(a) D11(1)(a) D19(1)(a)
CP110: Part 2: 1972	—	—	D5(1)(a) D11(1)(a)
CP110: Part 3: 1972	—	—	D5(1)(a) D11(1)(a)
CP111: 1970	1 2	AMD 744 AMD 2031	D13(a)
CP112: Part 2: 1971	1 2 3 4 5	AMD 1265 AMD 1845 AMD 1887 AMD 3180 AMD 3278	D12(a) D12(b)(ii) Schedule 4, rule 1(b)
CP 112: Part 3: 1973	—	—	D12(c)
CP 114: 1969	1 2 3 4	AMD 1241 AMD 1552 AMD 1923 AMD 2304	D5(1)(b) D11(1)(b) D19(1)(b)
CP 115: 1969	1 2 3 4	AMD 1242 AMD 1551 AMD 1922 AMD 2305	D11(1)(b) D19(1)(b)

SCHEDULE 11 — *continued*TABLE B BRITISH STANDARD CODES OF PRACTICE — *continued*

Publication (1)	Amendment Slip		Context (4)
	Serial Number (2)	Reference Number (3)	
CP 116: 1969	1 2 3 4	AMD 1239 AMD 1550 AMD 1924 AMD 2306	D11(1)(b) D19(1)(b) D19(4)
CP 116: Addendum No. 1: 1970	—	—	
CP 117: Part 1: 1965	—	—	D16
CP 118: 1969	1	AMD 1129	D10(1) D10(2)
CP 121: Part 1: 1973	1 2	AMD 1751 AMD 2022	D13(b)
CP 144: Part 3: 1970	1	AMD 2527	Table to B3, item 5 Schedule 8, Part IVB, item 1
CP 2004: 1972	1	AMD 1755	D4

SCHEDULE 11 — *continued*

TABLE C OTHER PUBLICATIONS

PUBLICATION (1)	AMENDMENT (2)	CONTEXT (3)
Standard Grading Rules for Canadian Lumber 1979 published by the National Lumber Grades Authority	—	Schedule 4, rule 1(e)
Standard Industrial Classification (Third Edition 1968) issued by the Central Statistical Office	—	Schedule 1, Part A, Class 7

*(This note is not part of the Regulations.)*

These regulations further amend the Building Regulations (Northern Ireland) 1977. They come into operation on 1st January 1985 but do not apply to work which has been completed, or for which plans have been deposited with a district council before that date.

The principal changes are:—

- (a) New provisions to clarify the application of the Building Regulations to the insertion of cavity wall insulation into both existing and new buildings and the “bridging” of wall cavities (Regulations 4(4) and 4(10)).
- (b) Higher thermal insulation standards in dwellings, measures to limit condensation risks and limitations on the area of windows and rooflights (Regulation 4(14)).
- (c) Higher standards of safety for gas-fired heating appliances (Regulation 4(21)).
- (d) New requirements for the thermal insulation of pipes and storage vessels intended to carry or store heated gases or fluids in the heating systems of buildings. In so far as they apply to new non-industrial buildings this amendment gives effect to the first paragraph of Article 2 of Council Directive 78/170 EEC (O.J. No. L52, 23.2.1978, pp 32-33 (Regulation 4(22)).
- (e) New requirements for controls to be fitted to space and water heating systems (regulation 4(22)).
- (f) New control over the use of urea formaldehyde foam as an insulant for cavity walls (Regulation 4(22)).
- (g) Exemption from the Building Regulations, subject to conditions, of emergency shelters (Regulation 4(23)(b)).

Other minor amendments have been made, including the updating of references to various technical publications.

The following publications referred to in these regulations may be obtained from the sources indicated:—

- (a) British Standards and British Standard Codes of Practice may be obtained from the British Standards Institution, Linford Wood, Milton Keynes, MK14 6LE;
- (b) The Standard Grading Rules for Canadian Lumber 1979 may be obtained from The National Lumber Grades Authority, 1055 West Hastings Street, Vancouver, British Columbia, Canada; and
- (c) The Standard Industrial Classification (Third Edition 1968) may be obtained from The Central Statistical Office, Great George Street, London WS1P 3AQ.

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1984 No. 344

### **Water (Temporary Prohibition) (Revocation) Order (Northern Ireland) 1984**

This Order, being of a temporary character, is not printed at length in this volume.