STATUTORY INSTRUMENTS

# 1973 No. 1363

# BUILDING AND BUILDINGS
## The Noise Insulation Regulations 1973

*Laid before Parliament in draft*

*Made* - - - 1*st August* 1973

*Coming into Operation* 1*st September* 1973

ARRANGEMENT OF REGULATIONS

1. Citation and commencement.
2. Interpretation.
3. Duty to carry out insulation work or to make grants.
4. Power to carry out insulation work or to make grants.
5. Insulation of Buildings against construction noise.
6. Calculation of level of noise.
7. Buildings to which the regulations apply.
8. Offer and acceptance of insulation work.
9. Nature and extent of work to be undertaken.
10. Conditions of carrying out of insulation work and of making grants.
11. Amount of grant.
12. Consent to carrying out of insulation work.
13. Reconsideration of buildings.
14. Local authorities as agents of highway authorities.

SCHEDULES

Schedule 1—Calculation of level of noise.
Schedule 2—Specifications for insulation work.

The Secretary of State for the Environment (as respects England, except Monmouthshire) and the Secretary of State for Wales (as respects Wales and Monmouthshire), in exercise of their powers under section 20 of the Land Compensation Act 1973(a) and of all other powers enabling them in that behalf, hereby make the following regulations:—

*Citation and commencement*

**1.** These regulations may be cited as the Noise Insulation Regulations 1973 and shall come into operation on 1st September 1973.

*Interpretation*

**2.**—(1) In these regulations, except where the context otherwise requires—

"the Act" means the Land Compensation Act 1973;

"altered highway" means a highway of which the location, width or level of the carriageway has been or is to be altered (otherwise than by resurfacing) after 16th October 1969, and "alter" and "alteration" in relation to a highway shall be construed accordingly;

"additional carriageway" means a carriageway constructed or proposed to be constructed for a highway beside, above, or below an existing carriageway;

"the appropriate highway authority", in relation to a highway or the carriageway of a highway, means the highway authority who constructed, or propose to construct a highway or additional carriageway, or who altered or propose to alter a highway;

"building" includes part of a building;

"claimant" means a person who accepts an offer made under regulation 8;

"the commencement date" means the date of coming into operation of these regulations;

"dB(A)" and "L10 (18-hour)" have the meanings assigned to them respectively in Part I of Schedule 1;

"eligible building" has the meaning assigned to it in regulation 7;

"eligible room" means a living room or a bedroom having a qualifying door or qualifying window in an eligible building;

"facade" means a side of a building;

"insulation work" means work carried out to insulate a building against noise and to provide for ventilation and solar control;

"prevailing noise level" means the level of noise expressed as a level of L10 (18-hour) in dB(A) one metre in front of the most exposed window in a facade of a building caused by traffic using any highway;

"qualifying door" and "qualifying window" have the meanings assigned to them respectively in Part I of Schedule 2;

"relevant date" means the date on which a highway or additional carriageway was first open to public traffic or, in the case of an altered highway, the date on which it was first open to public traffic after completion of the alteration;

(a) 1973 c. 26.

"relevant noise level" means the level of noise, expressed as a level of L10 (18-hour) in dB(A), caused or expected to be caused by traffic using or likely to use any highway;

"specified level" means a noise level of L10 (18-hour) of 68dB(A).

(2) A regulation or schedule referred to only by number in these regulations means the regulation or schedule so numbered in these regulations.

(3) The Interpretation Act 1889**(a)** applies for the interpretation of these regulations as it applies for the interpretation of an Act of Parliament.

*Duty to carry out insulation work or to make grants*

**3.**—(1) Subject to and in accordance with the provisions of these regulations, where the use of a highway to which this regulation applies causes or is expected to cause noise at a level not less than the specified level, the appropriate highway authority shall carry out or make a grant in respect of the cost of carrying out insulation work in or to an eligible building.

(2) For the purpose of this and the next following regulation the use of a highway causes or is expected to cause noise at a level not less than the specified level if the relevant noise level calculated in accordance with regulation 6 is greater by at least 1 dB(A) than the prevailing noise level immediately before works for the construction of a highway or an additional carriageway were begun and is not less than the specified level, and

(3) This Regulation applies to—

(*a*) a highway, and

(*b*) a highway for which an additional carriageway has been or is to be constructed

if the highway or additional carriageway was or will be first open to public traffic after 16th October 1972.

*Power to carry out insulation work or to make grants*

**4.**—(1) Where the use of a highway to which this paragraph applies causes or is expected to cause noise at a level not less than the specified level the appropriate highway authority may carry out or make a grant in respect of the cost of carrying out insulation work in or to an eligible building.

(2) For the purpose of paragraph (1) of this regulation the use of an altered highway causes or is expected to cause noise at a level not less than the specified level if the relevant noise level calculated in accordance with regulation 6 is greater by at least 1 dB(A) than the prevailing noise level immediately before works for the alteration of the highway were begun and is not less than the specified level.

(3) Paragraph (1) of this regulation applies to—

(*a*) a highway, and

(*b*) a highway for which an additional carriageway has been constructed, if the highway or additional carriageway was first open to public traffic after 16th October 1969 and before 17th October 1972;

(*c*) an altered highway, and

(*d*) a highway to which regulation 3 applies before any duty under regulation 8 has arisen in respect thereof.

**(a)** 1889 c. 63.

(4) Where the appropriate highway authority are required by regulation 3(1) or empowered by paragraph (1) of this regulation to carry out or make a grant in respect of the cost of carrying out insulation work in or to an eligible building, they may also carry out or make a grant in respect of the cost of carrying out insulation work in or to an eligible building in respect of which the requirements of regulation 3(2) or paragraph (2) of this regulation, as the case may be, are not satisfied, if the facades of both buildings are physically connected.

(5) The provisions of these regulations shall, so far as applicable, apply to the carrying out of insulation work or the making of grants under this regulation subject to any necessary adaptations or modifications, as if the authority were acting in execution of a duty arising under regulation 3.

*Insulation of buildings against construction noise*

**5.**—(1) Where works for the construction of a highway or additional carriageway or the alteration of a highway cause or are expected to cause noise at a level which, in the opinion of the appropriate highway authority, seriously affects or will seriously affect for a substantial period of time the enjoyment of an eligible building adjacent to the site on which the works are being or are to be carried out but the relevant noise level calculated in accordance with regulation 6 does not satisfy the requirements of regulation 3(2) or 4(2), as the case may be, the appropriate highway authority may carry out or make a grant in respect of the cost of carrying out insulation work in or to the building.

(2) The provisions of these regulations shall, so far as applicable, apply to the carrying out of insulation work or the making of grants under this regulation subject to any necessary adaptations and modifications, and in particular, but without prejudice to the generality of the foregoing, an offer under regulation 8—

(*a*) may be accepted only by the occupier of or, if an eligible building is unoccupied, by the person entitled to occupy the building, and

(*b*) shall not be accepted after the expiration of two months after the date thereof.

*Calculation of level of noise*

**6.**—(1) In this regulation—

"calculate" means calculate by the use of the prediction method or the measurement method;

"the measurement method" means the method of calculation described in Parts I and III of Schedule 1;

"the prediction method" means the method of calculation described in Parts I and II of Schedule 1.

(2) The appropriate highway authority for a highway to which regulation 3 applies shall calculate the relevant noise level in relation to an eligible building and shall prepare and publish a map or list identifying every eligible building having a facade in respect of which the relevant noise level as so calculated satisfies the requirements of regulation 3(2).

(3) The map or list shall be prepared and published not later than six months after the relevant date or, if the relevant date was before the commencement date, not later than twelve months after that date.

(4) A map or list required by these regulations to be published shall be deposited at the office of the appropriate highway authority or their agent

nearest to the buildings identified therein and shall be made available for inspection during the hours when the office is open.

(5) In calculating the relevant noise level in relation to any eligible building for the purpose of these regulations a highway authority shall use the prediction method unless in their opinion it is inappropriate in the circumstances of the case.

*Buildings to which these regulations apply*

**7.**—(1) Subject to the provisions of this regulation, the classes of buildings in respect of which a duty or power is to arise under these regulations are—

(*a*) dwellings, and

(*b*) other buildings used for residential purposes,

and the expression "eligible building" in these regulations means a building falling within either of those classes.

(2) The following shall not be eligible buildings—

(*a*) any building in respect of which a compulsory purchase order is in force, or in respect of which a compulsory purchase order has been submitted for confirmation to, or prepared in draft by, a Minister and in respect of which a notice has been published under paragraph 3(1)(*a*) of Schedule 1 to the Acquisition of Land (Authorisation Procedure) Act 1946**(a)** or under any corresponding enactment applicable thereto, unless the order has been withdrawn or a decision has been taken not to confirm or make the order, as the case may be;

(*b*) any building liable to be acquired compulsorily under any local or private Act of Parliament or under an order, rule, regulation, byelaw or scheme made under an Act of Parliament;

(*c*) any building which is the subject of a demolition or closing order under Part II of the Housing Act 1957**(b)** or an undertaking accepted under section 16(4) of the said Act, or section 60(2) of the Housing Act 1969**(c)**;

(*d*) any building within an area declared to be a clearance area by a resolution under section 42 of the Housing Act 1957;

(*e*) any building which was first occupied after the relevant date;

(*f*) any part of a building in respect of which part a grant has been paid or is payable in respect of the carrying out of insulation work under any enactment other than the Act or any instrument made under any such enactment.

*Offer and acceptance of insulation work or grant*

**8.**—(1) As soon as a highway authority have published a map or list pursuant to regulation 6 the authority or their agent shall make an offer in writing in accordance with the provisions of paragraph (2) of this regulation.

(2) The offer shall be made to the occupier of or, if the building is unoccupied, to the person entitled to occupy, every eligible building identified on the map and shall—

(*a*) identify the building to which it relates;

(*b*) offer to carry out or make a grant in respect of the cost of carrying out insulation work in or to every eligible room in the building;

(*c*) describe the work required to be carried out for this purpose;

**(a)** 1946 c. 49. **(b)** 1957 c. 56. **(c)** 1969 c. 33.

(*d*) request the person to whom the offer is made, if he is not the owner of the building, to notify his immediate landlord or licensor of the terms of the offer, and

(*e*) set out the conditions in regulation 10, subject to which the offer is made.

(3) Subject to paragraphs (6) and (7) of this regulation an offer may be accepted by the person to whom it was made or his successor being in occupation or entitled to occupy the building and, if it has not been so accepted, it may after the expiration of three months after the date thereof be accepted by any other person to whom it has or could have been notified pursuant to this regulation and in that event it shall not thereafter be capable of being accepted by the occupier nor by the person entitled to occupy the building.

(4) An acceptance of an offer under this regulation shall be in writing and may be an acceptance—

(*a*) of the offer to carry out sound insulation work in or to some one or more or all of the rooms in respect of which the offer was made, and

(*b*) of the offer of a grant in respect of the cost of carrying out such work in or to some one or more of the other rooms or all of the rooms in respect of which the offer was made,

but no offer of a grant shall be accepted in respect of any room if an offer to carry out insulation work has been accepted in respect thereof.

(5) An acceptance of an offer under this regulation shall claim the benefit of the offer and shall contain the following—

(*a*) the name and address of the claimant;

(*b*) particulars identifying the eligible building;

(*c*) a statement of the capacity (whether as occupier, lessor or licensor) in which the claimant accepts the offer;

(*d*) if he accepts in the capacity of occupier of, or entitled to occupy the building, a statement that he has informed his immediate lessor or licensor (if any) of the terms of the offer, and whether or not that person (if any) consents to the carrying out of the insulation work;

(*e*) particulars of the rooms (if any) in respect of which he accepts the offered work, and

(*f*) particulars of the rooms (if any) in respect of which he accepts the offered grant.

(6) No offer shall be accepted except during one of the following periods—

(*a*) six months after the date thereof, or

(*b*) twelve months after the relevant date.

Provided that the appropriate highway authority or their agent may extend the time limited by this paragraph, whether before or after the expiration thereof.

(7) Where insulation work has been carried out in or to an eligible building and completed in accordance with the relevant specifications before an offer is made, an offer under paragraph (2) of this regulation shall be deemed to be an offer of a grant only, and may be accepted only by, the person who incurred the cost of the work.

*Nature and extent of work to be undertaken*

**9.**—(1) Insulation work carried out pursuant to these regulations shall be in accordance with the relevant specifications.

(2) Notwithstanding anything in these regulations there shall not be carried out nor shall a grant be made in respect of the carrying out of insulation work in or to an eligible room in which there is installed any flueless combustion appliance other than a gas cooker, unless there will be in that room after completion of the insulation work an uninsulated window capable of being opened.

(3) Nothing in these regulations shall require an authority to carry out work or to make a grant in respect of the carrying out of work required—

(*a*) to remedy a defect in a building, or

(*b*) to maintain or repair any equipment or apparatus installed in or on any building pursuant to these regulations.

(4) In this regulation and in regulation 10 "the relevant specifications" means the items in Part I of Schedule 2, such of the items in Part II of that Schedule as may be approved by the highway authority or their agent and such of the specifications set out in Part III of that Schedule as are applicable in the circumstances of the case.

*Conditions for carrying out of insulation work or making of grants*

**10.**—(1) The carrying out of insulation work and the making of grants shall be dependent upon compliance with the following conditions—

(*a*) the claimant shall have complied with paragraphs (3) to (6) of Regulation 8;

(*b*) a claimant who accepts an offer to carry out insulation work shall—

(i) if he is the occupier of or entitled to occupy the building, afford to the appropriate highway authority or its agent such access to the building as they may reasonably require for the purpose of carrying out and of inspecting the work to ascertain whether it complies with the relevant specifications, or

(ii) if he is not the occupier of nor entitled to occupy the building, procure the occupier or person entitled to occupy the building to afford them such access;

(*c*) a claimant who accepts an offer to make a grant in respect of the cost of insulation work shall carry out the work in accordance with the relevant specifications and complete it before the expiration of twelve months from the date of acceptance and—

(i) if he is the occupier of or entitled to occupy the building, afford to the appropriate highway authority or its agent such access to the building as they may reasonably require for the purpose of inspecting the work to ascertain whether it complies with the relevant specifications, or

(ii) if he is not the occupier of nor entitled to occupy the building, procure the occupier or person entitled to occupy the building to afford them such access.

*Amount of grant*

**11.** The amount of grant shall be equal to the actual cost incurred by the claimant or the reasonable cost which would have been incurred by the highway authority in carrying out in accordance with the relevant specifications the insulation work in respect of which the claimant has accepted an offered grant, whichever shall be less.

*Consent to carrying out of insulation work*

**12.** Where an eligible building is subject to a tenancy and a claim to be entitled to the benefit of an offer is made by a landlord or tenant of the building,

insulation work may be carried out notwithstanding that the consent of the other party to the tenancy is required and is withheld.

*Reconsideration of buildings*

**13.**—(1) If any person claims to be entitled under these regulations to receive an offer of insulation work or a grant in respect of insulation work in or to an eligible building which he occupies or is entitled to occupy, he may apply in writing to the appropriate highway authority, setting out the facts on which he relies, and may request the authority to make him an offer in accordance with the provisions of regulation 8.

(2) An application under paragraph (1) of this regulation must be made after the expiration of six and before the expiration of twelve months after the relevant date, or if the relevant date was before the commencement date, before the expiration of fifteen months after that date.

(3) Upon receipt of an application under this regulation the appropriate authority shall review the calculations of the relevant noise level in accordance with regulation 6 and of the prevailing noise level made in relation to the building, or make such calculations, and if they find that a duty under regulation 3 has arisen with respect to the building they shall comply with the request but otherwise they shall refuse it.

(4) If they refuse the request, the authority shall furnish to the applicant a written statement of the reasons for their refusal.

*Local authorities as agents of highway authorities*

**14.**—(1) A local authority for the area in which a highway is situated may, subject to and in accordance with the provisions of these regulations, act as agent for the appropriate highway authority in dealing with claims from persons other than the local authority, and in discharging and exercising the duties and powers of the highway authority with respect to that highway under these regulations.

(2) The appropriate highway authority alone, and not the local authority, unless that authority is acting as agent of the appropriate highway authority in the construction or alteration of the highway or carriageway in relation to which the functions are exercisable—

(*a*) shall determine the buildings in respect of which insulation work or a grant in respect of such work shall be offered, and

(*b*) shall consider and determine applications made under paragraph (1) of regulation 13.

(3) The appropriate highway authority shall reimburse to each local authority the amounts paid by them as agent under these regulations.

(4) The appropriate highway authority shall pay to each local authority such sums as may be reasonable in respect of the services rendered to them by that authority under these regulations.

(5) In this regulation "local authority" means—

(*a*) elsewhere than in Greater London, and until 1st April 1974, the council of a county, a county district or county borough, and thereafter the council of a county or a district within the meaning of the Local Government Act 1972**(a)**;

(*b*) in Greater London, the Greater London Council, the council of a London borough and the Common Council of the City of London.

**(a)** 1972 c. 70.

Regulation 6

## SCHEDULE 1

### CALCULATION OF LEVEL OF NOISE

### PART I

*Interpretation*

1. In this Schedule—

"dB(A)" is a measure of sound pressure level ("A" weighting) in decibels indicated by measuring equipment which complies with British Standard Specification for a precision sound level meter published on 14 September 1967 under the number B.S. 4197: 1967;

"heavy vehicle" means any vehicle, other than a motor car within the meaning of section 190(2)(*a*) of the Road Traffic Act 1972(**a**), the weight of which unladen exceeds 1525 kilogrammes;

"L10" is the sound level in dB(A) which is exceeded for one-tenth of a period of one hour between 0600 and 2400 hours on a normal working day;

"L10 (18-hour)" is the arithmetic average of all the levels of L10 during a period from 0600 to 2400 hours on a normal working day.

*Estimation of traffic flow*

2. An estimate of the traffic flow on a road shall be an estimate of the maximum number of vehicles expected to use the road on a normal working day between 0600 and 2400 hours within fifteen years after the relevant date, and of the proportion of those vehicles which will be heavy vehicles.

*Estimation of traffic speed*

3. In estimating traffic speed on a road within fifteen years after the relevant date, the speed shown in column 2 of the following table 1 shall be taken to be the average speed of vehicles on a road of the class shown against that speed in column 1 of the table.

TABLE 1

| *Column* 1 | *Column* 2 |
|---|---|
| Roads not subject to a speed restriction of less than 70 miles per hour— | |
| Special roads | 108 kilometres per hour |
| Other roads having a dual carriageway | 97 kilometres per hour |
| Roads having a single carriageway more than 9 metres wide | 88 kilometres per hour |
| Roads having a single carriageway of 9 metres wide or less | 81 kilometres per hour |
| Roads subject to a speed limit of less than 70 miles per hour but more than 30 miles per hour— | |
| Roads having a dual carriageway | 60 kilometres per hour |
| Roads having a single carriageway | 50 kilometres per hour |
| Roads subject to a speed restriction of 30 miles per hour or less | 50 kilometres per hour |

*Adjustment of calculated noise level*

4. Where the level of L10 (18-hour) determined in accordance with this Schedule includes a decimal of 0·5 or more of a decibel, the level of L10 (18-hour) for the purpose of regulations 3 and 4 shall be taken to be the next higher figure in whole decibels.

*Relevant noise level in certain cases*

5. Notwithstanding anything contained or referred to in this Schedule the relevant noise level in relation to an eligible building which—

(*a*) is more than 300 metres from the nearest point on the carriageway of a highway to which regulation 3 or 4(1) applies,

(**a**) 1972 c. 20.

(*b*) has no facade from some point on which a straight line can be drawn to a point on the carriageway of such a highway without passing through a building, or

(*c*) is more than 100 metres from the nearest point on the carriageway of such a highway and has a frontage to another highway, the centre line of which forms an angle with the centre line of the highway referred to in sub-paragraph (*a*) of this paragraph of between 70 and 110 degrees,

shall be taken to be less than the specified level.

PART II

*The prediction method*

6. The prediction method shall be that set out in Parts IV and V, paragraphs 23 to 32 inclusive, 39, 40 and 57 of the bulletin entitled "New Housing and Road Traffic Noise" (Design Bulletin 26), published by Her Majesty's Stationery Office (1972), except that the estimates of traffic flow and traffic speed shall be made in accordance with paragraphs 2 and 3 respectively of this Schedule. Where the estimate of traffic speed exceeds 100 kilometres per hour, the predicted level of traffic noise shall be adjusted by extrapolation of the graph in Figure 2 in the bulletin.

7. Where an eligible building—

(*a*) is 100 metres or less from the nearest point on the carriageway of a highway to which regulation 3 or 4(1) applies, and

(*b*) has a frontage to another highway, the centre line of which forms an angle with the centre line of the highway referred to in sub-paragraph (*a*) of this paragraph of between 70 and 110 degrees,

there shall be deducted from the value of the noise exposure level referred to in paragraph 28 of Design Bulletin 26 the value shown in column 2 of Table 2 below corresponding to the distance of the building from the nearest point on the carriageway of the highway referred to in sub-paragraph (*a*) above measured along the highway referred to in sub-paragraph (*b*) above shown in column 1 of the table.

Table 2

| *Column* 1 | *Column* 2 |
|---|---|
| 15 metres | 1·9 |
| 20 metres | 3·8 |
| 25 metres | 6·6 |
| 30 metres | 8·8 |
| 35 metres | 11·2 |
| 40 metres | 13·0 |
| 50 metres | 16·4 |
| 60 metres | 18·8 |
| 70 metres | 20·8 |
| 80 metres | 22·0 |
| 90 metres | 23·0 |
| 100 metres | 24·0 |

PART III

*The measurement method*

8.—(1) The measurement method shall be as follows—

(*a*) the levels of noise one metre in front of the most exposed window in a facade of a building shall be measured separately within each hour from 0600 hours to 2400 hours on a normal working day for a period—

(i) if registrations are made at a rate of not less than two registrations per second, of not less than that shown in column 2 of the following table 3 against the figure of rate of traffic flow on a road shown in column 1 of the table, or

(ii) in any other case, of not less than fifteen minutes.

TABLE 3

| *Column* 1 | *Column* 2 |
|---|---|
| 1,000 vehicles per hour or less | 15 minutes |
| More than 1,000 and not more than 2,000 vehicles per hour | 10 minutes |
| More than 2,000 and not more than 3,000 vehicles per hour | 8 minutes |
| More than 3,000 vehicles per hour | 5 minutes |

(*b*) the registration of noise levels shall be made at a rate of not less than once every four seconds;

(*c*) the registrations shall be analysed to identify the number of registrations exceeding predetermined values set on the measuring system not more than 5dB(A) apart by using an acoustic calibrator and a calibrated attenuator;

(*d*) these registrations shall be converted to fractions of the measuring period and used to determine L10 for the particular hour;

(*e*) measurements shall not be taken unless the road nearest to the measuring instrument is dry and the general direction of the wind (if any) is away from the road and towards the measuring position, and the strength of the wind (if any) is such that it will not itself create noise at the microphone such as to affect the measured levels of noise.

(2) The level of L10 (18-hour) so determined shall be adjusted in accordance with the following formula:

$$\text{L10 (18-hour)} = \text{L10 (18-hour) (measured)} + 7{\cdot}5 \log_{10} \frac{N_2}{N_1} + 0{\cdot}1\,(P_2 - P_1) + 0{\cdot}12\,(V_2 - V_1)$$

where $N_1$, $P_1$ and $V_1$ are respectively the existing traffic flow in number of vehicles between 0600 hours and 2400 hours on a normal working day, the proportion of heavy vehicles expressed as a percentage of the traffic flow and the average speed of vehicles in kilometres per hour, and $N_2$, $P_2$ and $V_2$ are respectively the values of these factors estimated in accordance with paragraphs 2 and 3 respectively of this Schedule.

*Accuracy of measurement system*

9. The complete system for the taking of measurements and the statistical analysis of the results to L10 (18-hours) shall be accurate to within plus or minus 2 dB(A).

Regulation 9

SCHEDULE 2

SPECIFICATIONS FOR INSULATION WORK

PART I

*Interpretation*

1. In this Schedule—

"qualifying door" means an external door opening directly into an eligible room and which—

(*a*) except in relation to insulation work carried out pursuant to regulation 4(4) or 5 is in that part of a facade in respect of which the relevant noise level satisfies the requirements of regulation 3(3) or 4(2);

(*b*) in relation to work carried out pursuant to regulation 4(4) is in a position which, in the opinion of the appropriate highway authority, is physically comparable with that of a qualifying door or qualifying window in another eligible building;

(*c*) in relation to work carried out pursuant to regulation 5 is or will be, in the opinion of the appropriate highway authority, subject to noise caused in the manner and at a level described in regulation 5(1).

"qualifying window" means a window in an eligible room which—

(*a*) except in relation to insulation work carried out pursuant to regulation 4(4) or 5, is in that part of a facade in respect of which the relevant noise level satisfies the requirements of regulation 3(2) or 4(2);

(*b*) in relation to work carried out pursuant to regulation 4(4) is in a position which, in the opinion of the appropriate highway authority is physically comparable with that of a qualifying door or qualifying window in another eligible building;

(*c*) in relation to insulation work carried out pursuant to regulation 5, is or will be, in the opinion of the appropriate highway authority, subject to noise caused in the manner and at a level described in regulation 5(1).

*Items required to be included in Insulation Work*

2. Insulation work shall include the following items:—

(*a*) the replacement by or conversion to double windows in accordance with the specification in paragraph 4 in Part III of this Schedule of all qualifying windows in each eligible room;

(*b*) the provision and installation in each eligible room of one ventilator unit (inlet fan) of a type conforming to the standards of ventilation and acoustic performance specified in paragraphs 6 and 7 in Part III of this Schedule including connecting the ventilator unit by wiring of not less than 5 amps capacity to the nearest convenient point in the existing electric supply circuit, or to the electric mains switchboard (and if the ventilator unit includes an electric heater, the wiring shall be of not less than 10 amps capacity);

(*c*) the provision of an air supply duct (with external cowl), in accordance with the specification in paragraph 6 in Part III of this Schedule, in an external wall of each eligible room for supplying fresh air to the ventilator unit from outside, and the blocking up of the existing airbrick in the external wall of the room (but flues to combustion appliances shall not be blocked);

(*d*) the provision in each eligible room—

(i) where any of the following combustion appliances are in the room—

(*a*) a flued combustion appliance of total output rating less than 11 kw,

(*b*) a room sealed appliance,

(*c*) an open fire which is not capable of being used as a closed stove, or

(*d*) a gas cooker, and where there is no combustion appliance in the room, of a permanent vent type A communicating directly to the external air and preferably at high level in an external wall of the room, of size and acoustic performance specified in paragraph 8 in Part III of this Schedule;

(ii) where a flued combustion appliance of output rating equal to or greater than 11 kw is present in the room, a permanent vent type B communicating directly to the external air preferably at high level, in an external wall of the room, of size and acoustic performance specified in paragraph 9 in Part III of this Schedule;

(*e*) the provision where practicable of a second door behind each qualifying door, the shortest horizontal distance between the two doors to be not less than 150 millimetres and at least one of the doors to be weather-stripped, and the ceiling and walls between the outer and inner door to be lined with sound absorbent material;

(*f*) the provision of a venetian blind between the glazing of each qualifying window which faces a southerly direction between north-east and north-west of size and thermal specifications given in paragraph 5 in Part III of this Schedule;

(*g*) where an eligible room contains a gas cooker and the whole of the window area in that room is covered by double glazing, the provision of a fan failure valve for the gas cooker. This valve shall be so inter-connected with the ventilating fan that in the event of the fan not being in operation of or near its maximum rated output the gas supply to the cooker will be cut off.

PART II

*Items which may be included in Insulation Work*

3. Insulation work may include the following items—

(*a*) The provision of the items specified in paragraph 2(*a*)(*e*) and (*f*) of this Schedule for windows and doors, not being qualifying windows and doors, in an eligible room;

(*b*) making good the existing fabric and decorations (not including curtains) affected by the installation of new windows, new doors, venetian blinds, permanent vents and ventilator units, including the adaption of any existing pelmet and curtain track.

PART III

*Specification for Windows*

4.—(1) The existing window shall either be retained and converted to a double window by the installation of a new inner window, or replaced by a new double window if this is essential, and the following conditions shall be complied with:—

(*a*) subject to the requirements of sub-paragraph (*c*) below, any gaps in the outer window shall be effectively sealed if this is possible by compressible resilient strip or other means;

(*b*) the inner window may be framed in wood, metal or plastics, and shall be well fitted into the existing window reveal or planted on the wall face round the reveal, with the junction between wall and window frame fully sealed by means of mastic packing, cover strips or other equally effective means, and shall be glazed with glass having a thickness of not less than 3 millimetres;

(*c*) both the outer and inner windows shall be adequately openable for direct ventilation when required and for cleaning purposes, but with the opening lights of the inner window well sealed round their edges by either compressible resilient strip or other means;

(*d*) if the window is a bay window or bow window the inner window shall either follow the shape of the outer window, or shall be taken straight across the bay or bow, and any projecting surround or window board required to close off the window cavity shall have a weight of not less than 10 kilogrammes per square metre;

(*e*) at least two reveals of the window opening between the outer and inner window shall be lined with sound absorbent material;

(*f*) the shortest horizontal distance, or, in the case of a bay window or bow window where the inner window is taken straight across the bay or bow, the mean horizontal distance, between the glass of the outer window and the glass of the inner window shall not be less than the distance specified in the second column of the following table 1 in relation to the thickness of glass of the inner window specified in the first column of that table.

TABLE 1

| | |
|---|---|
| Less than 4 mm and not less than 3 mm thick ... ... ... ... ... | 200 mm |
| Less than 6 mm and not less than 4 mm thick ... ... ... ... ... | 150 mm |
| 6 mm thick or more ... ... ... ... ... ... ... ... | 100 mm |

(2) Where it is not practicable to comply with any of the specifications in this paragraph the most practicable alternative specification may be used.

5. A venetian blind shall be fitted between the panes of double windows, and the following characteristics and conditions shall be complied with:—

(*a*) the slat surface shall be white or near white;

(*b*) the ratio of width to spacing of slats shall be between 1·15:1 and 1·25:1;

(*c*) the slats shall be adjustable in height and angle of tilt while remaining horizontal, the control being either—

(i) by a single continuous cord operating both the raise/lower and tilt mechanisms from one end of the blind box, or

(ii) by controls for raise/lower and tilt mechanisms at either end of the blind box;

(*d*) a control of the kind specified in sub-paragraph (i) above shall be readily accessible within the room with the windows fully closed;

(*e*) the opening to take control cords shall be sealed or kept to the minimum necessary for smooth operation, and

(*f*) the box of the venetian blind shall be fitted to the top window reveal or framehead, between the panes of the double windows, the length of the blind slats shall be between 10 millimetres and 30 millimetres less than the length of the recess at the narrowest point, and the venetian blind shall be capable of extending to the lowest level of the glazing of the outer window.

*Construction; Installation and Air Supply of Ventilator Systems*

6.—(1) The ventilator system shall consist of a sound attenuating ventilator unit and an air supply duct protected by a cowl, and the construction, installation and air supply shall be in accordance with this paragraph.

(2) The ventilator unit shall consist of a controlled variable-speed fan with sound attenuating duct and cover, and shall be fitted with an easily removable and washable air filter on the inlet side of the fan, preferably mounted in a slide. The ventilator unit shall be capable of supplying fresh air to a room directly from outside by means of a supply duct and cowl. The ventilator unit (with air filter in position) complete with sound attenuating duct and cover shall be capable of giving variable ventilation rates ranging from—

(*a*) an upper rate of not less than 37 litres per second against a back pressure of 10 newtons per square metre and not less than 31 litres per second against a back pressure of 30 newtons per square metre, to

(*b*) a lower rate of between 10 litres per second against zero back pressure and 17 litres per second against zero back pressure, and

(*c*) if there is not a continuous control of the ventilation rate, the following intermediate settings shall be provided—

(i) a ventilation rate of greater than 31 litres per second against a back pressure of 10 newtons per square metre and less than 33 litres per second against a back pressure of 10 newtons per square metre, and

(ii) a ventilation rate of greater than 21 litres per second against a back pressure of 10 newtons per square metre and less than 26 litres per second against a back pressure of 10 newtons per square metre.

(3) The air supply duct and cowl shall be designed to allow the passage of air between the ventilator unit and the external air at all times. The air supply duct and cowl shall be so constructed that when installed in a cavity wall exposed to the weather—

(*a*) the weather resistance of the cavity is retained, and

(*b*) the external cowl provides protection against the passage of snow and rain and vermin.

(4) The effective area of the air path through the ventilator system with fan switched off shall be not less than 3,250 square millimetres. The effective area of the air path through the ventilator system, with fan switched off, shall be measure as follows:—

Measurements shall be made of the static pressure difference across the ventilator

system for various air flow rates through the ventilator system and the effective area in square millimetres shall be calculated from $1270 \frac{Q}{\sqrt{\Delta p}}$ (where Q is the measured air flow rate through the ventilator system in litres per second and $\Delta p$ the measured static pressure difference across the ventilator system in newtons per square metre). Effective areas shall be calculated for air flow through the ventilator system in both directions and the lowest calculated value shall be taken for the effective area.

(5) The ventilator unit shall be securely fixed to the wall in such a position that the air filter can be easily removed and the junction between the ventilator unit and the inside wall of the room shall be fully sealed by means of compressible strip or other equally effective means.

(6) The air supply duct and cowl shall be securely fixed to the wall and the junction between the supply duct and the inside wall shall be fully sealed by suitable means.

*Acoustic performance of ventilator units*

7. The ventilator unit shall be so constructed that—

(*a*) when it is in operation in any room the sound level in the room due to the operation of the ventilator unit at a ventilation rate of 31 litres per second against a back pressure of 10 newtons per square metre, measured at any point not nearer than 1 metre from the ventilator unit or any of the room surfaces and normalised by the subtraction of $10 \log_{10} \frac{(10)}{A}$ (where A is the measured sound absorption in the room in square metre units at each $\frac{1}{3}$ octave frequency) does not exceed 35 decibels on the A scale and does not exceed 40 decibels on the A scale at the maximum ventilation rate of the ventilator unit; and

(*b*) the sound pressure level difference measured in accordance with British Standard specification for the measurement of sound transmission in buildings published on 31st May 1956 under the number BS2750:1956 between two rooms separated by a solid wall of area about 10 square metres and of average mass (calculated over any portion of the wall measuring 1 metre square) of not less than 415 kilogrammes per square metre incorporating the ventilator unit, normalised by the addition of $10 \log_{10} \frac{(10)}{A}$ (where A is the measured sound absorption in the receiving room in square metre units at each $\frac{1}{3}$ octave frequency) is not less than the figure shown in the following Table 2 except for total adverse deviations (at all $\frac{1}{3}$ octave frequencies) not exceeding 32 decibels and an adverse deviation at any one $\frac{1}{3}$ octave frequency not exceeding 8 decibels.

*Effective area and acoustic performance for permanent vent type A*

8.—(1) Permanent vent type A shall consist of a sound attenuating purpose-made opening or duct which is designed to allow the passage of air between the room and the external air at all times. The permanent vent shall have an external cowl for protection against the passage of snow and rain and vermin and shall have a fly screen. The permanent vent shall be so constructed that when installed in a cavity wall exposed to the weather, the weather resistance of the cavity is retained and the acoustic performance of the vent is protected.

(2) The effective area of the air path through an agreed sample of the permanent vent type A shall be measured as follows—

Measurements shall be made of the static pressure difference across the permanent vent for various air flow rates through the permanent vent and the effective area in square millimetres shall be calculated from $1270 \frac{Q}{\sqrt{\Delta p}}$ (where Q is the measured air flow rate through the permanent vent in litres per second and $\Delta p$ the measured static pressure difference across the permanent vent in newtons per square metre). Effective areas of the permanent vent shall be calculated for

air flow through the permanent vent in both directions and the lowest calculated value shall be taken for the effective area. The effective area of permanent vent type A shall not be less than 3,250 square millimetres and shall not be greater than 6,500 square millimetres.

(3) When installed the permanent vent shall be securely fixed to the wall and the junction between the permanent vent and the inside wall of the room shall be fully sealed by means of compressible strip, mastic packing, cover strips or other equally effective means, and in addition, where the permanent vent has an air supply duct traversing a cavity wall the junction between the supply duct and the internal leaf shall be fully sealed by suitable means to prevent the passage of air to or from the cavity.

(4) The permanent vent type A shall be so constructed that the sound pressure level difference measured in accordance with British Standard specification for the measurement of sound transmission in buildings published on 31st May 1956 under the number BS2750:1956 between two rooms separated by a solid wall of area about 10 square metres and of average mass (calculated over any portion of the wall measuring 1 square metre) of not less than 415 kilogrammes per square metre incorporating the permanent vent type A, normalised by the addition of $10 \log_{10} \frac{(10)}{A}$ (where A is the measured sound absorption in the receiving room in square metre units at each $\frac{1}{3}$ octave frequency) is not less than the figure shown in the following Table 2 except for total adverse deviations (at all $\frac{1}{3}$ octave frequencies) not exceeding 32 decibels and an adverse deviation at any one $\frac{1}{3}$ octave frequency not exceeding 8 decibels.

TABLE 2

| $\frac{1}{3}$ octave frequency band centre | normalised sound pressure level difference |
|---|---|
| hertz | decibels |
| 100 | 30 |
| 125 | 33 |
| 160 | 36 |
| 200 | 39 |
| 250 | 42 |
| 315 | 45 |
| 400 | 48 |
| 500 | 49 |
| 630 | 50 |
| 800 | 51 |
| 1000 | 52 |
| 1250 | 53 |
| 1600 | 53 |
| 2000 | 53 |
| 2500 | 53 |
| 3150 | 53 |

*Effective area and acoustic performance for permanent vent type B*

9.—(1) Permanent vent type B shall consist of one or more sound attenuating purpose-made openings or ducts which are designed to allow the passage of air between the room and the external air at all times. The permanent vent shall have an external cowl for protection against the passage of snow and rain and vermin, and shall have a fly screen. The permanent vent shall be so constructed that when installed in a cavity wall exposed to the weather, the weather resistance of the cavity is retained and the acoustic performance of the vent is protected.

(2) The total effective area of permanent vent type B shall be not less than the effective area in square millimetres calculated from 550H — 3250 (where H is the total output rating in kilowatts of flued combustion appliances present in the room), but in any case not less than 3,250 square millimetres.

(3) Permanent vent type B shall conform to the following specification—

(*a*) where more than one sound attenuating permanent vent is to be installed, an appropriate number of permanent vents type A shall be installed to give a total effective area which shall be not less than the effective area calculated according to the equation in paragraph 9(2) of this Schedule. The acoustic performance of permanent vent type A shall conform to the specification in paragraph 8(4) of this Schedule and the construction and installation of these permanent vents shall conform to paragraphs 8(1) and 8(3) of this Schedule; or

(*b*) where one sound attenuating permanent vent is to be installed, a permanent vent type B shall be installed which conforms to the following specification—

(i) the effective area shall be not less than the effective area calculated according to the equation in paragraph 9(2) of this Schedule, and the difference between the measured effective area and the effective area calculated according to the equation in paragraph 9(2) of this Schedule shall be less than 6,500 square millimetres;

(ii) the permanent vent type B shall be tested in the manner described in paragraph 8(2) of this Schedule and the lowest measured effective area shall be taken for the effective area;

(iii) the permanent vent type B shall be so constructed that the sound pressure level difference measured in accordance with British Standard specification for the measurement of sound transmission in buildings published on 31st May 1956 under the number BS2750:1956 between two rooms separated by a solid wall of area about 10 square metres and of average mass (calculated over any portion of the wall measuring 1 metre square) of not less than 415 kilogrammes per square metre incorporating an agreed sample of the permanent vent type B, normalised by the addition of $10 \log_{10} \frac{(10)}{(A)}$ (where A is the measured sound absorption in the receiving room in square metre units at each $\frac{1}{3}$ octave frequency) and with the addition of $10 \log_{10} \frac{(S)}{(3250)}$ (where S is the measured effective area of the permanent vent type B in square millimetres) is not less than the figure shown in the Table 2 above except for total adverse deviations (at all $\frac{1}{3}$ octave frequencies) not exceeding 32 decibels and an advance deviation at any one $\frac{1}{3}$ octave frequency not exceeding 8 decibels, and

(iv) when installed the permanent vent shall be securely fixed to the wall and the junction between the permanent vent and the inside wall of the room shall be fully sealed by means of compressible strip, mastic packing, cover strips or other equally effective means, and in addition, where the permanent vent has an air supply duct traversing a cavity wall the junction between the supply duct and the interval leaf shall be fully sealed by suitable means to prevent the passage of air to or from the cavity.

*Alternative specifications*

10. Where alternative methods are specified in paragraph 4 or 5 of this Schedule the most practicable method in the circumstances of the case shall be adopted.

*Geoffrey Rippon,*
1st August 1973. Secretary of State for the Environment.

*Peter Thomas,*
1st August 1973. Secretary of State for Wales.

## EXPLANATORY NOTE

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

These Regulations provide for the insulation of buildings against noise caused or expected to be caused by traffic using new highways and certain altered highways. The Regulations impose a duty on certain highway authorities to carry out sound insulation work or to make a grant in respect of the cost (Regulation 3), and confer a power to do so in other cases (Regulation 4). Regulation 5 confers a power on highway authorities to insulate buildings against noise caused by the construction or alteration of highways and Regulation 7 defines the classes of buildings to be insulated as being dwellings and other buildings used for residential purposes, with certain exceptions. The Regulations also prescribe the procedure governing the making and acceptance of offers to carry out insulation work or to make a grant and the conditions to be complied with and provide for a review of entitlement to sound insulation (Regulation 13), for local authorities to act as agents of highway authorities (Regulation 14), and for methods of calculation of levels of noise and specifications for insulation work.

SI 1973/1363
ISBN 0-11-031363-1

