COUNCIL DIRECTIVE

of 17 September 1984

on the approximation of the laws of the Member States relating to the permissible sound power level of powered hand-held concrete-breakers and picks

(84/537/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof,

Having regard to the proposal from the Commission (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the 1973 and 1977 action programme of the European Communities on the environment (4) reflect the importance of the problem of noise nuisance and in particular the need for action to regulate the worst noise sources;

Whereas disparity between the measures already applicable or in preparation in the various Member States concerning the limitation of the sound emission level of powered hand-held concrete-breakers and picks creates unequal conditions of competition and thereby directly affects the functioning of the common market; whereas it is therefore appropriate to proceed in that field with the approximation of laws for which Article 100 of the Treaty provides;

Whereas Council Directive 84/532/EEC of 17 September 1984 on the approximation of the laws of the Member States relating to common provisions for construction plant and equipment (5) has laid down, in particular, the procedure for EEC type-examination; whereas it is necessary, pursuant to that Directive, to prescribe the harmonized requirements which each category of equipment must satisfy;

Whereas Council Directive 79/113/EEC of 19 December 1978 on the approximation of the laws of the Member States relating to the measurement of the sound level of construction plant and equipment (6), as amended by Council Directive 81/1051/EEC (7) laid down the method which should be used for establishing the acoustic criteria for powered hand-held concrete-breakers and picks;

Whereas owing to the effect of the noise emitted by powered hand-held concrete-breakers and picks on the environment and, more particularly, on human well-being and health, it is necessary to bring about a progressive and appreciable reduction in the permissible sound power level of powered hand-held concrete-breakers and picks;

Whereas it is important to be able to regulate the use of powered hand-held concrete-breakers and picks in certain areas considered to be particularly sensitive, so as to limit the nuisance caused by the airborne noise emitted by such powered hand-held concrete-breakers and picks;

Whereas technical provisions must be adapted rapidly to technical advances; whereas it is necessary to this end to provide for the application of the procedure set out in Article 5 of Directive 79/113/EEC,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive applies to the permissible sound power level for powered hand-held concrete-breakers and picks used to perform work on civil engineering and building sites, (hereinafter referred to as 'appliances').

---

(1) OJ No C 82, 14. 4. 1976, p. 91.
(2) OJ No C 76, 7. 4. 1975, p. 37.
(3) OJ No C 263, 17. 11. 1975, p. 42.
(4) OJ No C 112, 20. 12. 1973, p. 1 and OJ No C 139, 13. 6. 1977 p. 1.
(5) See page 111 of this Official Journal.
(6) OJ No L 33, 8. 2. 1979, p. 15.
(7) OJ No L 376, 30. 12. 1981, p. 49.

2. It is a separate Directive within the meaning of Article 3 (2) of Directive 84/532/EEC, hereinafter referred to as the 'framework Directive'.

Article 2

1. The approved bodies shall issue an EEC type-examination certificate for each type of appliance the sound power level of which, measured in the manner laid down in Annex I to Directive 79/113/EEC, as amended by Annex I to this Directive, does not exceed the permissible sound power level given in the following table:

Mass of appliance (m)	Permissible sound power level in dB(A)/1 pW as from	
	18 months after notification of the Directive	5 years after notification of the Directive
$m < 20$ kg	110	108
20 kg $\leq m \leq$ 35 kg	113	111
$m >$ 35 kg	116	114
and appliances with an internal-combustion engine incorporated		

2. All applications for an EEC type-examination certificate in respect of the permissible sound power level of an appliance shall be accompanied by an information document conforming to the model shown in Annex II.

3. For each type of appliance which it certifies, the approved body shall complete all the sections of the EEC type-examination certificate conforming to the model given in Annex III to the framework Directive.

4. The period of validity of type-examination certificates shall be limited to five years. This may be extended by five years provided that application is made no more than 12 months before the expiry of the first five-year period.

At the end of a period of five years from notification of the Directive, however, EEC type-examination certificates shall cease to be valid unless they were issued for appliances which meet the standards entering into force on that date.

5. By way of derogation from Article 19 (1) of the framework Directive, the advantages provided for in this Article shall, after a period of 5 $^1/_2$ years from notification of the Directive, no longer be available for appliances supplied with certificates of conformity drawn up on the basis of an EEC type-examination certificate for the figures in the first period; the period of validity shall accordingly be shown on the certificates of conformity concerned.

6. For every appliance built in conformity with the type certified by EEC type-examination, the manufacturer shall complete a certificate of conformity conforming to the model given in Annex IV to the framework Directive in the columns relating to the EEC type-examination certificate.

7. Each appliance built in accordance with the type certified by EEC type-examination shall bear a clear and permanent mark indicating the sound power level in dB(A) to 1 pW guaranteed by the manufacturer and determined as laid down in Annex I to Directive 79/113/EEC, as amended by Annex I to this Directive, and the symbol ε (epsilon). The model of such mark is shown in Annex III to this Directive.

Article 3

Member States may take measures to regulate the use of appliances in areas which they consider sensitive.

Article 4

Verification of the conformity of production models with the type examined, as provided for in Article 12 of the framework Directive, shall be carried out using the technical procedure stipulated in Annex IV.

Article 5

The Council shall act unanimously, within 18 months, on the proposal for a reduction in the noise levels which the Commission will present as soon as possible and no later than five years after the adoption of this Directive.

Article 6

The following shall be adopted in accordance with the procedure laid down in Article 5 of Directive 79/113/EEC,

— the technical procedure in Annex IV for the checking of the conformity of production models with the type examined,

— the amendments necessary to adapt the requirements of the Annexes to technical progress.

Article 7

Member States shall take all the necessary measures to ensure that appliances cannot be placed on the market unless they satisfy the provisions of this Directive and of the framework Directive.

Article 8

1. Member States shall bring into force the laws, regulations and administrative provisions necessary in order to comply with this Directive on the expiry of a period of 18 months as of its notification (1) and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 9

This Directive is addressed to the Member States.

Done at Brussels, 17 September 1984.

For the Council

The President

P. BARRY

(1) This Directive was notified to the Member States on 26 September 1984.

ANNEX I

METHOD OF MEASURING AIRBORNE NOISE EMITTED BY POWERED HAND-HELD CONCRETE-BREAKERS AND PICKS

SCOPE

This measurement method is applicable to powered hand-held concrete-breakers and picks, hereinafter referred to as 'appliances'. It specifies the test procedures for use in determining the sound power level of such equipment for the purpose of EEC type-examination and testing as to conformity.

These technical procedures shall comply with the requirements of Annex I to Directive 79/113/EEC.

All the sections in Annex I to Directive 79/113/EEC shall apply to appliances, subject to the following amendments:

4. CRITERIA TO BE USED FOR EXPRESSING RESULTS

4.1. The acoustic criterion for the environment of an appliance shall be expressed by its sound power level.

6. MEASURING CONDITIONS

6.1.1. *Determining the mass of an appliance.*

When the mass is being determined, the appliance shall be fitted out as for normal use, except for the tool, the supply tube and, where appropriate, the coupling.

6.1.2. *Supports of the appliance.*

(a) To ensure that the tests are completely reproducible, the appliance shall be coupled during the test run to a tool embedded in a cube-shaped concrete block placed in a concreted pit sunk into the ground.

(b) An intermediate steel piece may be inserted during tests between the appliance and the support tool. This intermediate piece shall form a stable structure between the appliance and the support tool. The diagram in figure 2 incorporates these requirements.

6.1.3. *Block characteristics.*

The block shall be in the shape of a cube, 0,60 m ± 2 mm long at the edge and as regular as possible; it shall be made of reinforced concrete and thoroughly vibrated in layers of up to 0,20 m to avoid excessive sedimentation.

The distance between the extremity of the appliance (without the tool) and the screening slab shall be between 0,10 and 0,20 m.

6.1.4. *Composition of the concrete.*

For one 50-kilogram sack of pure Portland cement, category 400 or equivalent:

— 65 litres of ungraded, non-calcareous sand with a grain size of 0,1 mm to 5 mm,

— 115 litres of non-calcareous alluvial gravel with a grain size of 5 to 25 mm,

The cube shall be reinforced by 8-mm-diameter steel rods without ties, each rod being independent of the others; the design concept is illustrated in figure 1.

6.1.5. *Supporting tool.*

The tool shall be sealed into the block and shall consist of a rammer of no less than 178 mm or no more than 220 mm diameter and a tool chuck component identical to that normally used with the appliances being tested and complying with ISO recommendations R 1180 and R 1571 but sufficiently long to enable the practical test to be carried out.

Suitable treatment shall be carried out to integrate the two components. The tool shall be fixed in the block so that the bottom of the rammer is 0,30 m from the upper face of the block (see figure 1).

The block shall remain mechanically sound, particularly at the point where the supporting tool and the concrete meet. Before and after each test, it shall be established that the tool sealed in the concrete block is integrated with it.

6.1.6. *Positioning of the cube.*

The cube shall be set in a pit cemented throughout, covered by a screening slab of at least 100 kg/m², as indicated in the attached figure 4, so that the upper surface of the screening slab is flush with the ground. To avoid any parasitic noise, the block shall be insulated against the bottom and sides of the pit by elastic blocks, the cut-off frequency of which shall not be more than half the striking rate of the appliance tested, expressed as strokes per second.

The opening in the screening slab through which the tool chuck component passes shall be as small as possible and sealed by a flexible sound-proof joint.

6.2. **Operation of the sound source during measurements.**

To ensure that the measurements may be reproduced, all appliances shall be tested in the vertical position.

In the case of pneumatic appliances, the air exhaust axis of the test appliance shall be equidistant from two measuring points (air exhausted directly on to a microphone distorts the measurement, which consequently has to be abandoned). The microphone shall not be placed between the appliance and the air receiver (see figure 3).

6.2.1. Not applicable.

6.2.2. In the case of pneumatic appliances, the operation of the machine shall have the same acoustic stability as in normal service and shall satisfy the following requirements.

The appliance shall operate at a working pressure of 600 kPa.

If this is impossible, the pressure used and the reasons why it was impossible to use the stipulated pressure shall be indicated in the test report.

During the measurements, the air pressure shall be measured while the appliance is in operation. The appliance shall operate normally; any hindrances to the air exhaust, such as icing up, shall be avoided. The type, quality and quantity of the lubricating oil used shall comply with the manufacturer's recommendations.

In the case of appliances powered other than by compressed air, the operating conditions shall be those corresponding to the maximum speed at which the appliance can operate continuously, according to the manufacturer's statement.

Test set-up.

The appliances shall run unattended by an operator in the manner described below:

(a) the appliance shall operate in an upright position on the device described in 6.1.5, which shall be provided with a tool shank of the correct size for attachment to the appliance;

(b) the appliance shall be firmly held down by a flexible device in order to give the same stability as that existing under normal operating conditions, when the tool is embedded in the material to be broken up before the latter fractures; the flexible device may take the form of calibrated springs or pneumatic jacks, for example.