STATUTORY INSTRUMENTS

2025 No. 407

ENVIRONMENTAL PROTECTION, NORTHERN IRELAND

The Noise Emission in the Environment by Equipment for use Outdoors (Amendment) (Northern Ireland) Regulations 2025

Made - - - -	*27th March 2025*
Laid before Parliament	*31st March 2025*
Coming into force in accordance with regulation 1	

The Secretary of State makes these Regulations in exercise of the powers conferred by section 8C(1) of, and paragraph 21 of Schedule 7 to, the European Union (Withdrawal) Act 2018(**a**).

Citation, commencement and extent

1.—(1) These Regulations may be cited as the Noise Emission in the Environment by Equipment for use Outdoors (Amendment) (Northern Ireland) Regulations 2025.

(2) Except for regulation 2(3) and (4), these Regulations come into force on 22nd May 2025.

(3) Regulation 2(3) and (4) comes into force on 29th November 2025.

(4) These Regulations extend to Northern Ireland only.

Amendment to the Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001

2.—(1) The Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001(**b**) are amended as follows.

(2) In regulation 2—

(a) in paragraph (1) for the definition of "the Directive" substitute—

> ""the Directive" means Directive 2000/14/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors, as last amended by Directive (EU) 2024/2839 of the European Parliament and of the Council amending Directives 1999/2, 2000/14, 2011/24 and 2014/53 as regards certain

(**a**) 2018 c. 16. Section 8C was inserted by section 21 of the European Union (Withdrawal Agreement) Act 2020 (c. 1); and paragraph 21 of Schedule 7 was amended by paragraph 53 of Schedule 5 to that Act. There are other amendments but none is relevant to this instrument.

(**b**) S.I. 2001/1701, amended by 2001/3958; there are other amending instruments but none is relevant.

reporting requirements in the fields of food and food ingredients, outdoor noise, patients' rights and radio equipment.(**a**);".

(b) in paragraph (1A) after sub-paragraph (b) insert—

"(bb) to "market surveillance authority" is to be read as a reference to the enforcement authority;".

(3) Omit regulation 12.

(4) In regulation 18—

(a) at the end of sub-paragraph (a) insert "or"; and

(b) omit sub-paragraph (c) and "or" before it.

(5) For Schedule 6 (Annex III to the Directive) substitute the Schedule to these Regulations.

Savings and transitional provisions

3.—(1) Notwithstanding the amendment made by regulation 2(5)—

(a) Schedule 6 of the 2001 Regulations, as it has effect prior to the commencement of these Regulations, continues to have effect for the purposes set out in—

(i) the final paragraph of the "Introduction" to Schedule 6 to the 2001 Regulations, as amended by these Regulations; and

(ii) the penultimate and final paragraphs of point 3 of Part A of Schedule 6 to the 20021 Regulations, as amended by these Regulations;

(b) until 22nd May 2028, a notified body and the enforcement authority must accept technical reports of noise measurements performed in accordance with Schedule 6 of the 2001 Regulations, as it has effect prior to the commencement of these Regulations, for the purposes set out in the final paragraph of point 3 of Part A of Schedule 6 to the 2001 Regulations, as amended by these Regulations.

(2) In this regulation—

(a) "the 2001 Regulations" means the Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001;

(b) "enforcement authority" has the meaning given to it by regulation 2(2) of the 2001 Regulations; and

(c) "notified body" has the meaning given to it by regulation 2(2) of the 2001 Regulations.

Justin Madders
Parliamentary Under Secretary of State
Department for Business and Trade

27th March 2025

(**a**) OJ L 162, 3.7.2000, p.1 as amended by Directive 2005/88/EC, Regulation (EC) 2009/219, Regulation (EU) 2019/1243 and Commission Delegated Regulation (EU) 2024/1208.

SCHEDULE Regulation 2(5)

“SCHEDULE 6 Regulation 8(1)

Annex III - METHODS TO MEASURE AIRBORNE NOISE EMITTED BY EQUIPMENT FOR USE OUTDOORS

Introduction

This Annex contains the methods to measure airborne noise that are to be used to determine the sound power levels of equipment for use outdoors.

Part A of this Annex lays down the basic noise emission standard and general supplements to the basic noise emission standard to measure the sound pressure level on a measurement surface enveloping the noise source and to calculate the sound power level produced by that source.

Part B of this Annex lays down the equipment specific noise test code which is presented either as a reference to a specific standard or as a description of the applicable testing and operating conditions, including:

(a) the test environment;

(b) the value of the environmental correction (K_{2A});

(c) the shape and dimensions of the measurement surface;

(d) the number and position of microphones to be used;

(e) requirements relating to mounting and installation of the equipment;

(f) a method to calculate the resulting sound power levels in the event that several tests with different operating conditions are to be used.

When testing specific types of equipment, manufacturers or their authorised representatives in the Union shall use the basic noise emission standard and the general supplements of Part A of this Annex, and the equipment specific noise test code laid down in Part B. Noise test codes in Part B are meant to supplement the specifications laid down in Part A taking into account the characteristics of the different equipment categories. When noise test codes in Part B provide for the possibility to choose between different alternative technical solutions, manufacturers or their authorised representatives in the Union shall use those that are in line with the specifications laid down in Part A. In case of conflict between Part A and Part B, Part B provisions shall take precedence.

Where the noise test codes laid down in Part B, or in the standards referred to in Part B, would not be applicable for some models of equipment within the equipment category, manufacturers or their authorised representatives in the Union shall determine the guaranteed sound power level in accordance with the basic noise emission standard and the applicable supplements indicated in Part A.

For equipment listed in Article 12, where the use of the noise measurement methods laid down in this Annex or those laid down in the version of Annex III that was applicable before 22 May 2025, would lead to two different situations of conformity of the product, i.e. the guaranteed sound power level of the equipment calculated using one method exceeds

the respective permissible sound power level in Article 12 but not when using the other method, manufacturers or their authorised representatives in the Union shall determine the measured sound power level and the guaranteed sound power level in accordance with the methods laid down in the version of Annex III that was applicable before 22 May 2025 until the permissible sound power levels in Article 12 are amended. In that situation, notified bodies and market surveillance authorities shall also use the method laid down in the version of Annex III that was applicable before 22 May 2025, to perform the noise tests when required in the applicable conformity assessment procedure.

PART A

BASIC NOISE EMISSION STANDARD

Manufacturers or their authorised representatives in the Union shall use the basic noise emission standard EN ISO 3744:2010 to determine the sound power level LWA, subject to the general supplements laid down in this Part A. Manufacturers or their authorised representatives in the Union shall apply all clauses in EN ISO 3744:2010 unless otherwise stated in this Part A, or in the applicable noise test code laid down in Part B of this Annex.

1. OPERATION OF THE NOISE SOURCE DURING THE TEST

1.1. Fan speed

Any fans fitted to the engine of the equipment or its hydraulic system shall operate during the test. Manufacturers or their authorised representatives in the Union shall set the fan speed in accordance with the requirements laid down in points (a) to (d), as applicable, and state that fan speed in the test report and use it in further measurements. Fans shall not operate in reverse mode during tests.

(a) Fan drive directly connected to the engine or its hydraulic system:

A fan drive that is directly connected to the engine or its hydraulic equipment shall operate during the test.

(b) Fan drive with several distinct speeds:

A fan that can work at several distinct speeds shall be tested in either of the following ways:

(i) at its maximum working speed;

(ii) in a first test with the fan set at zero speed, and in a second test with the fan set at maximum speed.

For the purposes of point (ii), the resulting A-weighted surface sound pressure level L_{pA} shall be calculated by combining both test results using the following equation:

$$L_{pA} = 10\,lg\,(0{,}3 \times 10^{0{,}1\,LpA,\,0\ \%} + 0{,}7 \times 10^{0{,}1\,LpA,100\ \%})$$

where:

— $L_{pA,0\ \%}$ is the A-weighted surface sound pressure level determined with the fan set at zero speed;

— $L_{pA,100\ \%}$ is the A-weighted surface sound pressure level determined with the fan set at maximum speed;

(c) Fan drive with continuous variable speed:

A fan that can work at continuous variable speed shall be tested in accordance with point 1.1(b) or with the fan speed set at no less than 70 % of the maximum speed.

Visco-static fans, which are automatically regulated by the engine temperature, shall be considered to work at continuous variable speed irrespective of the origin of the control;

(d) Equipment with more than one fan:

Where a machine is equipped with more than one fan, all fans shall run under the conditions specified in (a), (b) or (c), as applicable.

1.2. Test of powered equipment free of load

Before measuring the noise emitted by powered equipment free of load, manufacturers or their authorised representatives in the Union shall warm up the engine and hydraulic system of the equipment in accordance with the instructions of use and shall observe the safety requirements.

Manufacturers or their authorised representatives in the Union shall measure the noise with the equipment in stationary position, without operating the working equipment or travelling mechanism. For the purpose of the measurement, the engine shall idle(**a**) at no less than the rated speed corresponding to the net power(**b**).

Where the machine is powered by a generator or from the mains, the frequency of the supply current, specified for the motor by the manufacturer, shall be stable at ± 1 Hz if the machine is equipped with an induction motor, and the supply voltage at ± 1 % of the rated voltage if the machine is equipped with a commutator motor. The supply voltage shall be measured at the plug of a non-detachable cable or cord, or at the inlet of the machine if a detachable cable is provided. The waveform of the current supplied from the generator shall be similar to that obtained from the mains.

Where multiple voltage ranges are labelled at the machine, manufacturers or their authorised representatives in the Union shall take the measurements at the highest labelled voltage range. If the voltage range is 220-240 V, the test shall be carried out at 230 V.

If the machine is powered by one or more batteries, the batteries shall be charged to at least 70 % of its capacity.

The rated speed used, and the corresponding net power, shall be stated by the manufacturers or their authorised representatives in the Union in the test report.

Where the equipment has several engines, those engines shall work simultaneously during the measurements, unless that is not possible, in which case the noise emissions of each possible combination of engines shall be measured.

1.3. Test of powered equipment under load

Before measuring the noise emitted by powered equipment under load, manufacturers or their authorised representatives in the Union shall warm up the engine (driving device) and hydraulic system of the equipment up in accordance with the instructions of use, and shall observe safety requirements. The manufacturers or their authorised representatives in the Union shall not operate a signalling device, such as a warning horn or reversing alarm, during the measurement.

Manufacturers or their authorised representatives in the Union shall record the speed or velocity of the equipment during the measurement and state that speed or velocity in the test report.

(**a**) Idle of an engine may be run either at the lowest engine speed (full release of a throttle) or at the lowest engine speed required to perform basic functions, including giving sufficient hydraulic pressure to move the machine or any of its tools, as applicable for the specific equipment category.

(**b**) Net power means the engine power in 'kW' obtained on a test bench at the end of the crankshaft, or its equivalent, measured in accordance with the method of measuring the power of internal combustion engines specified in Regulation No 120 Revision 2 of the Economic Commission for Europe of the United Nations (UNECE) – Uniform provisions concerning the approval of internal combustion engines to be installed in agricultural and forestry tractors and in non-road mobile machinery, with regard to the measurement of the net power, net torque and specific fuel consumption (OJ L 166, 30.6.2015, p. 170).

Where the equipment is fitted with several engines or aggregates, those engines or aggregates shall work simultaneously during the measurements, unless that is not possible, in which case manufactures shall measure noise of each possible combination of engines or aggregates.

Manufacturers or their authorised representatives in the Union shall lay down specific operating conditions for each type of equipment under load. The specific operating conditions shall, as much as possible, produce effects and stresses similar to those encountered under actual working conditions.

1.4. Test of hand-operated equipment

Manufacturers or their authorised representatives in the Union shall lay down conventional operating conditions for each type of hand-operated equipment that produce effects and stresses similar to those undergone under actual working conditions.

2. DETERMINATION OF THE SURFACE SOUND PRESSURE LEVEL

Manufacturers or their authorised representatives in the Union shall determine the surface sound pressure level at least three times. If at least two of the determined values do not differ by more than 1 dB, further measurements will not be necessary. Where that is not the case, manufacturers or their authorised representatives in the Union shall continue the measurements until they obtain two values that differ by no more than 1 dB. The A-weighted surface sound pressure level that manufacturers or their authorised representatives in the Union are to use for calculating the sound power level shall be the arithmetic mean of the two highest values that do not differ by more than 1 dB.

Where possible, manufacturers or their authorised representatives in the Union shall take the noise measurements at all the microphone positions simultaneously. This is especially important for dynamic tests. Where that is not possible, manufacturers or their authorised representatives in the Union shall take special care to ensure stable conditions in the test environment and to minimise the risks of including undesired variations in the noise emitted by the machine or by any other factors, including background noise and wind speed.

3. INFORMATION TO BE REPORTED

The test report, which is required within the technical documentation provided for in Annex V point 3, Annex VI point 3, Annex VII point 2 and Annex VIII points 3.1 and 3.3, shall contain the technical data necessary to identify the noise source under test, the noise test code and the acoustical data used for and obtained during the test.

The value of the A-weighted sound power level of the noise source under test that is to be reported shall be rounded to the nearest whole number (less than 0,5 use the lower whole number; if it is greater than or equal to 0,5 use the higher whole number).

Where, for the reasons and under the conditions stipulated in the last paragraph of the introduction of this Annex, manufacturers or their authorised representatives in the Union use the methods laid down in the version of Annex III that was applicable before 22 May 2025 to determine the sound power level, manufacturers or their authorised representatives in the Union shall keep record in the test report of the data relative to the measurements performed in accordance with both methods: the methods laid down in the version of Annex III that was applicable before 22 May 2025 and the methods laid down in this Annex.

The relevant national authorities and notified bodies shall accept for models of equipment, the first item of which was placed on the market or put into service before 22 May 2025, the technical reports of noise measurements performed in accordance with the methods laid down in the version of Annex III that was applicable before 22 May 2025, for the purposes of the conformity assessment under the procedures referred to in Article 14(1) of this Directive and for the purposes of requirements regarding the technical documentation

for such products as provided for in Annex V point 3, Annex VI point 3, Annex VII point 2, Annex VIII points 3.1 and 3.3 of this Directive until 22 May 2028.

4. ENVIRONMENTAL CORRECTION K_{2A}

Manufacturers or their authorised representatives in the Union shall determine the environmental correction K_{2A} in accordance with EN ISO 3744:2010, Section 4.3.

If $K_{2A} \leq 0{,}5$ dB, it can be neglected.

If $K_{2A} > 4$ dB, the test environment does not comply with the requirements of this Directive and shall be modified.

Manufacturers or their authorised representatives in the Union shall use the specifications for the environmental correction laid down in the noise test code for specific equipment referred to in Part B of this Annex where such specifications exist.

PART B

NOISE TEST CODES FOR SPECIFIC EQUIPMENT

0. EQUIPMENT THAT IS TESTED FREE OF LOAD

Test area

Reflecting surface of concrete or non-porous asphalt

Environmental correction K_{2A}

$K_{2A} = 0$

Measurement surface/number of microphone positions/measuring distance:

(a) If the largest dimension of the reference parallelepiped does not exceed 8 m:

hemisphere/six microphone positions in accordance with EN ISO 3744:2010, Annex F.

(b) If the largest dimension of the reference parallelepiped exceeds 8 m: parallelepiped in accordance with ISO 3744:2010 with measurement distance

$d = 1$ m.

Test free of load

The noise tests shall be carried out in accordance with Part A of this Annex, item 1.2

Period(s) of observation/determination of resulting sound power level if more than one operating condition is used

The period of observation shall be at least 15 s or at least 3 operation cycles of the machine.

1. AERIAL ACCESS PLATFORMS WITH COMBUSTION ENGINE

EN 280-1:2022, clause 4.12.2.

2. BRUSH CUTTERS

EN ISO 22868:2021

3. BUILDERS' HOISTS FOR THE TRANSPORT OF GOODS

See No 0.

The geometrical centre of the engine shall be positioned above the centre of the hemisphere. The lift shall move without load and leave the hemisphere – if necessary – in direction of point 1.

4. BUILDING SITE BAND SAW MACHINES

EN ISO 19085-16:2021, clause 6.2.2.

The measurement method of this standard based on EN ISO 3744:2010 shall be applied.

5. BUILDING SITE CIRCULAR SAW BENCHES

Measurement surface/number of microphone positions/measuring distance

ISO 7960:1995, Annex A, measurement distance $d = 1$ m.

Test under load

ISO 7960:1995, Annex A (point A2(b) only).

Period of observation

ISO 7960:1995, Annex A.

6. CHAIN SAWS, PORTABLE

(a) Combustion-engine driven equipment

EN ISO 22868:2021

(b) Electric-motor operated equipment

EN 62841-4-1:2020, Annex I

7. COMBINED HIGH PRESSURE FLUSHERS AND SUCTION VEHICLES

Where both devices can be operated simultaneously, they shall be operated in accordance with Nos 26 and 52 of this Part B. If not, the noise emissions of both devices shall be measured separately and the higher values shall be retained.

8. COMPACTION MACHINES

(a) Vibratory plates and vibratory rammers

EN 500-4: 2011, clause 5.10.1

(b) Rollers

EN 474-13:2022, clause 4.6

9. COMPRESSORS

EN ISO 2151:2008

The period of observation shall be at least 15 s.

10. CONCRETE-BREAKERS AND PICKS, HAND HELD

(a) Combustion-engine driven equipment

Measurement surface/number of microphone positions/measuring distance

Hemisphere/six microphone positions in accordance with EN ISO 3744:2010, Annex F and the following table, depending on the mass of equipment as given in the following table:

Mass of equipment m (in kg)	Radius of hemisphere (in m)	z for microphone positions 2, 4, 6 and 8 (in m)
$m < 10$	2	0,75
$m \geq 10$	4	1,50

Mounting of equipment

All appliances shall be tested in the vertical position.

If the test appliance has got an air exhaust, its axis shall be equidistant from two microphone positions. The noise of the power supply shall not influence the measurement of the noise emission from the tested appliance.

Support of the appliance

The appliance shall be coupled during the test run to a tool embedded in a cube-shaped concrete block placed in a concrete pit, sunk into the ground.

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. Figure 10.1 incorporates those requirements.

Block characteristics

The block shall take the shape of a cube of 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.

Quality of the concrete

The quality of the concrete shall correspond to C 50/60 of EN 206:2013+A2:2021.

The cube shall be reinforced by 8 mm-diameter steel rods without ties, each rod being independent of the other. The design concept is illustrated in figure 10.2.

Supporting tool

The tool shall be sealed into the block and shall consist of a rammer between 178 mm and 220 mm diameter and a tool chuck component identical to that normally used with the appliance being tested and complying with ISO 1180:1983/Add 1:1985, 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 10.2).

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 verified that the tool sealed in the concrete block is integrated into it.

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 figure 10.3, 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.

Test under load

The appliance tested shall be connected to the supporting tool.

The test appliance shall be operated in stable conditions having the same acoustical stability as in normal service.

The test appliance shall be operated at the maximum power specified in the instructions supplied to the purchaser.

Period of observation

The period of observation shall be at least 15 s.

Figure 10.1 - Schematic diagram of the intermediate piece

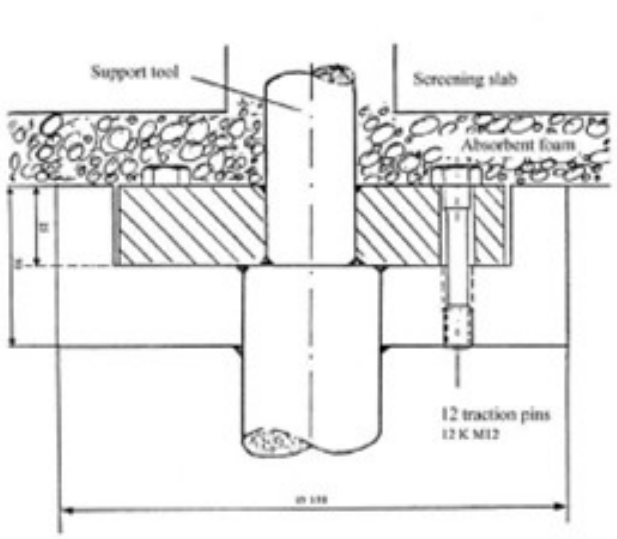


Figure 10.2 - Test block

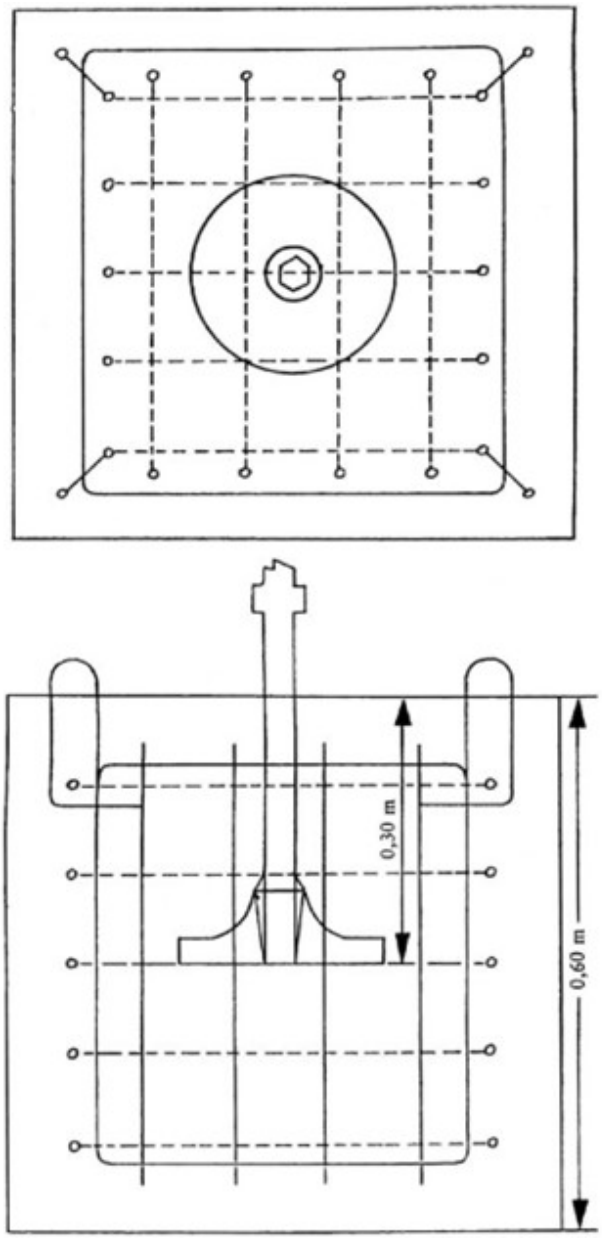
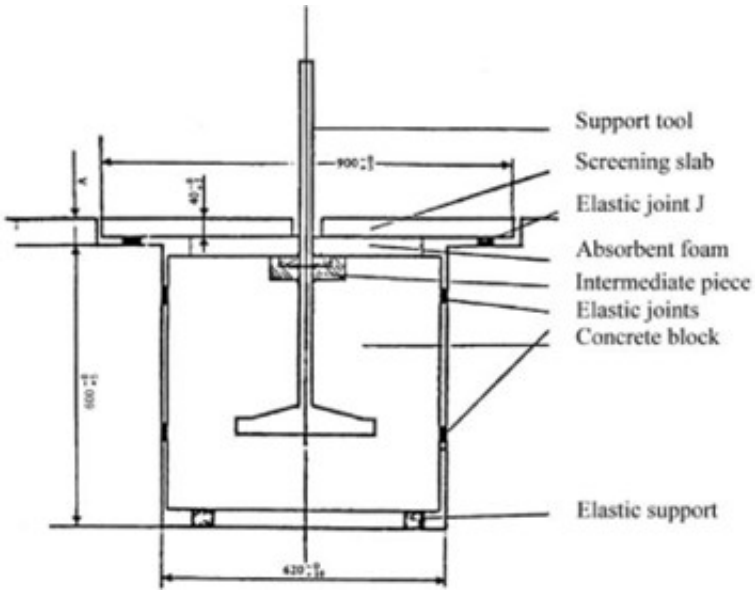


Figure 10.3 - Testing device



The value of A shall be such that the screening slab resting on the elastic joint J is flush with the ground.

(b) Electric-motor operated equipment

EN IEC 62841-2-6:2020, EN IEC 62841-2-6:2020/A11:2020, Annex I, clause I.2

(c) Pneumatic or hydraulic driven equipment

Same as combustion-engine driven equipment.

11. CONCRETE OR MORTAR MIXERS

Test under load

The mixing device (drum) shall be filled to its rated capacity with sand of granulation 0 to 3 mm, the humidity shall be 4 to 10 %.

The mixing device shall be operated at least at the rated speed.

Period of observation

The period of observation shall be at least 15 s.

12. CONSTRUCTION WINCHES

(a) Combustion-engine driven equipment

See No 0.

The geometrical centre of the engine shall be positioned above the centre of the hemisphere; the winch shall be connected but no load shall be applied.

(b) Electric-motor operated equipment

EN 14492-2:2019, Annex M.

13. CONVEYING AND SPRAYING MACHINES FOR CONCRETE AND MORTAR

EN 12001:2012, Annex C

14. CONVEYOR BELTS

See No 0.

The geometrical centre of the engine shall be positioned above the centre of the hemisphere. The belt shall move without load and leave the hemisphere, if necessary, in the direction of point 1.

15. COOLING EQUIPMENT ON VEHICLES

Test under load

The cooling equipment shall be installed in a real or simulated cargo space and the sound level shall be measured in a stationary position where, according to the instructions supplied to the purchaser, the height of the cooling equipment is representative of the intended installation requirements. The power source of the cooling equipment shall operate at the rate that causes the maximum speed of the cooling compressor and the fan specified in the instructions. If the cooling equipment is intended to be powered by the driving engine of the vehicle, the engine shall not be used during the measurement and the cooling equipment shall be connected to a suitable electrical power source. Removable tractor units shall be removed during the measurement.

The sound level of cooling equipment installed in cargo-space refrigeration units which have a choice of different power sources shall be measured separately for each power source. The measurement results reported shall as a minimum reflect the mode of operation which leads to the maximum noise output.

Period of observation

The period of observation shall be at least 15 s.

16. DOZERS

ISO 6395:2008 with the operating and testing conditions set out in Annex C of that standard.

17. DRILL RIGS

(a) Mobile drill rigs

EN 16228-2:2014+A1:2021, clause 5.12

(b) Horizontal directional drilling equipment

EN 16228-3:2014+A1:2021, clause 5.15

(c) Interchangeable auxiliary equipment for drilling

EN 16228-7:2014+A1:2021, clause 5.3

(d) Any other equipment for drilling

EN 16228-1:2014+A1:2021, clause 5.27.2.2

18. DUMPERS

ISO 6395:2008 with the operating and testing conditions set out in Annex F of that standard.

19. EQUIPMENT FOR LOADING AND UNLOADING TANKS OR SILOS ON TRUCKS

See No 9 for compressors or vacuum pumps.

See No 56 for liquid pumps.

20. EXCAVATORS

ISO 6395:2008 with the operating and testing conditions set out in Annex B of that standard.

21. EXCAVATORS-LOADERS

ISO 6395:2008 with the operating and testing conditions set out in Annex E of that standard.

22. GLASS RECYCLING CONTAINERS

For the purposes of this noise test code, the single-event time-integrated sound pressure level LE, as defined in EN ISO 3744:2010 point 3.4, shall be used in measuring the sound pressure level at the microphone positions.

Environmental correction K_{2A}

Measurement in the open air

$K_{2A} = 0$

Measurements indoors

The value of the constant K_{2A}, determined in accordance with EN ISO 3744:2010, Annex A, shall be $\leq$ 2,0 dB in which case K_{2A} shall be disregarded.

Operating conditions during test

The noise measurement shall be carried out during a complete cycle beginning with the empty container and completed when 120 glass bottles have been thrown into the container. The glass bottles are defined as follows:

— capacity: 75 cl;

— mass: 370 ± 30 g.

The testing operator shall hold each glass bottle by its neck and with its bottom towards the filling aperture and then push it gently inside through the filling aperture in the direction of the centre of the container, avoiding if possible that the bottle hits the walls. Only one filling aperture, which is the one nearest to microphone position 12, shall be used for throwing the bottles.

Period(s) of observation/determination of resulting sound power level if more than one operating condition is used

The A-weighted single-event time-integrated sound pressure level shall be simultaneously measured at the six microphone positions for each glass bottle thrown into the container.

The A-weighted single-event time-integrated sound power level averaged over the measurement surface shall be calculated in accordance with EN ISO 3744:2010, point 8.2.2.

The A-weighted single-event time-integrated sound pressure level averaged over all 120 throwings of glass bottles shall be calculated as the logarithmic mean of the A- weighted single-event time-integrated sound pressure levels, averaged over the measurement surface.

23. GRADERS

ISO 6395:2008 with the operating and testing conditions set out in Annex G of that standard.

24. GRASS TRIMMERS/GRASS EDGE TRIMMERS

See No 2.

25. HEDGE TRIMMERS

(a) Combustion-engine driven equipment

EN ISO 22868:2021

(b) Electric-motor operated equipment

EN IEC 62841-4-2:2019, Annex I, clause I.2

26. HIGH-PRESSURE FLUSHERS

Test under load

The high-pressure flusher shall be tested in a stationary position. The engine and auxiliary units shall operate at the speed provided by the manufacturer for the operation of the working equipment. The high-pressure pumps shall be operated at the maximum speed and operating pressure provided by the manufacturer. Using an adapted nozzle, the pressure reduction valve shall be just on the point of reacting. The flow noise of the nozzle shall not have any influence on the results of the measurements.

Period of observation

The period of observation shall be at least 30 s.

27. HIGH-PRESSURE WATER JET MACHINES

(a) Equipment with pressure rating ≤ 35 MPa

EN 60335-2-79:2012, Annex CC

(b) Equipment with pressure rating > 35 MPa

EN 1829-1:2010, clause 6.8

28. HYDRAULIC HAMMERS

Measurement surface/number of microphone positions/measuring distance

Hemisphere/six microphone positions in accordance with EN ISO 3744:2010, Annex F/r = 10 m.

Mounting of the equipment

For the test the hammer shall be attached to a carrier and a special test block structure shall be used. Figure 28.1 gives the characteristics of this structure and Figure 28.2 shows the position of the carrier.

Carrier

The carrier for the test hammer shall meet the requirements of the test hammer's technical specifications especially in weight range, hydraulic output power, supply oil flow and return line back pressure.

Mounting

Mechanical mounting as well as connections (hoses, pipes, etc.) shall correspond to specifications given in the hammer's technical data. All significant noise caused by pipes and various mechanical components needed for installation, shall be eliminated. All component connections shall be well tightened.

Hammer stability and static hold force

The hammer shall be firmly held down by the carrier to give the same stability as that existing under normal operating conditions. The hammer shall be operated in an upright position.

Tool

A blunt tool shall be used in the measurements. The length of the tool shall meet the requirements referred to in Figure 28.1 (test block).

Test under load

Hydraulic input power and oil flow

Operating conditions of the hydraulic hammer shall be appropriately adjusted, measured and reported along with the corresponding technical specification values. The hammer under test shall be used in such way that 90 % or more of the maximum hydraulic input power and oil flow of the hammer can be reached

Care shall be taken that the total uncertainty of the measurement chains of p_s and Q is kept within ± 5 %, in order to ensure the hydraulic input power determination within ± 10 % accuracy. Assuming linear correlation between hydraulic input power and emitted sound power, that would mean a variation of less than ± 0,4 dB in the determination of the sound power level.

Adjustable components having effect on the hammer power

Pre-settings of all accumulators, pressure central valves and other possible adjustable components shall meet the values given in technical data. If more than one fixed impact rate is optional, measurements shall be made using all settings. Minimum and maximum values shall be presented.

Quantities to be measured

p_s The mean value of the hydraulic supply fine pressure during the hammer's operation, including at least 10 blows.

Q The mean value of the breaker inlet oil flow measured simultaneously with p_s.

T The oil temperature shall lie between + 40/ + 60 °C during measurements. The temperature of the hydraulic breaker body shall be stabilised to normal operating temperature before starting the measurements.

P_a The prefill gas pressures of all accumulators shall be measured in a static situation (breaker not operating) at stable ambient temperature of +15/+25°C. The measured ambient temperature shall be recorded with the measured accumulator prefill gas pressure.

Parameters to be evaluated from the measured operating parameters

PIN Hydraulic input power of the breaker, PIN = p_s Q

Hydraulic supply line pressure measurement, p_s:

— p_s shall be measured as close to the breaker IN-port as possible;

— p_s shall be measured with a pressure gauge (minimum diameter: 100 mm; accuracy class ± 1,0 % FSO).

Breaker inlet oil flow, Q:

— Q shall be measured from the supply pressure line as close to the breaker IN-port as possible;

— Q shall be measured with an electric flowmeter (accuracy class ± 2,5 % of the flow reading).

Measuring point of the oil temperature, T:

— T shall be measured from the oil tank of the carrier or from the hydraulic line connected to hammer. The measuring point shall be specified in the report;

— The accuracy of the temperature reading shall lie within ± 2 °C of the actual value.

Period of observation/determination of resulting sound power level

The period of observation shall be at least 15 s.

The measurements shall be repeated three times, or more if necessary. The final result shall be calculated as the arithmetic mean of the two highest values that do not differ by more than 1 dB.

Figure 28.1

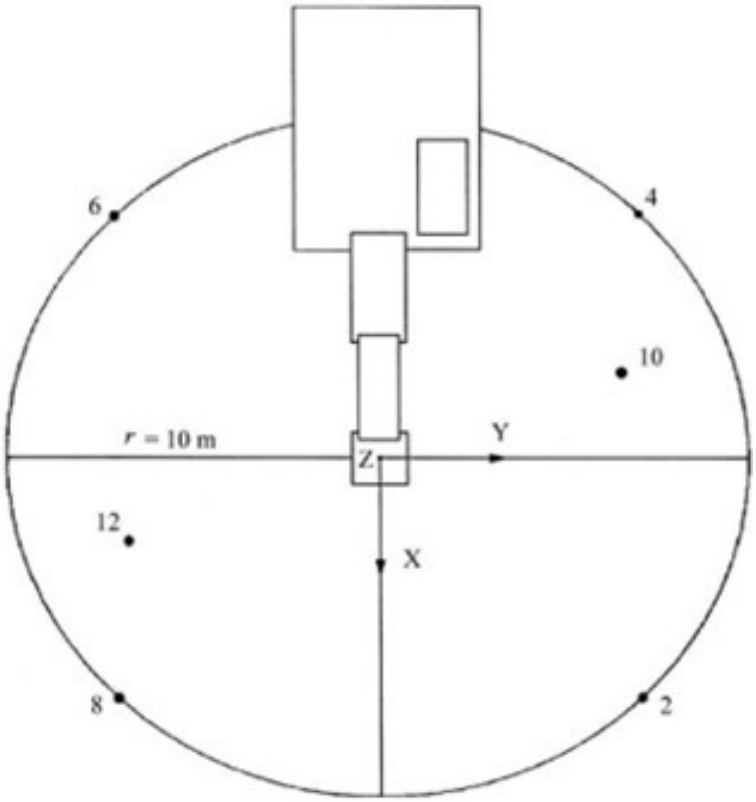
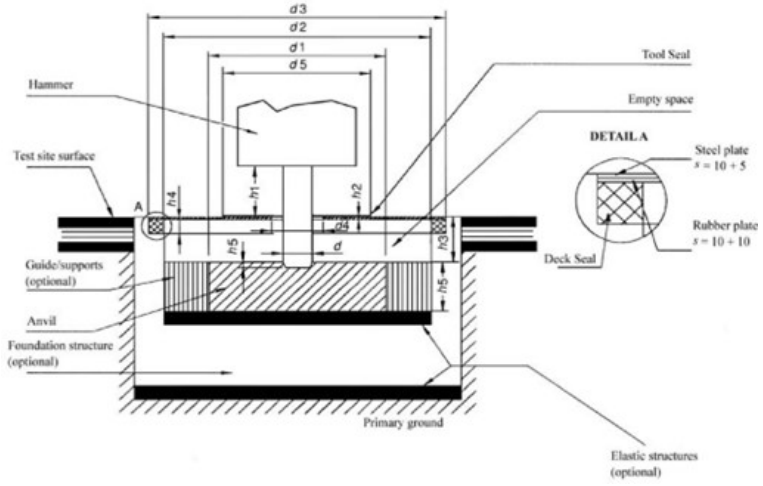


Figure 28.2



Definitions

d Tool diameter (mm);

d1 Anvil diameter, 1 200 ± 100 mm;

d2 Inner diameter of the anvil support structure, ≤ 1 800 mm;

d3 Diameter of the test block deck, ≤ 2 200 mm;

d4 Diameter of the tool opening in the deck, ≤ 350 mm;

d5 Diameter of the tool seal, ≤ 1 000 mm;

h1 Visible tool length between the lowest part of the housing and tool seal upper surface (mm), h1 = d ± d/2;

h2 Tool seal thickness above the deck, ≤ 20 mm (if the tool seal is located below the deck, its thickness shall not be limited; it may be made of foam rubber);

h3 Distance between deck upper surface and anvil upper surface, 250 ± 50 mm;

h4 Isolating foam rubber deck seal thickness, ≤ 30 mm;

h5 Anvil thickness, 350 ± 50 mm;

h6 Tool penetration, ≤ 50 mm.

If the quadratic shape of the test block structure is used, the maximum length dimension shall equal 0,89 × corresponding diameter.

The empty space between the deck and the anvil may be filled with elastic foam rubber or other absorption material, density < 220 kg/m³.

29. HYDRAULIC POWER PACKS

Mounting of equipment

The hydraulic power pack shall be installed on the reflecting plane; skid-mounted hydraulic power packs shall be placed on a support 0,40 m high, unless otherwise required by the manufacturer's conditions of installation.

Test under load

During testing, no tools shall be coupled to the hydraulic power pack.

The hydraulic power pack shall be brought to its steady state within the range specified by the manufacturer. It shall operate at its nominal speed and its nominal pressure. The nominal speed and pressure shall be those appearing in the instructions supplied to the purchaser.

Period of observation

The period of observation shall be at least 15 s.

30. JOINT CUTTERS

(a) Pedestrian-controlled floor-sawing machines

EN 13862:2021, clause 4.10.2

(b) Portable, hand-held internal combustion engine-driven equipment, mounted on a mobile support, to be used as floor saws

EN ISO 19432-1:2020, clause 4.19.2

(c) Other joint cutters

Test under load

The joint cutter shall be equipped with the largest possible blade specified by the manufacturer in the instructions supplied to the purchaser. The engine shall operate at its maximum speed with the blade idling.

Period of observation

The period of observation shall be at least 15 s.

31. LANDFILL COMPACTORS

ISO 6395:2008 with the operating and testing conditions set out in Annex H of that standard.

32. LAWNMOWERS

(a) Combustion engine powered rotatory and cylinder lawnmowers

EN ISO 5395-1:2013, EN ISO 5395-1:2013/A1:2018, clause 4.3, second indent.

Environmental correction K_{2A}

If $K_{2A} \leq 0{,}5$ dB, it can be neglected.

(b) Electric-motor operated rotatory and cylinder stand-on, ride-on, and pedestrian controlled lawnmowers

EN IEC 62841-4-3:2021, EN IEC 62841-4-3:2021/A11:2021, Annex I, clause I.2

33. LAWN TRIMMERS/LAWN EDGE TRIMMERS

EN 50636-2-91:2014, Annex CC

34. LEAF BLOWERS

(a) Combustion-engine driven equipment

EN ISO 22868:2021

(b) Electric-motor operated equipment

EN 50636-2-100:2014, Annex CC

35. LEAF COLLECTORS

See No 34.

36. LIFT TRUCKS

EN 12053:2001+A1:2008

37. LOADERS

ISO 6395:2008 with the operating and testing conditions set out in Annex D of that standard.

38. MOBILE CRANES

EN 13000:2010+A1:2014, clause 5.3

39. MOBILE WASTE CONTAINERS

Test area

— Reflecting surface of concrete or non-porous asphalt

— Laboratory room which provides a free field over a reflecting plane

Environmental correction K_{2A}

Measurement in the open air:

$K_{2A} = 0$

Measurement indoors:

The value of the constant K_{2A}, determined in accordance with EN ISO 3744:2010, Annex A, shall be $\leq 2{,}0$ dB, in which case K_{2A} shall be disregarded.

Measurement surface/number of microphone positions/measuring distance

Hemisphere/six microphone positions in accordance with EN ISO 3744:2010, Annex F/r = 3 m.

Operating conditions during test

All the measurements shall be carried out with an empty container.

Test No 1: Free shutting down of the lid along the container body

To minimise the operator's influence on the measurements, the operator shall stand at the back side of the container (hinge side). The lid shall be released by its middle, to prevent warping during its fall.

The measurement shall carried out during the following cycle, repeated 20 times:

— initially, the lid shall be raised vertically;

— the lid shall be released forward, if possible without giving an impulse, with the operator at the back of the container, unmoving until the lid is shut;

— after complete shutting, the lid shall be raised to its initial position.

Note: If necessary, the operator may temporarily move to raise the lid.

Test No 2: Complete opening of the lid

To minimise the operator's influence on the measurements, the operator shall stand at the back side of the container (hinge side) for the four-wheel containers, or on the right side

of the container (between microphone position 10 and microphone position 12) for the two-wheel containers. The lid shall be released by its middle or as near as possible to its middle.
To prevent any moving of the container, wheels shall be locked during the test. For the two-wheel containers, and to prevent any bounce of the container, the operator may maintain it by placing a hand on the top rim.
The measurement shall be carried out during the following cycle:

— initially, the lid shall be opened horizontally;

— the lid shall be released without giving an impulse;

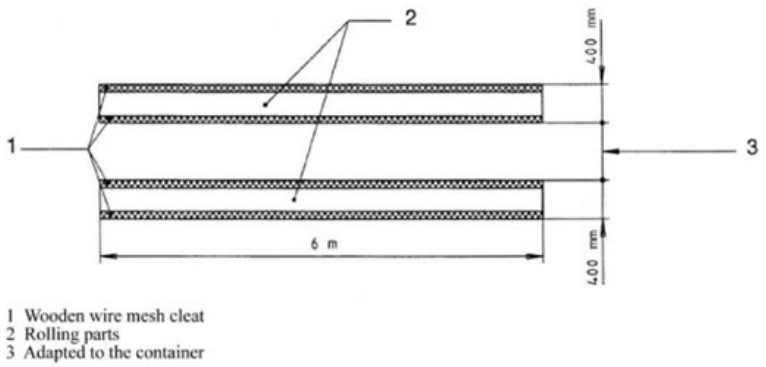
— after complete opening, and before a possible rebound, the lid shall be raised to its initial position.

Test No 3: Rolling of the container over an artificial irregular track
For this test, an artificial test track, simulating irregular ground, shall be used. This test track shall consist of two parallel strips of steel mesh (6 m long and 400 mm wide), fastened in the reflecting plane approximately every 20 cm. The distance between the two strips shall adapted to the type of container to allow the wheels to roll all over the whole length of the track. The mounting conditions shall ensure a flat surface. If necessary, the track shall be fastened on the ground with resilient material to avoid emission of parasitic noise.

Note: Every strip may be composed of several 400 mm wide elements fitted together.
An example of adequate track is given in figures 39.1 and 39.2. The operator shall be situated at the lid hinge side.
The measurement shall be carried out while the operator draws the container along the artificial track, with a constant speed of approximately 1 m/s, between points A and B (4,24 m distance – see Figure 39.3) when the wheel axle, for a 2-wheel container, or the first wheel axle for a 4-wheel container, reaches point A or point B. This procedure shall be repeated three times in each direction.
During the test, for a 2-wheel container, the angle between the container and the track shall be 45°. For a 4-wheel container, the operator shall ensure an appropriate contact of all the wheels with the track.
Periods of observation/determination of resulting sound power level if more than one operating condition is used
Test Nos 1 and 2: Free shutting down of the lid along the container body and complete opening of the lid
If possible, the measurements shall be carried out simultaneously at the six microphone positions. Otherwise, the sound levels measured at each microphone position shall be classified in increasing order and the sound power levels shall be calculated by associating the values at each microphone position according to their row.
The A-weighted single-event time-integrated sound pressure level shall be measured for each of the 20 shuttings and the 20 openings of the lid at each measurement point. The sound power levels $L_{WAshutting}$ and $L_{WAopening}$ shall be calculated from the quadratic mean of the five highest values among those obtained.
Test No 3: Rolling the container over an artificial irregular track
The period of observation T shall be equal to the duration necessary to cover the distance between point A and point B on the track.
The sound power level $L_{WArolling}$ shall be equal to the mean of six values differing by less than 2 dB. If this criterion is not fulfilled with six measurements, the cycle shall be repeated as often as necessary.
The resulting sound power level shall calculated as follows:

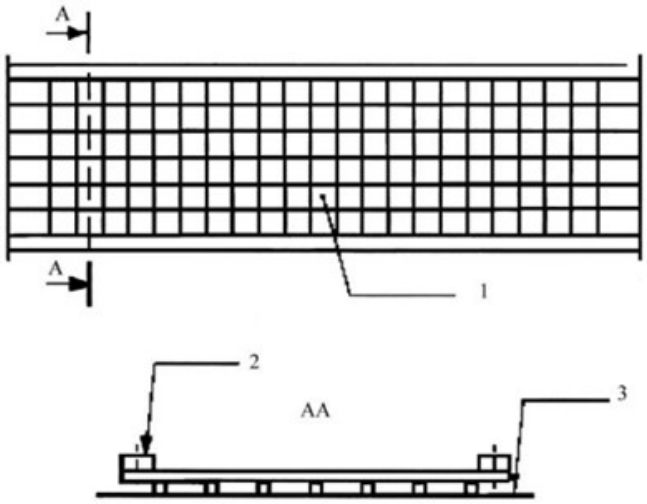
$$L_{WA} = 10 \log 1/3 \left(10^{0,1\ LWA\,shutting} + 10^{0,1\ LWA\,opening} + 10^{0,1\ LWA\,rolling}\right)$$

Figure 39.1 - Drawing of the rolling track



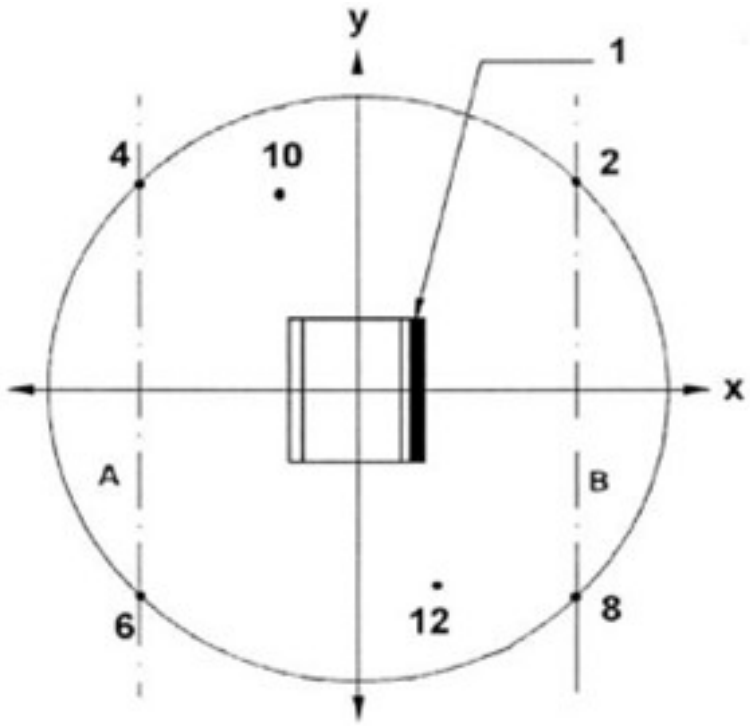
1 Wooden wire mesh cleat
2 Rolling parts
3 Adapted to the container

Figure 39.2 - Detail of construction and mounting of the rolling track



1. — Rigid steel thread (4 mm)
— Mesh of net: (50 mm x 50 mm)
2. Wooden wire mesh cleat (20 mm x 25 mm)
3. Reflecting plane

Figure 39.3 - Measurement distance



1 Hinge

40. MOTOR HOES
See No 32
The tool shall be disconnected or removed during measurement.

41. PAVER-FINISHERS
EN 500-6:2006+A1:2008, clause 5.17

42. PILING EQUIPMENT
(a) Foundation equipment
EN 16228-4:2014+A1:2021, clause 5.8
(b) Interchangeable auxiliary equipment for piling
EN 16228-7:2014+A1:2021, clause 5.3
(c) Any other equipment for piling
EN 16228-1:2014+A1:2021, clause 5.27.2.2

43. PIPELAYERS ISO
6393:2008

44. PISTE CATERPILLARS
ISO 6393:2008, with the same procedures and operating conditions described for tractor-dozers. The test site surface shall be the hard reflecting plane (5.3.2. in ISO 6393:2008).

45. POWER GENERATORS
EN ISO 8528-10:2022
The measurement method of this standard based on EN ISO 3744:2010 shall be applied.

46. POWER SWEEPERS
(a) Road sweepers
EN 17106-2:2021, clause 4.3

(b) Other power sweepers for use out-doors
EN 60335-2-72:2012, Annex DD

47. REFUSE COLLECTION VEHICLES
EN 1501-4:2023

48. ROAD MILLING MACHINES
EN 500-2:2006+A1:2008, clause 5.17

49. SCARIFIERS
(a) Combustion-engine driven equipment
EN 13684:2018, clause 5.16.2
(b) Electric-motor operated equipment
EN IEC 62841-4-7:2022, EN IEC 62841-4-7:2022/A11:2022, Annex I, clause I.2

50. SHREDDERS/CHIPPERS
(a) Garden hand-fed shredders/chippers

(i) Combustion-engine driven equipment

EN 13683:2003+A2:2011, clause 5.10.2

EN 13683:2003+A2:2011/AC:2013

(ii) Electric-motor operated equipment

EN 50434:2014, clause 20.107.2

(b) Forestry horizontally hand-fed wood chippers
EN 13525:2020, clause 5.5
(c) Forestry vertically hand-fed wood chippers, forestry mechanically (vertically and horizontally) loaded wood chippers and other shredders/chippers
Test under load
The shredder/chipper shall be tested chipping one or more pieces of wood.
The work-cycle shall consist of chipping a round piece of wood (dry pine or plywood) of at least 1,5 m length, that is sharpened at one end and has a diameter approximately equal to the maximum that the shredder/chipper is designed to accept specified in the instructions supplied to the purchaser.
Period of observation/determination of resulting sound power level
The period of observation shall end when there is no more material in the chipping area, but it shall not exceed 20 s. If both operation conditions are possible, the higher sound power level shall be retained.

51. SNOW-REMOVING MACHINES WITH ROTATING TOOLS
(a) Road operation snow clearing machines
EN 17106-3-1:2021, clause 4.2
(b) Pedestrian-controlled and ride-on snow throwers

(i) Combustion-engine driven equipment

EN ISO 8437-4:2021, Annex A

(ii) Electric-motor operated equipment:

The machine shall be operated at maximum speed at no-load for 10 min before the test starts. The collector or impeller devices shall be lubricated in accordance with manufacturer's instructions.

During the test, the collector or impeller shall be engaged and unloaded. The test shall be carried out stationary at the maximum speed at no-load.

Machines shall be measured by placing them on the surface in such a way that the projection of the geometrical centre of their main parts (excluding handle, etc.) coincides with the origin of the coordinate system of the microphone positions. If an artificial surface is used, it shall be placed so that its geometrical centre also coincides with the origin of the coordinate system of the microphone positions. The longitudinal axis of the machine shall be on the x-axis. The measurement shall be carried out without an operator.

During measurements, the machine shall operate under stable conditions. Once the noise emission is steady, the measurement time interval shall be at least 15 s. If measurements are made in octave or one-third octave frequency bands, the minimum period of observation shall be 30s for the frequency bands centred on or below 160 Hz, and 15 s for the frequency bands centred on or above 200 Hz.

52. SUCTION VEHICLES

Test under load

The suction vehicle shall be tested in a stationary position. The engine and auxiliary units shall operate at the speed provided by the manufacturer for the operation of the working equipment. The vacuum pumps shall operate at the maximum speed provided by the manufacturer. The suction equipment shall be operated in such a way that the internal pressure is equal to atmospheric pressure (0 % vacuum). The flow noise of the suction nozzle shall not have any influence on the results of the measurements.

Period of observation

The period of observation shall be at least 15 s.

53. TOWER CRANES

EN 14439:2006+A2:2009, clause 6.4.1

54. TRENCHERS

ISO 6393:2008

55. TRUCK MIXERS

EN 12609:2021, Annex B

56. WATER PUMP UNITS

EN ISO 20361:2019, EN ISO 20361:2019/A11:2020

The measurement method of this standard based on EN ISO 3744:2010 shall be applied.
The period of observation shall be at least 15 s.

57. WELDING GENERATORS

EN ISO 8528-10:2022

The measurement method of this standard based on EN ISO 3744:2010 shall be applied.”

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations amend the Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001 (S.I. 2001/1701) ("the 2001 Regulations") to give effect in Northern Ireland, under the Windsor Framework, to amendments made by Regulation (EU) 2024/1208 ("the 2024 Regulation") and Directive (EU) 2024/2839 ("the 2024 Directive") both of which amend Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000 on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors ("the Directive").

Regulation 2(2) updates the definition of "the Directive" so that it refers to the version of the Directive as at the date these Regulations come into force.

Regulations 2(3) and 2(4) give effect to the requirements of the 2024 Directive by removing the requirement to provide a copy of the declaration of conformity to the Secretary of State and to the European Commission and the associated offence.

Regulation 2(5) gives effect to the requirements of the 2024 Regulation by replacing Schedule 6 of the 2001 Regulations (which is Annex III of the Directive) to introduce updated methods to measure airborne noise emitted by equipment for use outdoors and to update the permissible sound power level of equipment for outdoor use.

Regulation 3 sets out savings and transitional provisions.

A full impact assessment has not been produced for this instrument as no, or no significant, impact on the private, voluntary or business sectors is foreseen. An Explanatory Memorandum has been published alongside these Regulations and is available at www.legislation.gov.uk.

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