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European Assessment Document for

Waterless odour trap for floor drains



CE

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This European Assessment Document (EAD) has been developed taking into account up-to-date technical and scientific knowledge at the time of issue and is published in accordance with the relevant provisions of Regulation (EU) No 305/2011 as a basis for the preparation and issuing of European Technical Assessments (ETA).

Contents

1	Scope of the EAD	4
1.1	Description of the construction product	4
1.2	Information on the intended use(s) of the construction product	4
1.2.1	Intended use(s)	4
1.2.2	Working life/Durability.....	4
2	Essential characteristics and relevant assessment methods and criteria	5
2.1	Essential characteristics of the product	5
2.2	Methods and criteria for assessing and classification of the performance of the product in relation to essential characteristics of the product	5
2.2.1	Reaction to fire.....	5
2.2.2	Air/Odour tightness.....	6
2.2.3	Self-cleaning ability	6
2.2.4	Effectiveness	6
2.2.5	Mechanical resistance to air pressure.....	6
2.2.6	Heat resistance – thermal behaviour	6
2.2.7	Pull-out resistance from floor drain	6
3	Assessment and verification of constancy of performance	7
3.1	System(s) of assessment and verification of constancy of performance to be applied	7
3.2	Tasks of the manufacturer	7
3.3	Tasks of the notified body	8
4	Reference documents	9
Annex A	Description of the product	10
Annex B	Mechanical resistance at negative air pressure	12

1 SCOPE OF THE EAD

1.1 Description of the construction product

The waterless odour trap for floor drains consists of a UV-resistant ABS frame, a silicone based sealing collar/membrane and flexible sealing flanges.

The product has different sizes corresponding to different drainage capacities.

See annex A for a drawing of the trap.

The product addressed in this EAD is not covered by a harmonized European standard (hEN).

Concerning product packaging, transport, storage, maintenance, replacement and repair it is the responsibility of the manufacturer to undertake the appropriate measures and to advise his clients on the transport, storage, maintenance, replacement and repair of the product, as he considers necessary.

It is assumed that the product will be installed according to the manufacturer's instructions or (in absence of such instructions) according to the usual practice of the building professionals.

Relevant manufacturer's stipulations having influence on the performance of the product covered by this European Assessment Document, shall be considered for the determination of the performance and detailed in the ETA.

1.2 Information on the intended use(s) of the construction product

1.2.1 Intended use(s)

The waterless odour trap for floor drains allows the drainage water to flow to the sewerage system while preventing passage of odour and gasses from the sewerage system.

1.2.2 Working life/Durability

The assessment methods included or referred to in this EAD have been written based on the manufacturer's request to take into account a working life of the waterless odour trap for floor drains for the intended use of 25 years when installed in the works. These provisions are based upon the current state of the art and the available knowledge and experience.

When assessing the product, the intended use as foreseen by the manufacturer shall be taken into account. The real working life may be, in normal use conditions, considerably longer without major degradation affecting the basic requirements for works¹.

The indications given as to the working life of the construction product cannot be interpreted as a guarantee neither given by the product manufacturer or his representative nor by EOTA when drafting this EAD nor by the Technical Assessment Body issuing an ETA based on this EAD, but are regarded only as a means for expressing the expected economically reasonable working life of the product.

¹ The real working life of a product incorporated in a specific works depends on the environmental conditions to which that works is subject, as well as on the particular conditions of the design, execution, use and maintenance of that works. Therefore, it cannot be excluded that in certain cases the real working life of the product may also be shorter than the assumed working life.

2 ESSENTIAL CHARACTERISTICS AND RELEVANT ASSESSMENT METHODS AND CRITERIA

All undated references to standards or to EADs in this EAD are to be understood as references to the dated versions listed in chapter 4

2.1 Essential characteristics of the product

Table 2.1.1 shows how the performance of the waterless odour trap for floor drains is assessed in relation to the essential characteristics.

Table 2.1.1 Essential characteristics of the product and methods and criteria for assessing the performance of the product in relation to those essential characteristics

No	Essential characteristic	Assessment method	Type of expression of product performance
Basic Works Requirement 2: Safety in case of fire			
1	Reaction to fire	2.2.1	Class
Basic Works Requirement 3: Hygiene, health and the environment			
2	Airtightness/Odour tightness	2.2.2	Level
3	Self-cleaning ability	2.2.3	Level
4	Effectiveness: <ul style="list-style-type: none"> - Access for cleaning - Water through the grating and side inlets 	2.2.4	Description
Basic Works Requirement 4: Safety and accessibility in use			
5	Mechanical resistance at negative air pressure	2.2.5	Level
6	Heat resistance – thermal behaviour	2.2.6	Level
7	Pull-out resistance from floor drain	2.2.7	Level

2.2 Methods and criteria for assessing and classification of the performance of the product in relation to essential characteristics of the product

This chapter is intended to provide instructions for TABs. Therefore, the use of wordings such as “shall be stated in the ETA” or “it has to be given in the ETA” shall be understood only as such instructions for TABs on how results of assessments shall be presented in the ETA. Such wordings do not impose any obligations for the manufacturer and the TAB shall not carry out the assessment of the performance in relation to a given essential characteristic when the manufacturer does not wish to declare this performance in the Declaration of Performance.

2.2.1 Reaction to fire

The waterless odour trap shall be tested according to the method(s) referred to in EN 13501-1 and relevant for the corresponding reaction to fire class. The waterless odour trap shall be classified according to the Commission Delegated Regulation (EU) No 2016/364.

2.2.2 Air/Odour tightness

The air/odour tightness of the waterless odour trap shall be determined in accordance with EN 1253-1, clause 5.8.1. One sample is tested and the pressure is measured initially and after 15 minutes in accordance with EN 1253-1, clause 5.8.1. The performance is stated in the ETA as the pressure drop in Pa after 15 minutes in accordance with EN 1253-1, clause 4.6.1.

2.2.3 Self-cleaning ability

The self-cleaning ability of the waterless odour trap shall be determined in accordance with EN 1253-1, clause 5.4.2. The test period is 48 hours and with a water flow of 1,4 l/s. One sample is tested.

The performance level is stated in the ETA as the expelled volume of glass beads in cm³

2.2.4 Effectiveness

2.2.4.1 Access for cleaning

The access for cleaning of the waterless odour trap is determined in accordance with EN 1253-1, clause 5.4.1, and the performance level is stated in the ETA as a description in accordance with EN 1253-1, clause 4.2.1.

2.2.4.2 Water through the grating, and water through grating and side inlets

The water through the grating and side inlets of the kit is determined in accordance with EN 1253-1, clause 5.9.1 and 5.9.2, and the performance level is stated in the ETA as the flow rate at a head of water in accordance with EN 1253-1, clause 4.8.1 and 4.8.2.

2.2.5 Mechanical resistance to air pressure

The mechanical resistance to air pressure of the waterless odour trap is determined in accordance with annex B The pressure at which the product does not open or does not lose its function is stated in the ETA.

2.2.6 Heat resistance – thermal behaviour

The temperature cycling is tested in accordance with EN 1253-1, clause 5.5.1 after which the odour tightness test is performed again in accordance with 2.2.2. The heat cycles are performed with 360 cycles or with 1500 cycles depending on the intended use requested by the manufacturer. Conditions of the specimen shall be monitored continuously and any deformation or changes in structure of material leading to malfunction of the product shall be recorded. The number of cycles at which the product maintains the performance from 2.2.2 is stated in the ETA and the intended use is stated in accordance with EN 1253-1, clause 4.5.

2.2.7 Pull-out resistance from floor drain

The product is installed in two stainless steel floor gullies and in one plastic floor gully. A vertical downwards load is applied in the centre of the product. The product is installed in a drainpipe with a diameter corresponding to the product. The load applied to the centre of the upper watertight membrane either in increments of 1 kg weight or equivalently, continuously by use of a hydraulic pressure piston at a speed of 5 mm/min. The load at which the product starts to move in the floor gully is stated in kg in the ETA.

3 ASSESSMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE

3.1 System(s) of assessment and verification of constancy of performance to be applied

For the products covered by this EAD the applicable European legal act is: Decision 99/472/EC as amended by 2001/596/EC.

The applicable AVCP system is 4 except for any use except uses subject to regulations on reaction to fire.

For uses subject to regulations on reaction to fire the applicable AVCP systems regarding reaction to fire are 1, or 3, or 4 depending on the conditions defined in the said Decision

3.2 Tasks of the manufacturer

The corner stones of the actions to be undertaken by the manufacturer of the waterless odour trap in the procedure of assessment and verification of constancy of performance are laid down in Table 3.2.1.

Table 3.2.1 Control plan for the manufacturer; corner stones

No	Subject/type of control	Test or control method	Criteria, if any	Minimum number of samples	Minimum frequency of control
Factory production control (FPC)					
1	Appearance (trap)	Visual	Laid down in control plan	1	Every batch
2	Dimensions (trap)	Measurement	Laid down in control plan	1	Every batch
3	Materials (trap)	Documentation from supplier of incoming materials	Laid down in control plan	Every delivery	Every delivery
4	Mechanical resistance at negative air pressure	2.2.5	Laid down in control plan	1	Every three years
5	Self-cleaning ability	2.2.3	Laid down in control plan	1	Every three years
6	Airtightness/Odour tightness	2.2.2	Laid down in control plan	1	Every three years
7	Water through the grating, and water through grating and side inlets	2.2.4.2	Laid down in control plan	1	Every three years
8	Reaction to fire	2.2.1	Laid down in control plan	1	Once per year

3.3 Tasks of the notified body

The cornerstones of the actions to be undertaken by the notified body of the product in the procedure of assessment and verification of constancy of performance are laid down in Table 3.3.1.

The intervention of the notified body under AVCP system 1 is only necessary for reaction to fire for products/materials for which a clearly identifiable stage in the production process results in an improvement of the reaction to fire classification (e.g., an addition of fire retardants or a limiting of organic material).

In this case the cornerstones of the tasks to be undertaken by the notified body under AVCP system 1 are laid down in Table 3.3.1

Table 3.3.1 Control plan for the notified body; cornerstones

No	Subject/type of control	Test or control method	Criteria, if any	Minimum number of samples	Minimum frequency of control
Initial inspection of the manufacturing plant and of factory production control carried out by the manufacturer regarding the constancy of performance related to reaction to fire <i>(for system 1 only)</i>					
1	Where the intervention of the Notified Body is necessary only because the conditions for the applicability of system 1 are fulfilled for reaction to fire, the notified body will consider especially the clearly identifiable stage in the production process which results in an improvement of the reaction to fire classification (e.g., an addition of fire retardants or a limiting of organic material).	Verification of the complete FPC as described in the control plan agreed between the TAB and the manufacturer	As defined in the control plan agreed between the TAB and the manufacturer	As defined in the control plan agreed between the TAB and the manufacturer	When starting the production or a new line
Continuous surveillance, assessment and evaluation of factory production control carried out by the manufacturer regarding the constancy of performance related to reaction to fire <i>(for system 1 only)</i>					
2	Where the intervention of the Notified Body is necessary only because the conditions for the applicability of system 1 in the Decisions regarding reaction to fire are fulfilled, the notified body will consider especially the clearly identifiable stage in the production process which results in an improvement of the reaction to fire classification (e.g., an addition of fire retardants or a limiting of organic material)	Verification of the controls carried out by the manufacturer as described in the control plan agreed between the TAB and the manufacturer with reference to the raw materials, to the process and to the product as indicated in Table 3.2.1	As defined in the control plan agreed between the TAB and the manufacturer	As defined in the control plan agreed between the TAB and the manufacturer	1/year

4 REFERENCE DOCUMENTS

- EN13501-1:2018 Fire classification of construction products and building elements - Part 1: Classification using test data from fire reaction to fire tests
- EN 1253-1:2015 Gullies for buildings - Part 1: Gullies for buildings – Part 1: Trapped floor gullies with a depth water seal of at least 50 mm

ANNEX A DESCRIPTION OF THE PRODUCT

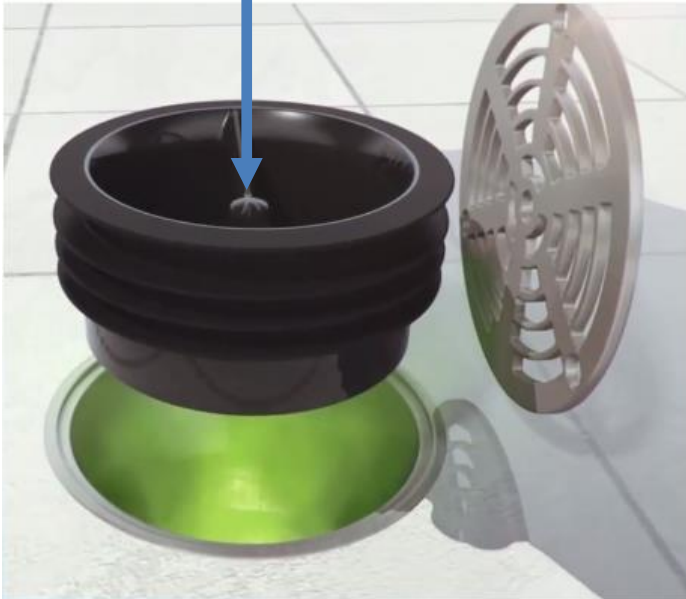


Upper watertight membrane

Gully with trap

Flexible silicone membrane

F = Force applied to the centre of the upper watertight membrane by hydraulic piston



ANNEX B MECHANICAL RESISTANCE AT NEGATIVE AIR PRESSURE

Purpose of test

The purpose of the test is to assess the mechanical resistance of the odour trap at negative air pressure. Since the odour trap is waterless, the test is performed with air.

Procedure

Mount the odour trap in a test arrangement as illustrated in figure B.1. apply a positive air pressure of 400 Pa by means of the fan and the pressure measuring device (manometer).

Increase the air pressure with 20 Pa/sec. until the odour trap leaks and record the air pressure

Three samples of each size are tested, and the mean value of the three tests for each size is stated in the ETA.

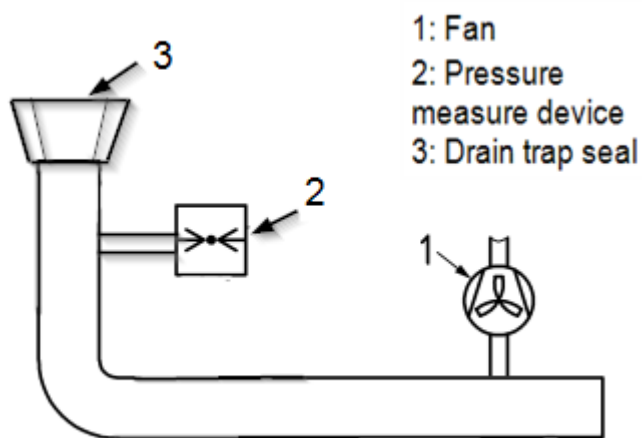


Figure B.1 Test arrangement for determining the mechanical resistance to pressure.