BS EN 12050-1:2015

BSI Standards Publication

Wastewater lifting plants for buildings and sites

Part 1: Lifting plants for wastewater containing faecal matter

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National foreword

This British Standard is the UK implementation of EN 12050-1:2015. It supersedes BS EN 12050-1:2001 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/505, Wastewater engineering.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Foreword

This document (EN 12050-1:2015) has been prepared by Technical Committee CEN/TC 165 “Wastewater engineering”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2015 and conflicting national standards shall be withdrawn at the latest by December 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12050-1:2001.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of the Regulation (EU) No. 305/2011.

For relationship with EU Regulation, see informative Annex ZA, which is an integral part of this document.

The series of standards EN 12050 “*Wastewater lifting plants for buildings and sites*” consists of the following parts:

- Part 1: *Lifting plants for wastewater containing faecal matter;*
- Part 2: *Lifting plants for faecal-free wastewater;*
- Part 3: *Lifting plants for limited applications;*
- Part 4: *Non-return valves for faecal-free wastewater and wastewater containing faecal matter.*

The main changes with respect to the previous edition are listed below:

a) reaction to fire added;

b) hot water test added;

c) Clause 6 updated in accordance with “Implementation of the Construction Products Regulation (CPR) in harmonized standards”;

d) Annex ZA updated in accordance with “Implementation of the Construction Products Regulation (CPR) in harmonized standards” (adoption of the Regulation EU No. 305/2011);

e) editorially revised.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard applies to lifting plants for wastewater containing faecal matter (referred to as “faecal lifting plants” in this standard) for drainage of locations below flood level in buildings and sites to prevent any backflow of wastewater into the building. These lifting plants may be prefabricated or delivered as prefabricated kits and assembled on site. This standard specifies general requirements, basic construction and testing principles, together with information on materials and assessment and verification of constancy of performance.

Construction and testing requirements for non-return valves used in wastewater lifting plants are given in EN 12050-4.

This European Standard does not apply for pumping installations for drain and sewer systems outside buildings for pumping of municipal wastewater according to EN 752:2008, Annex F.

NOTE Lifting plants for wastewater containing faecal matter can also be used for wastewater that does not contain faecal matter and for surface water.

This European Standard applies also to lifting plants for wastewater containing faecal matter which are not prefabricated but composed of individual components purchased from different suppliers and put together on site.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 124, *Gully tops and manhole tops for vehicular and pedestrian areas — Design requirements, type testing, marking, quality control*

EN 12056-1:2000, *Gravity drainage systems inside buildings — Part 1: General and performance requirements*

EN 12056-4:2000, *Gravity drainage systems inside buildings — Part 4: Wastewater lifting plants - Layout and calculation*

EN 12566-1:2000/A1:2003, *Small wastewater treatment systems for up to 50 PT — Part 1: Prefabricated septic tanks*

EN 12566-4:2007, *Small wastewater treatment systems for up to 50 PT — Part 4: Septic tanks assembled in situ from prefabricated kits*

EN 13463-1, *Non-electrical equipment for use in potentially explosive atmospheres — Part 1: Basic method and requirements*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 13598-1, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 1: Specifications for ancillary fittings including shallow inspection chambers*

EN 60079-0, *Explosive atmosphere — Part 0: Equipment — General requirements (IEC 60079-0)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

EN ISO 9906:2012, *Rotodynamic pumps — Hydraulic performance acceptance tests — Grades 1, 2 and 3 (ISO 9906:2012)*

EN ISO 20361, *Liquid pumps and pump units — Noise test code — Grades 2 and 3 of accuracy (ISO 20361)*

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
domestic wastewater
water which is contaminated by use and normally discharged from WC, showers, baths, bidets, wash basins, sinks and floor gullies

[SOURCE: EN 12056-1:2000, 3.1.2]

3.1.2
faecal lifting plant
device for the collection and automatic lifting of wastewater, which may or may not contain faecal matter, to a height above flood level

Note 1 to entry: A non-return valve according to EN 12050–4 is a component of the plant.

3.1.3
collection tank for wastewater containing faecal matter
unpressurized part of a faecal lifting plant in which the incoming wastewater is stored prior to lifting

3.1.4
site
area in the proximity of the building outside buildings

Note 1 to entry: For further explanation see EN 12056–1:2002, Figure 1.

3.1.5
useful volume
volume in the collection tank between switch-on level and switch-off level

3.1.6
flood level
maximum level to which wastewater can rise within a drainage system

[SOURCE: EN 12056-1:2000, 3.1.7]

3.1.7
pumping device for wastewater containing faecal matter
component of a faecal lifting plant which pumps the wastewater out of the collection tank to a height above flood level

3.1.8
maximum pump operating pressure
maximum hydrostatic pressure that the pumping device is capable to create

3.1.9
ball passage
passage where a ball with a defined diameter can pass through without deformation

3.1.10
warning device
device which gives a signal if a malfunction occurs

3.2 Symbols and abbreviations

3.2.1 Symbols

d_i pipe internal diameter, in mm

Q flow rate, in l/s

H discharge head, in m

v flow velocity, in m/s

3.2.2 Abbreviations

AVCP assessment and verification of constancy of performance

DN nominal diameter

CWT classified without testing

CWFT classified without further testing

SBI single burn item

DoP declaration of performance

FPC factory production control

4 Materials and product characteristics

4.1 Materials

Materials used shall be adequate to meet the demands of installation and operation. Materials shall comply with the requirements of this standard and shall not release dangerous substances (see 4.10). Examples of suitable materials for the construction of wastewater lifting plants are given in Annex A (informative).

For collection tanks only corrosion resistant materials or materials with a corrosion resistant protective coating shall be used.

4.2 Collection tank

4.2.1 Mechanical resistance

The structural stability of collection tanks shall be shown to be adequate for the place of installation. When tested according to 5.2.1 the tank shall be tight and shall not show any deformation influencing subsequent function of the lifting plant.

Where loads on the tank may be expected the load bearing capacity of the collection tank shall be shown to be adequate for the place of installation and the crushing resistance or maximum load deformation (as applicable) shall be tested and declared in accordance with appropriate standards, e.g. EN 13598-1:2010 or EN 12566-1:2000/A1:2003, Annex D.

The cover shall comply with EN 124 when applicable.

4.2.2 Watertightness

Collection tanks for use inside buildings, other than inlet, outlet and vent openings, shall be closed, watertight when tested according to 5.2.1.

Collection tanks for use at sites outside buildings shall be covered and watertight. If not tested according to 5.2.1 because the collection tank is assembled on site, the watertightness shall be tested and declared according to EN 12566-4.

4.2.3 Odourtightness

Collection tanks for use inside buildings, other than inlet, outlet and vent openings, shall be closed and odourtight when tested according to 5.2.

4.2.4 Protection against explosion

The inside of the collection tank of a faecal lifting plant can be regarded as a zone containing potentially explosive gases.

NOTE In those cases, the collection tank is regarded as zone 2 in accordance with Directive 1999/92/EC (ATEX operative guideline) and considered as temperature class 3.

Where protection against explosion is required, the collection tank and any device inside the tank shall meet the requirements of EN 13463-1 and EN 60079-0 and be tested accordingly and the product shall be marked as such.

4.3 Lifting effectiveness

4.3.1 General

Faecal lifting plants shall be capable of pumping wastewater as defined in EN 12056-1 including all the solid matter usually contained in domestic wastewater. They shall be designed in such a way that solid matter does not accumulate in any of their included components.

NOTE For pumping sewage with abrasive particles present (e.g. sand), faecal lifting plants fitted with faecal macerating mechanisms are of their nature not suitable.

When tested in accordance with 5.3 the plant shall not show malfunction which could affect the operation of the plant.

4.3.2 Pipe connections

The dimensions of inlet, discharge and ventilating connections shall permit the use of standard pipe sizes. Connections shall be such that a flexible and sealed connection is ensured. The discharge pipe connection shall withstand a pressure that is 1,5 times the maximum pump operating pressure without leaking.

In case a positive displacement (PD) pump is used the pressure can rise to unexpectedly high values due to blockages in the discharge pipe for which case adequate safety measures shall be taken.

4.3.3 Minimum dimensions of ventilating pipe system

In the case of flows up to 12 l/s the ventilating pipe shall have a minimum size of DN 50. In the case of higher flows the ventilating pipe shall be a minimum of DN 70.

4.3.4 Minimum flow rate

When tested in accordance with 5.1.2, the flow velocity in the discharge pipe system shall be at least 0,7 m/s at a manometric head of 40 kPa (0,4 bar). The minimum flow rate shall be calculated in accordance with Formula (1).

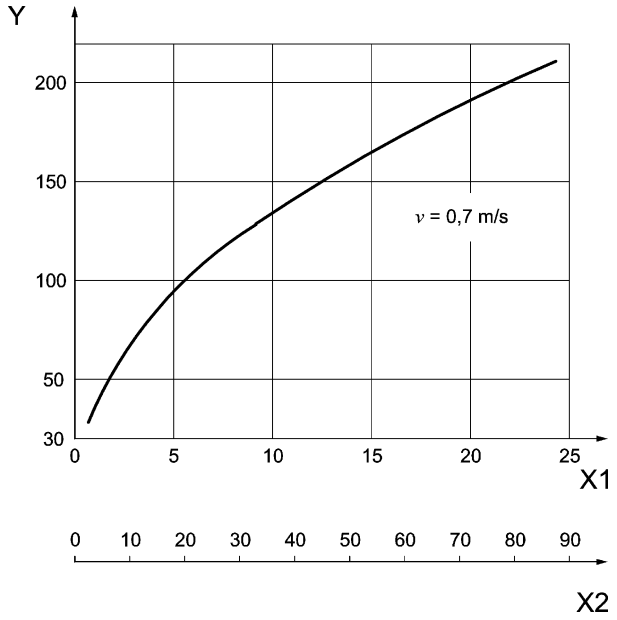
$$Q_{\min} = v \times \frac{\pi}{4} \times 10^{-3} \times d_i^2 \quad (1)$$

Where

v is the minimum flow velocity in the discharge pipe system = 0,7 m/s;

d_i is the pipe internal diameter in mm,

$Q_{\min}$ is the minimum flow rate in l/s.



Key

Y pipe internal diameter d_i in mm

X1 flow rate Q in l/s

X2 flow rate Q in m^3/h

Figure 1 — Relationship between flow rate and pipe internal diameter of the discharge pipe

4.3.5 Minimum free ball passage of the lifting plant

The free passage in the faecal lifting plant at any point between the faecal inlet into the lifting plant and the pumping device shall have at least a ball passage of 40 mm.

4.3.6 Minimum size of discharge connections for non-macerating faecal lifting plants

Discharge connections of non-macerating faecal lifting plants shall be at least DN 80. The ball passage of the non-return valve shall be at least 60 mm. Where permitted, the discharge connection shall be at least DN 50 and the ball passage of the non-return valve shall also be at least 50 mm.

4.3.7 Minimum size of discharge pipe system for macerating faecal lifting plants

Discharge connections, discharge pipework and non-return valves for macerating faecal lifting plants, where all the material pumped is macerated, shall be at least DN 32.

4.3.8 Useful volume

The useful volume of the collection tank shall be at least 20 l. In the case of macerating faecal lifting plants and discharge pipes DN ≤ 50 the useful volume can be reduced to 10 l.

According to EN 12056-4 the minimum useful volume shall be higher than the volume of the discharge pipe.

4.4 Control equipment

Faecal lifting plants shall be fitted with control equipment for automatic operation of the plant and with a warning device. Manual operation shall also be possible.

4.5 Electrical equipment

The electrical equipment of the plant shall comply with at least protection type IP 44 according to EN 60529.

4.6 Fixing devices

Faecal lifting plants shall incorporate fixing devices to prevent rotation or floatation.

4.7 Reaction to fire

4.7.1 General

Where use of a plant is subject to national regulatory requirements on reaction to fire, its reaction to fire performance shall be considered as that of its components (i.e. material approach) and shall be declared as one of the following classes, according to EN 13501-1:

a) Class A1, without the need for testing (CWT), when meeting the requirements, specified in 4.7.2, or otherwise;

b) Class A1 to E, defined according to the results of testing the plant's constituent material(s), according to the standard(s) referred to in EN 13501-1, as specified in 4.7.3 of this standard.

4.7.2 Plants classified as Class A1 without the need for testing

The reaction to fire performance of a plant shall be declared as Class A1[1)] without the need for testing, provided that:

a) each of the plant's constituent materials contains not more than 1 % of homogeneously distributed organic material, by mass or volume (whichever is the most onerous); and

b) any external coating, if applied over the surface area of the plant, is made of inorganic material(s), which is/are also classified as Class A1.

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1) See Decision of the Commission 96/603/EC of 1996-10-04 *(see OJEU L 267 of 1996-10-19)*, as twice amended by 2000/605/EC of 2000-09-26 *(see OJEU L 258 of 2000-10-12)* and by 2003/424/EC of 2003-06-06 *(see OJEU L 144 of 2003-06-12)*.

4.7.3 Plants classified according to test results

4.7.3.1 Principle

For the purpose of the reaction to fire performance of the plant each of its constituent materials, including those in surface coating of the plant, if any, shall be classified according to EN 13501-1 and only the lowest class of such materials shall be declared. The class of an individual constituent material shall be obtained as the result of the test method(s), relevant to this class, and as specified in the standards referred to in EN 13501-1.

NOTE A constituent material of the plant is considered as one which may have a significant effect on the reaction to fire performance of such a plant. According to the definitions given in EN 13501–1, this may be in the case of:

— a homogeneous plant, its material, or

— a non-homogeneous plant, its substantial component (i.e. a material that constitutes a significant part of such plant). A layer with a mass per unit area ≥ 1,0 kg/m^2 or a thickness ≥ 1,0 mm is considered to be a substantial component.

Test specimens used for the test methods applicable for this classification shall be prepared according to EN 13501-1 and to the relevant standards referred therein.

In addition, with regard to the SBI test according to EN 13823, when applied, the test specimen shall be prepared and mounted as specified in 4.7.3.2.

4.7.3.2 Sizes and mounting of the test specimen

The test specimen of each constituent material shall be in accordance with EN 13823 in a flat-sheet form of the following sizes:

— short wing: (495 ± 5) mm × (1 500 ± 5) mm;

— long wing: (1 000 ± 5) mm × (1 500 ± 5) mm.

4.8 Noise level

The manufacturer shall declare the A-weighted emission sound pressure level (to be measured at 1 m distance from the plant). Measurements shall be performed according to EN ISO 20361. The pump shall operate in best efficiency point during this measurement.

If an A-weighted emission sound pressure level is above 80 dB, the sound power level shall be determined according to EN ISO 20361 and shall be declared.

Where the manufacturer declares that the A-weighted emission sound pressure level is equal to 70 dB, although it might be smaller, the manufacturer may state “70 dB(A)”.

If the manufacturer declares a lower value of the sound pressure level than 70 dB(A) the plant shall be measured according to EN ISO 20361 and the corresponding test result shall be declared.

4.9 Durability

4.9.1 General

Lifting plants for wastewater containing faecal matter are products of known and stable performance for defined end use applications with respect to their established durability for which experience has been accumulated over a long period of time. Durability is ensured by meeting the requirements of this standard, which represent the state of the art.

For new materials the manufacturer has to take appropriate measures to verify that the lifting plant made of the new material is in accordance with the performance characteristics required by this standard.

4.9.2 Durability of watertightness and odourtightness

Durability of watertightness and odourtightness is ensured by meeting the requirements according to 4.2, when tested in accordance with 5.2.1 and 5.2.2.

4.9.3 Durability of lifting effectiveness

Durability of lifting effectiveness is ensured by meeting the requirements for

— pumping of solids according to 4.3.1, when tested in accordance with 5.3;

— the pipe connections according to 4.3.2, 4.3.6 and 4.3.7 when tested in accordance with 5.1 and 5.2.3;

— minimum dimensions of ventilating pipe system according to 4.3.3 when tested according to 5.1;

— minimum flow velocity according to 4.3.4 when tested in accordance with 5.1.2;

— minimum free ball passage of the plant according to 4.3.5 when tested in accordance with 5.1;

— minimum useful volume according to 4.3.8 when tested in accordance with 5.1.

4.9.4 Durability of mechanical resistance

Durability of mechanical resistance is ensured by meeting the requirements for

— structural stability of collection tank for use inside buildings according to 4.2.1 and passing the hot water test according to 5.2.4;

— structural stability of collection tank for use outside buildings according to 4.2.1.

4.10 Dangerous substances

National regulations on dangerous substances may require verification and declaration on release, and sometimes content, when construction products covered by this standard are placed on those markets. In the absence of European harmonized test methods, verification and declaration on release/content should be done taking into account national provisions in the place of use.

4.11 Need for a stand-by pumping device (Twin lifting plant)

In cases where it is not possible to interrupt the inflow into the lifting plant during normal operation, the lifting plant shall be equipped with a stand-by pumping device of the same capacity at the duty point of the lifting plant, which starts automatically where necessary.

5 Testing

5.1 Preparation

5.1.1 General

Testing shall be carried out on a plant that complies with the shape, dimensions and materials given in the manufacturer's testing documentation. The test shall demonstrate compliance with the requirements of this standard.

5.1.2 Testing for hydraulic performance

The hydraulic and electrical characteristics supplied by the manufacturer shall be confirmed; the minus tolerances of hydraulic characteristics shall be in accordance with EN ISO 9906:2012, grade 3, together with EN ISO 9906:2012, 4.4.2, and shall conform to this standard.

Before commencing testing, the pumping device shall be run continuously for at least 5 min. Testing of hydraulic and electrical characteristics shall be carried out over a period of 10 to 15 min. Based on the hydraulic characteristics determined by testing, compliance with the minimum flow velocity given in 4.3.4 shall be checked. The performance information shall be collected without the use of the non-return valve and is also valid for pumps < 1 kW for which the tolerances for the power consumption of the motor between 1 kW and 10 kW shall be used. If the unit has an integrated non-return valve then the values with the non-return valve fitted can be used.

5.2 Tightness testing

5.2.1 Water pressure test

Watertightness testing shall be carried out in a water-pressure test. During this test a faecal lifting plant full of water at a temperature of 10 °C up to 35 °C shall withstand an overpressure of (50 ± 1) kPa ((0,50 ± 0,01) bar) at the top of the unit for 10 min without any visible leakage.

5.2.2 Odourtightness

Odourtightness shall be tested in the water-pressure test according to 5.2.1.

5.2.3 Discharge pipe connection

The connection to the discharge pipe system shall be tested for 10 min at 1,5 times the maximum operating pressure of the pumping device. No visible leakage of water is permitted.

5.2.4 Hot water test

If an inflow temperature higher than 35 °C is declared by the manufacturer, at least for a certain time and/or volume, a hot water tightness test without overpressure shall be performed as follows:

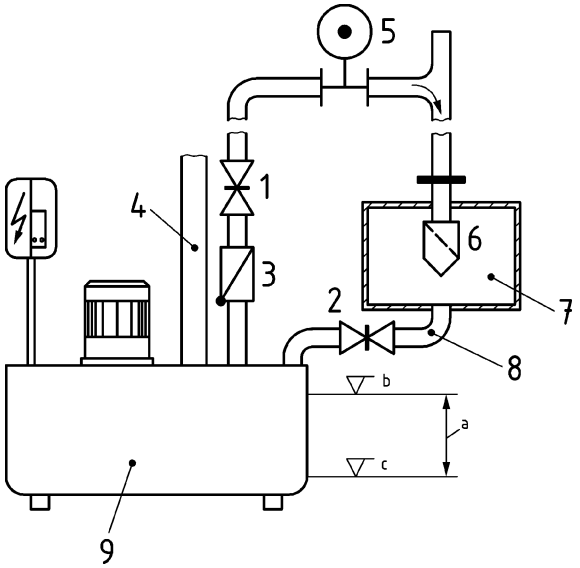
The collection tank shall be filled with water of a temperature of (35 ± 2) °C up to the switch off level. Then water at the declared temperature shall be added with a volume of either 20 % of the useful volume but at least 10 l water or the declared hot water volume (not more than up to the switch on level). The resulting water temperature shall be kept constant within a tolerance of ± 5 °C. The hot water test shall be carried out for 10 min.

During the hot water test, the plant shall continuously operate at the flow rate with the rated power consumption without malfunction. No leakage shall be observed during the period of 10 min.

5.3 Lifting effectiveness

5.3.1 Test arrangement

The lifting effectiveness of the faecal lifting plant, including the non-return valve, shall be tested using the arrangement shown in Figure 2 and using a test material of new woven floor-cloths (0,4 × 0,25) m = 0,1 m^2 with a dry weight of (40 ± 5) g made of 100 % cotton (cut around all sides, i.e. seamless or seam cut away) and stored in water for 24 hours.



Key

1	throttle	4	vent	7	tank	a	useful volume
2	shut-off valve	5	manometer	8	inflow	b	switch on level
3	non-return valve	6	screen	9	collection tank	c	switch off level

Figure 2 — Testing arrangement

5.3.2 Test procedure

The inflow to the plant shall be regulated to cause the lifting device to turn on and off automatically. The duration of non-pumping shall be calculated by dividing the useful volume of the collection tank by the maximum allowable inflow to the plant as stated by the manufacturer. This gives the allowable minimum running time as per EN 12056-4.

The operation shall be tested, using water only, for a period of 10 min at the operating point, where $Q \times H$ is the maximum and a water temperature of (35 ± 2) °C. After this time no further heating of the water is required. Continue the test for a further 20 min, adding a total of three single floor cloths at intervals of 5 min.

During a further running period of 10 min without the addition of any further floor cloths, adjust the discharge head to give a flow velocity of 0,7 m/s in the discharge pipe system.

Continue for a further 20 min, adding a total of three more single floor cloths at intervals of 5 min.

During this test a short reduction in the discharge output is acceptable provided that no failure of the plant occurs. All floor cloths shall have been pumped by the end of the test.

If a floor cloth has not been pumped, and is located inside the pump housing a further floor cloth shall not be added. The floor cloth located inside the housing shall be removed after 15 min and the test continued. The

fall-off in flow shall not exceed 30 % if a floor cloth becomes imbedded in the pump casing. If the faecal lifting plant does not suffer any breakdown during the entire test, it shall be considered to have passed the test.

5.3.3 Macerating faecal lifting plants

In the case of macerating faecal lifting plants, the floor cloths shall be cut by the lifting plant into a number of individual parts where the diagonal dimension or the longest side is smaller than the internal diameter of the discharge pipe system during the test described in 5.3.2.

6 Assessment and verification of constancy of performance - AVCP

6.1 General

The compliance of lifting plants for wastewater with the requirements of this standard and with the performances declared by the manufacturer in the declaration of performance (DoP) shall be demonstrated by:

— determination of the product-type on the basis of type testing;

— factory production control by the manufacturer, including product assessment.

The manufacturer shall always retain the overall control and shall have the necessary means to take responsibility for the conformity of the product with its declared performance(s).

6.2 Type testing

6.2.1 General

All the performances related to characteristics included in this standard other than the essential characteristic shall be determined when the manufacturer intends to declare the respective performances unless the standard gives provisions for declaring them without performing tests (e.g. use of previously existing data, CWFT and conventionally accepted performance).

Assessment previously performed in accordance with the provisions of this standard, may be taken into account provided that they were made to the same or a more rigorous test method, under the same AVCP system on the same product or products of similar design, construction and functionality, such that the results are applicable to the product in question.

NOTE 1 Same AVCP system means testing by an independent third party.

For the purposes of assessment, the manufacturer's products may be grouped into families, where it is considered that the results for one or more characteristics from any one product within the family are representative for that same characteristics for all products within that same family.

NOTE 2 Products may be grouped in different families for different characteristics.

Reference to the assessment method standards should be made to allow the selection of a suitable representative sample.

In addition, the determination of the product type shall be performed for all characteristics included in the standard for which the manufacturer declares the performance:

— at the beginning of the production of a new or modified lifting plant for wastewater (unless a member of the same product range); or

— at the beginning of a new or modified method of production (where this may affect the stated properties); or

— they shall be repeated for the appropriate characteristic(s), whenever a change occurs in the lifting plant design, in the raw material or in the supplier of the components, or in the method of production (subject to the definition of a family), which would affect significantly one or more of the characteristics.

Where components are used whose characteristics have already been determined, by the component manufacturer, on the basis of assessment methods of other product standards, these characteristics need not be re-assessed. The specifications of these components shall be documented.

Products bearing regulatory marking in accordance with appropriate harmonized European specifications may be presumed to have the performances declared in the DoP, although this does not replace the responsibility on the lifting plant manufacturer to ensure that the lifting plant as a whole is correctly manufactured and its component products have the declared performance values.

6.2.2 Test samples, testing and compliance criteria

Type testing shall be carried out on one sample of the wastewater lifting plant with the lowest rated performance from each series (e.g. hydraulic type, collection tank size). See Table 1.

For tanks made on site, watertightness shall not be part of the type test, but the watertightness of the tank shall be verified according to 5.2.1. For wastewater lifting plants, where the tank is made on site, noise emission is not required for type testing.

Table 1 — Number of samples to be tested and compliance criteria

Characteristic	Requirement	Assessment method	No. of samples	Compliance criteria
Reaction to fire	4.7	EN 13501	one	4.7
Watertightness, airtightness				
— Watertightness	4.2.2	5.2.1	one	4.2.2
— Odourtightness	4.2.3	5.2.2	one	4.3.3
Lifting effectiveness				
— Pumping of solids	4.3.1	5.3	one	4.3.1
— Pipe connections	4.3.2, 4.3.6, 4.3.7	5.2.3	one	4.3.2, 4.3.6, 4.3.7
— Minimum dimensions of ventilating pipe system	4.3.3	5.1.1	one	4.3.3
— Minimum flow velocity	4.3.4	5.1.2	one	4.3.4
— Minimum free ball passage of the plant	4.3.5	5.1.1	one	4.3.5
— Useful volume	4.3.8	5.1.1	one	4.3.8
Mechanical resistance				
— Load bearing capacity of collection tank	4.2.1	5.1.1	one	4.2.1
— Structural stability of collection tank	4.2.1	5.1.1	one	4.2.1
Noise level	4.8	EN ISO 20361	one	4.8
Durability				
— of watertightness, airtightness	4.9.2	5.2	one	4.9.2
— of lifting effectiveness	4.9.3	5.3	one	4.9.3
— of mechanical resistance	4.9.4	5.3	one	4.9.4
Dangerous substances	4.10	5.1.1	one	4.10

For the type test the following documentation shall be provided:

— drawings, including information on materials used;

— operating and maintenance instructions (acceptable in manuscript form).

6.2.3 Test reports

The results of the determination of the product type shall be documented in test reports. All test reports shall be retained by the manufacturer for at least 10 years after the last date of production of the lifting plant for wastewater containing faecal matter to which they relate.

6.2.4 Shared other party results

A manufacturer may use the results of the product type determination obtained by someone else (e.g. by another manufacturer, as a common service to manufacturers, or by a product developer), to justify his own

declaration of performance regarding a product that is manufactured according to the same design (e.g. dimensions) and with raw materials, constituents and manufacturing methods of the same kind, provided that:

— the results are known to be valid for products with the same essential characteristics relevant for the product performance;

— in addition to any information essential for confirming that the product has such same performances related to specific essential characteristics, the other party who has carried out the determination of the product type concerned or has had it carried out, has expressly accepted[2)] to transmit to the manufacturer the results and the test report to be used for the latter's product type determination, as well as information regarding production facilities and the production control process that can be taken into account for FPC;

— the manufacturer using other party results accepts to remain responsible for the product having the declared performances and he also:

  — ensures that the product has the same characteristics relevant for performance as the one that has been subjected to the determination of the product type, and that there are no significant differences with regard to production facilities and the production control process compared to that used for the product that was subjected to the determination of the product type; and

  — keeps available a copy of the determination of the product type report that also contains the information needed for verifying that the product is manufactured according to the same design and with raw materials, constituents and manufacturing methods of the same kind.

6.2.5 Cascading determination of the product type results

For some construction products, there are companies (suppliers) which supply or ensure the supply of, on the basis of an agreement,[3)] some or all of the components to an assembler who then manufactures the finished product in his factory.

Provided that the activities for which such a supplier is legally established include manufacturing/assembling of products as the assembled one, the supplier may take the responsibility for the determination of the product type regarding one or several essential characteristics of an end product which is subsequently manufactured and/or assembled by other firms in their own factory. When doing so, the supplier shall submit an assembled product using components manufactured by it or by others, to the determination of the product type and then make the determination of the product type report available to the assemblers, i.e. the actual manufacturer of the product placed on the market. To take into account such a situation, the concept of cascading determination of the product type might be taken into consideration in the technical specification, provided that this concerns characteristics for which either a notified product certification body or a notified test laboratory intervene, as presented below.

The determination of the product type report that the supplier has obtained with regard to tests carried out by a notified body, and which is supplied to the assemblers, may be used for the regulatory marking purposes without the assembler having to involve again a notified body to undertake the determination of the product type of the essential characteristic(s) that were already tested, provided that:

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2) The formulation of such an agreement can be done by license, contract, or any other type of written consent.

3) This can be, for instance, a contract, license or whatever kind of written agreement, which should also contain clear provisions with regard to responsibility and liability of the component producer (supplier, on the one hand, and the assembler of the finished product, on the other hand).

— the assembler manufactures a product which uses the same combination of components (components with the same characteristics), and in the same way, as that for which the supplier has obtained the determination of the product type report. If this report is based on a combination of components not representing the final product as to be placed on the market, and/or is not assembled in accordance with the supplier's instruction for assembling the components, the assembler needs to submit his finished product to the determination of the product type;

— the supplier has notified to the manufacturer the instructions for manufacturing/assembling the product and installation guidance;

— the assembler (manufacturer) assumes the responsibility for the correct assembly of the product in accordance with the instructions for manufacturing/assembling the product and installation guidance notified to him by the supplier;

— the instructions for manufacturing/assembling the product and installation guidance notified to the assembler (manufacturer) by the supplier are an integral part of the assembler's factory production control system and are referred to in the determination of the product type report;

— the assembler is able to provide documented evidence that the combination of components he is using, and his way of manufacturing, correspond to the one for which the supplier has obtained the determination of the product type report (he needs to keep a copy of the supplier's determination of the product type report);

— regardless the possibility of referring, on the basis of the agreement signed with the supplier, to the latter's responsibility and liability under private law, the assembler remains responsible for the product being in compliance with the declared performances, including both the design and the manufacture of the product, which is given when he affixes the regulatory marking on his product.

6.3 Factory production control (FPC)

6.3.1 General

The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market comply with the declared performance of the essential characteristics.

The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.

This factory production control system documentation shall ensure a common understanding of the evaluation of the constancy of performance and enable the achievement of the required product performances and the effective operation of the production control system to be checked. Factory production control therefore shall bring together operational techniques and all measures allowing maintenance and control of the compliance of the product with the declared performances of the essential characteristics.

In case the manufacturer has used shared or cascading product type results, the FPC shall also include the appropriate documentation as foreseen in 6.2.4 and 6.2.5.

6.3.2 Requirements

6.3.2.1 General

The manufacturer is responsible for organizing the effective implementation of the FPC system in line with the content of this product standard. Tasks and responsibilities in the production control organization shall be documented and this documentation shall be kept up-to-date.

The responsibility, authority and the relationship between personnel that manages, performs or verifies work affecting product constancy, shall be defined. This applies in particular to personnel that need to initiate actions preventing product non-constancies from occurring, actions in case of non-constancies and to identify and register product constancy problems.

Personnel performing work affecting the constancy of performance of the product shall be competent on the basis of appropriate education, training, skills and experience for which records shall be maintained.

In each factory the manufacturer may delegate the action to a person having the necessary authority to:

— identify procedures to demonstrate constancy of performance of the product at appropriate stages;

— identify and record any instance of non-constancy;

— identify procedures to correct instances of non-constancy.

The manufacturer shall draw up and keep up-to-date documents defining the factory production control. The manufacturer's documentation and procedures should be appropriate to the product and manufacturing process. The FPC system should achieve an appropriate level of confidence in the constancy of performance of the product. This involves:

a) the preparation of documented procedures and instructions relating to factory production control operations, in accordance with the requirements of the technical specification to which reference is made;

b) the effective implementation of these procedures and instructions;

c) the recording of these operations and their results;

d) the use of these results to correct any deviations, repair the effects of such deviations, treat any resulting instances of non-conformity and, if necessary, revise the FPC to rectify the cause of non-constancy of performance.

Where subcontracting takes place, the manufacturer shall retain the overall control of the product and ensure that he receives all the information that is necessary to fulfil his responsibilities according to this European Standard.

If the manufacturer has part of the product designed, manufactured, assembled, packed, processed and/or labelled by subcontracting, the FPC of the subcontractor may be taken into account, where appropriate for the product in question.

The manufacturer who subcontracts all of his activities may in no circumstances pass the above responsibilities on to a subcontractor.

NOTE Manufacturers having an FPC system, which complies with EN ISO 9001 and which addresses the provisions of the present European Standard are considered as satisfying the FPC requirements of the Regulation (EU) No. 305/2011.

6.3.2.2 Equipment

6.3.2.2.1 Testing

All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documented procedures, frequencies and criteria.

6.3.2.2.2 Manufacturing

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure that use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

6.3.2.3 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their compliance. In case supplied kit components are used, the constancy of performance system of the component shall be the one given in the appropriate harmonized technical specification for that component.

6.3.2.4 Traceability and marking

Individual faecal lifting plants shall be identifiable and traceable with regard to their production origin. The manufacturer shall have written procedures ensuring that processes related to affixing traceability codes and/or markings are inspected regularly.

6.3.2.5 Controls during manufacturing process

The manufacturer shall plan and carry out production under controlled conditions.

6.3.2.6 Product testing and evaluation

The manufacturer shall establish procedures to ensure that the stated values of the characteristics he declares are maintained. The characteristics, and the means of control, are given in Table 2.

Table 2 — Product testing of finished products

Characteristic	Requirement	Assessment method	Frequency
Reaction to fire	4.7	Check: — inspection certificate of material delivered by supplier	Reception of every batch of material in factory
Watertightness	4.2.2	5.2.1 with an overpressure of 0,2 bar	Samples [a, b]
Odourtightness	4.2.3	5.2.2 with an overpressure of 0,2 bar	Samples [a, b]
Lifting effectiveness	4.3	Flow rate and pressure head	Samples [a, b]
Mechanical resistance	4.2.1	Visual checks: — material of collection tank — dimensions	Each lifting plant
Noise level	4.8	EN ISO 20361	Every 5 years
Durability	4.9	Visual checks: — material of collection tank dimensions	Each lifting plant
Dangerous substances	4.10	As relevant	As relevant

[a] The frequency and extent of sampling depends on the production program, the scale of production and the manufacturing process in each factory. However, at least one plant per 100 or per production month and type shall be checked.

[b] Where these characteristics have been determined by the components supplier, they need not be retested by the lifting plant manufacturer.

6.3.2.7 Non-complying products

The manufacturer shall have written procedures which specify how non-complying products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

Where the product fails to satisfy the acceptance criteria, the provisions for non-complying products shall apply, the necessary corrective action(s) shall immediately be taken and the products or batches not complying shall be isolated and properly identified.

Once the fault has been corrected, the test or verification in question shall be repeated.

The results of controls and tests shall be properly recorded. The product description, date of manufacture, test method adopted, test results and acceptance criteria shall be entered in the records under the signature of the person responsible for the control/test.

With regard to any control result not meeting the requirements of this European Standard, the corrective measures taken to rectify the situation (e.g. a further test carried out, modification of manufacturing process, throwing away or putting right of product) shall be indicated in the records.

6.3.2.8 Corrective action

The manufacturer shall have documented procedures that instigate action to eliminate the cause of non-conformities in order to prevent recurrence.

6.3.2.9 Handling, storage and packaging

The manufacturer shall have procedures providing methods of product handling and shall provide suitable storage areas preventing damage or deterioration.

6.3.3 Product specific requirements

The FPC system shall address this European Standard and ensure that the products placed on the market comply with the declaration of performance.

The FPC system shall include a product specific FPC, which identifies procedures to demonstrate compliance of the product at appropriate stages, i.e.:

a) the controls and tests to be carried out prior to and/or during manufacture according to a frequency laid down in the FPC test plan;

and/or

b) the verifications and tests to be carried out on finished products according to a frequency laid down in the FPC test plan.

If the manufacturer uses only finished products, the operations under b) shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

If the manufacturer carries out parts of the production himself, the operations under b) may be reduced and partly replaced by operations under a). Generally, the more parts of the production that are carried out by the manufacturer, the more operations under b) may be replaced by operations under a).

In any case the operation shall lead to an equivalent level of compliance of the product as if FPC had been carried out during the production.

NOTE Depending on the specific case, it can be necessary to carry out the operations referred to under a) and b), only the operations under a) or only those under b).

The operations under a) refer to the intermediate states of the product as on manufacturing machines and their adjustment, and measuring equipment etc. These controls and tests and their frequency shall be chosen based on product type and composition, the manufacturing process and its complexity, the sensitivity of product features to variations in manufacturing parameters etc.

The manufacturer shall establish and maintain records that provide evidence that the production has been sampled and tested. These records shall show clearly whether the production has satisfied the defined acceptance criteria and shall be available for at least three years.

6.3.4 Initial inspection of factory and of FPC [only for products covered by AVCP system 1]

Initial inspection of factory and of FPC [only for products covered by AVCP system 1] shall be carried out when the production process has been finalized and is in operation. The factory and FPC documentation shall be assessed to verify that the requirements of 6.3.2 and 6.3.3 are fulfilled.

During the inspection it shall be verified:

a) that all resources necessary for the achievement of the product characteristics included in this European Standard are in place and correctly implemented;

and

b) that the FPC-procedures in accordance with the FPC documentation are followed in practice;

and

c) that the product complies with the product type samples, for which compliance of the product performance to the DoP has been verified.

All locations where final assembly or at least final testing of the relevant product is performed, shall be assessed to verify that the above conditions a) to c) are in place and implemented. If the FPC system covers more than one product, production line or production process, and it is verified that the general requirements are fulfilled when assessing one product, production line or production process, then the assessment of the general requirements does not need to be repeated when assessing the FPC for another product, production line or production process.

All assessments and their results shall be documented in the initial inspection report.

6.3.5 Continuous surveillance of FPC [only for products covered by AVCP system 1]

Surveillance of the FPC shall be undertaken once per year. The surveillance of the FPC shall include a review of the FPC test plan(s) and production processes(s) for each product to determine if any changes have been made since the last assessment or surveillance. The significance of any changes shall be assessed.

Checks shall be made to ensure that the test plans are still correctly implemented and that the production equipment is still correctly maintained and calibrated at appropriate time intervals.

The records of tests and measurement made during the production process and to finished products shall be reviewed to ensure that the values obtained still correspond with those values for the samples submitted to the determination of the product type and that the correct actions have been taken for non-compliant products.

6.3.6 Procedure for modifications

If modifications are made to the product, production process or FPC system that could affect any of the product characteristics declared according to this standard, then all the characteristics for which the manufacturer declares performance, which may be affected by the modification, shall be subject to the determination of the product type, as described in 6.2.1.

Where relevant, a re-assessment of the factory and of the FPC system shall be performed for those aspects, which may be affected by the modification.

All assessments and their results shall be documented in a report.

6.3.7 One-off products, pre-production products (e.g. prototypes) and products produced in very low quantity

The lifting plant produced as a one-off, as prototypes assessed before full production is established, and as products produced in very low quantities shall be assessed as follows.

For type assessment, the provisions of 6.2.1, 3rd paragraph apply, together with the following additional provisions:

— in case of prototypes, the test samples shall be representative of the intended future production and shall be selected by the manufacturer;

— on request of the manufacturer, the results of the assessment of prototype samples may be included in a certificate or in test reports issued by the involved third party.

The FPC system of one-off products and products produced in very low quantities shall ensure that raw materials and/or components are sufficient for production of the product. The provisions on raw materials

and/or components shall apply only where appropriate. The manufacturer shall maintain records allowing traceability of the product.

For prototypes, where the intention is to move to series production, the initial inspection of the factory and FPC shall be carried out before the production is already running and/or before the FPC is already in practice. The following shall be assessed:

— the FPC-documentation; and

— the factory.

In the initial assessment of the factory and FPC it shall be verified:

a) that all resources necessary for the achievement of the product characteristics included in this European Standard will be available, and

b) that the FPC-procedures in accordance with the FPC-documentation will be implemented and followed in practice, and

c) that procedures are in place to demonstrate that the factory production processes can produce a product complying with the requirements of this European Standard and that the product will be the same as the samples used for the determination of the product type, for which compliance with this European Standard has been verified.

Once series production is fully established, the provisions of 6.3 shall apply.

7 Marking, labelling and packaging

7.1 Manufacturer's declaration

In the product accompanying documentation, the manufacturer shall state the hydraulic performance characteristics (head and flow) together with the maximum power consumption and maximum current consumption. Inflow temperatures higher than 35 °C shall be declared together with the permissible inflow time and/or permissible inflow volume of such temperatures. The manufacturer shall declare the A-weighted emission sound pressure level and where relevant the sound power level.

Where regulatory marking provisions require this information, the provisions required in this clause are deemed to be met and the information needs not be repeated.

7.2 Marking

Faecal lifting plants complying with this standard shall be marked in a permanent and legible manner with the manufacturer's symbol[4)] and “EN 12050-1:2015”.

Where regulatory marking provisions require this information, the provisions required in this clause are deemed to be met and the information needs not be repeated.

8 Manufacturer's instructions for installation, operation and maintenance

The manufacturer shall provide information on the installation, operation and maintenance of faecal lifting plants to be carried out in accordance with EN 12056-4 and the manufacturer's written instructions.

4) The manufacturer is also the person under whose name the product is sold.

Annex A
(informative)

Recommended materials

Experience has shown that the materials as given in Table A.1 are suitable for faecal lifting plants.

Table A.1 — Examples of suitable materials for faecal lifting plants

Material	**Requirements according to**
Flake graphite cast iron	EN 1561
Cast iron with nodular graphite	EN 1563
Stainless steel	EN 10088–1
Mild steel	EN 10130 or EN 10025
Fibre glass reinforced plastic	–
Sewage resistant concrete	EN 206
Sewage resistant reinforced concrete	EN 206
Polyethylene (PE)	–
Polypropylene (PP)	–
Acrylonitrile-Butadiene-Styrol (ABS)	–
Acrylester-Styrol-Acrylonitrile (ASA)	–
Unplasticized poly vinyl chloride of high impact resistance (PVC-HI)	–
Nitrile rubber	–
Polyurethane (PUR)	–

Metallic materials according to Table A.1 that come into contact with the wastewater and are not themselves resistant to corrosion should have a minimum wall thickness of 4 mm.

In the case of plastic components, materials of unknown and unsupervised composition should not be used. Details of the composition of non-standardised materials should be retained by the manufacturer. Modifications to the specification should not be carried out. If any modifications are proposed, the manufacturer should consider the need for type testing according to 6.2.

Annex ZA
(informative)

Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under Mandate M/118 “Wastewater engineering products” given to CEN by the European Commission and the European Free Trade Association.

If this European Standard is cited in Official Journal of the European Union (OJEU), the clauses of this standard shown in this annex are considered to meet the provisions of the relevant mandate under the Regulation (EU) No. 305/2011.

This annex deals with the CE marking of lifting plants for wastewater containing faecal matter intended for the uses indicated in Table ZA.1 and shows the relevant clauses applicable.

This annex has the same scope as in Clause 1 of this standard related to the aspect covered by the mandate and is defined by Table ZA.1.

Table ZA.1 — Relevant clauses and intended uses for lifting plants for wastewater containing faecal matter

Product: Prefabricated lifting plants and lifting plants delivered as prefabricated kits for wastewater containing faecal matter. **Intended use:** Drainage of locations below flood level in buildings and sites to prevent any backflow of wastewater into the building.			
Essential characteristics	**Clauses in this European Standard related to essential characteristics**	**Regu-latory classes**	**Notes**
Reaction to fire [a]	4.7	A1 to E	A1 WT or tested and classified in accordance with EN 13501–1
Watertightness, airtightness			
— Watertightness	4.2.2	None	Test according to 5.2.1, expressed as “no leakage”
— Odourtightness	4.2.3	None	Test according to 5.2.2 expressed as “no leakage”
Effectiveness (Lifting effectiveness)			
— Pumping of solids	4.3.1	None	Test according to 5.3, expressed as “no accumulation of solids”
— Pipe connections	4.3.2, 4.3.6 and 4.3.7	None	Test according to 5.1 and 5.2.3, measured value expressed as “DN xxx”
Minimum dimensions of ventilating pipe system	4.3.3	None	Measure to the minimum value, expressed either as “DN 50” or “DN 70”
— Minimum flow velocity	4.3.4	None	Test according to 5.1.2 and 5.3, measured to the minimum value expressed as “0,7 m/s”
— Minimum free ball passage of the plant	4.3.5	None	Test according to 5.1 and 5.3, measured against the minimum value expressed as “40 mm”
Effectiveness (Lifting effectiveness)			
— Useful volume	4.3.8	None	Test according to 5.1 and 5.3, value measured and declared either as “10 l” or “20 l”
Mechanical resistance			
— Load bearing capacity of collection tank	4.2.1	None	Test according to EN 12566–1:2000/A1:2003, Annex D, expressed as “X N” where X is the maximum load resisted
— Structural stability of collection tank	4.2.1	None	Test according to 5.2.1, expressed as “0,5 bar overpressure for 10 min”
Noise level	4.8	None	Test according to 4.8, (where required) expressed as “declared dB(A) value”
Durability			
— of watertightness,	4.9.2	None	Test according to 5.2, expressed as “no

airtightness			leakage”
— of lifting effectiveness	4.9.3	None	Test according to 5.3, expressed as “no accumulation of solids”
— of mechanical resistance	4.9.4	None	Test according to 5.2, expressed as “0,5 bar overpressure for 10 min” and where applicable “X N” where X is the maximum load resisted and where applicable “Y °C” where Y is the maximum allowed inflow temperature
Dangerous substances [b]	4.10	None	As relevant, see 4.10

[a] Of the constituent material, i.e. cast iron.

[b] Only to be declared when there is a specific substance required by the national regulations in the country of destination.

The declaration of the product performance related to certain essential characteristics is not required in those Member States (MS) where there are no regulatory requirements on these essential characteristics for the intended use of the product.

In this case, manufacturers placing their products on the market of these MS are not obliged to determine nor declare the performance of their products with regard to these essential characteristics and the option “No performance determined” (NPD) in the information accompanying the CE marking and in the declaration of performance (see ZA.3) shall be used for those essential characteristics.

ZA.2 Procedure for AVCP of lifting plants for wastewater containing faecal matter

ZA.2.1 System(s) of AVCP

The AVCP system(s) of lifting plants for wastewater containing faecal matter indicated in Table ZA.1, established by EC Decision 97/464/EC of 1997-06-27 (see OJEU L 198 of 1997-07-25) as amended by 2004/663/EC of 2004-09-20 (see OJEU L 302 of 2004-09-29), as given in Annex III of the mandate M/118 “Wastewater engineering products”, is shown in Table ZA.2 for the indicated intended use(s) and relevant level(s) or class(es) of performance.

Table ZA.2 — System(s) of AVCP of lifting plants for wastewater containing faecal matter

Product(s)	Intended use(s)	Level(s) or class(es) of performance	AVCP system(s)
Kits for wastewater pumping stations and effluent lifting plants	For use inside buildings	–	3
	For all use(s) when subject to regulations on reaction to fire	A1 (*), A2 (*), B (*) and C (*)	1
		A1 (**), A2 (**), B (**), C (**), D and E	3
		A1 (***) to E (***), F	4
System 1: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.2. System 3: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.4. System 4: See Regulation (EU) No. 305/2011 (CPR) Annex V, 1.5.			
(*) 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). (**) Products using Table 1 and products/materials not covered by footnote (*). (***) Products/materials that do not require to be tested for reaction to fire (e.g. products/materials of Class A1 according to Commission Decision 96/603/EC).			

The AVCP of the lifting plants for wastewater containing faecal matter in Table ZA.1 shall be according to the AVCP procedures indicated in Tables ZA.3.1, ZA.3.2 and ZA.3.3 resulting from application of the clauses of this or other European Standards indicated therein. The content of tasks of the notified body shall be limited to

those essential characteristics as provided for, if any, in Annex III of the relevant mandate and to those that the manufacturer intends to declare.

Table ZA.3.1 — Assignment of AVCP tasks for lifting plants for wastewater containing faecal matter under System 1 (Reaction to fire) and System 3

Task		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics listed in Table ZA.1 relevant for the intended use which are declared	6.3
	Further testing of samples taken at factory according to the prescribed test plan	Essential characteristics listed in Table ZA.1 for characteristics which are declared, namely reaction to fire, (for classes A1*, A2*, B* and C*)[a]	6.3
Task for the notified testing laboratory	Determination of the product type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics listed in Table ZA.1 relevant for the intended use which are declared except reaction to fire	6.2
Tasks for the notified product certification body	Determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics listed in Table ZA.1 for characteristics which are declared, namely, reaction to fire (for classes A1*, A2*, B* and C*)[a]	6.2
	Initial inspection of manufacturing plant and of FPC	Parameters related to essential characteristics listed in Table ZA.1 for the relevant intended use, namely reaction to fire (for classes A1*, A2*, B* and C*)[a] Documentation of FPC	6.3
	Continuous surveillance, assessment and evaluation of FPC	Parameters related to essential characteristics listed in Table ZA.1 for the relevant intended use, namely reaction to fire (for classes A1*, A2*, B* and C*)[a] Documentation of FPC	6.3

[a] See footnote (*) to Table ZA.2, to be applied only for uses when subject to regulations on reaction to fire.

Table ZA.3.2 — Assignment of AVCP tasks for lifting plants for wastewater containing faecal matter for System 3 (Reaction to fire) and System 3

Task		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics listed in Table ZA.1 relevant for the intended use which are declared	6.3
Tasks for the notified testing laboratory	Determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics listed in Table ZA.1 relevant for the intended use which are declared including reaction to fire, (for classes A1(**), A2(**), B(**), C(**), D and E) [a]	6.2
[a] See footnote (**) to Table ZA.2, to be applied only for uses when subject to regulations on reaction to fire.			

Table ZA.3.3 — Assignment of AVCP tasks for lifting plants for wastewater containing faecal matter for System 4 (Reaction to fire) and System 3

Task		Content of the task	AVCP clauses to apply
Tasks for the manufacturer	Factory production control (FPC)	Parameters related to essential characteristics listed in Table ZA.1 relevant for the intended use which are declared	6.3
	Determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics listed in Table ZA.1 relevant for the intended use which are declared namely reaction to fire, (for classes A1(***) to E(***), F [a]	6.2
Task for the notified testing laboratory	Determination of the product type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product	Essential characteristics listed in Table ZA.1 relevant for the intended use which are declared except reaction to fire	6.2
[a] See footnote (***) to Table ZA.2, to be applied only for uses when subject to regulations on reaction to fire.			

ZA.2.2 Declaration of performance (DoP)

ZA.2.2.1 General

The manufacturer draws up the DoP and affixes the CE marking on the basis of the different AVCP systems set out in Annex V of the Regulation (EU) No. 305/2011:

In case of products under system 1

— the factory production control and further testing of samples taken at the factory according to the prescribed test plan, carried out by the manufacturer; and

— the certificate of constancy of performance issued by the notified product certification body on the basis of determination of the product type on the basis of type testing (including sampling), type calculation, tabulated values or descriptive documentation of the product; initial inspection of the manufacturing plant and of factory production control and continuous surveillance, assessment and evaluation of factory production control.

In case of products under system 3

— the factory production control carried out by the manufacturer; and

— the determination of the product-type on the basis of type testing (based on sampling carried out by the manufacturer), type calculation, tabulated values or descriptive documentation of the product, carried out by the notified testing laboratory.

In case of products under system 4

— the factory production control carried out by the manufacturer;

— the determination by the manufacturer of the product-type on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product.

ZA.2.2.2 Content

The model of the DoP is provided in Annex III of the Regulation (EU) No. 305/2011.

According to this Regulation, the DoP shall contain, in particular, the following information:

— the reference of the product-type for which the declaration of performance has been drawn up;

— the AVCP system or systems of the construction product, as set out in Annex V of the CPR;

— the reference number and date of issue of the harmonized standard which has been used for the assessment of each essential characteristic;

— where applicable, the reference number of the specific Technical Documentation used and the requirements with which the manufacturer claims the product complies.

The DoP shall in addition contain:

a) the intended use or uses for the construction product, in accordance with the applicable harmonized technical specification;

b) the list of essential characteristics, as determined in the harmonized technical specification for the declared intended use or uses;

c) the performance of at least one of the essential characteristics of the construction product, relevant for the declared intended use or uses;

d) where applicable, the performance of the construction product, by levels or classes, or in a description, if necessary based on a calculation in relation to its essential characteristics determined in accordance with the Commission determination regarding those essential characteristics for which the manufacturer shall declare the performance of the product when it is placed on the market or the Commission determination regarding threshold levels for the performance in relation to the essential characteristics to be declared;

e) the performance of those essential characteristics of the construction product which are related to the intended use or uses, taking into consideration the provisions in relation to the intended use or uses where the manufacturer intends the product to be made available on the market;

f) for the listed essential characteristics for which no performance is declared, the letters “NPD” (No Performance Determined).

Regarding the supply of the DoP, Article 7 of the Regulation (EU) No. 305/2011 applies.

The information referred to in Article 31 or, as the case may be, in Article 33 of Regulation (EC) No. 1907/2006, (REACH) shall be provided together with the DoP.

ZA.2.2.3 Example of DoP

The following gives an example for a filled-in DoP for model for a lifting plant for wastewater containing faecal matter.

DECLARATION OF PERFORMANCE
No. [DoP-indentification number decided by manufacturer] **00001-CPR-567**

1. Unique identification code of the product-type:

Lifting plant for wastewater containing faecal matter

Product-type: BWV 714

2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4):

Lifting plant for wastewater containing faecal matter

Product-type: BWV 714 (see serial number on product)

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:

Drainage of locations below flood level in buildings and sites to prevent any backflow of wastewater into the building

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):

AnyCo SA,

PO Box 21

B-1050 Brussels, Belgium

Tel. +32987654321

Fax: +32123456789

Email: anyco.sa@provider.be

5. Where applicable, name and contact address of the authorized representative whose mandate covers the tasks specified in Article 12(2):

Anyone Ltd

24, Flower St.

West Hamfordshire WH12CD

United Kingdom

Tel. +44987654321

Fax: +44123456789

e-mail: anyone.ltd@provider.uk

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V:

System 3

System 4

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:

Notified laboratory [Name] and No. xxx performed the determination of the product-type on the basis of type testing and issued a test report

If more than one notified laboratory performed the determination, this text shall be repeated for each laboratory.

8. not applicable

9. Declared performance

Essential characteristics	**Performance**	**Harmonized technical specification**
Reaction to fire	A1	EN 12050–1:2015
Watertightness, odourtightness — Watertightness — Odourtightness	No leakage No leakage	
Effectiveness (Lifting effectiveness)		
— Pumping of solids	No accumulation of solids	
— Pipe connections	DN 100	
— Minimum dimensions of ventilating pipe system	DN 70	
— Minimum flow velocity	0,7 m/s at 40 kPa	
— Minimum free passage of the plant	40 mm	
— Minimum useful volume	20 l	
Mechanical resistance		
— Load bearing capacity of collection tank	0 N	
— Structural stability of collection tank	0,5 bar overpressure/ 10 min	
Noise level	70 dB	
Durability: — of watertightness and odourtightness — of lifting effectiveness — of mechanical resistance	No leakage No accumulation of solids 35 °C	
Dangerous substances	NPD	

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4. Signed for and on behalf of the manufacturer by:

……

(name and function)

……..…… ……..……

(place and date of issue) (signature)

ZA.3 CE marking and labelling

The CE marking symbol shall be in accordance with the general principles set out in Article 30 of Regulation (EC) No. 765/2008 and shall be affixed visibly, legibly and indelibly:

— to the lifting plants for wastewater containing faecal matter; or

— to a label attached to it.

Where this is not possible or not warranted on account of the nature of the product, it shall be affixed:

— to the packaging; or

— to the accompanying documents.

NOTE In addition to the above, ZA.3 of the standard could include provisions to be followed where it is intended to split the information accompanying the CE marking and to place them in different locations.

The CE marking shall be followed by:

— the last two digits of the year in which it was first affixed;

— the name and the registered address of the manufacturer, or the identifying mark allowing identification of the name and address of the manufacturer easily and without any ambiguity;

— the unique identification code of the product-type;

— the reference number of the declaration of performance;

— the level or class of the performance declared;

— the dated reference to the harmonized technical specification applied;

— the identification number of the notified body;

— the intended use as laid down in the harmonized technical specification applied.

The CE marking shall be affixed before the construction product is placed on the market. It may be followed by a pictogram or any other mark notably indicating a special risk or use.

Figure ZA.1 gives an example of the information to be given on the commercial documents.

CE **8910**	*"CE" marking consisting of the "CE"- symbol* *Identification number of the notified test laboratory*
Any Co Ltd, P.O. Box 21, B–1050 **14** 00001-CPR-567	*Name and registered address of the manufacturer or identifying mark* *Last two digits of the year in which the marking was affixed* *Reference number of the DoP*
EN 12050–1:2015 **Lifting plant for wastewater containing faecal matter** — Product's reference code: "BWV 714" — Material: Cast iron Drainage of locations below flood level in buildings and sites to prevent any backflow of wastewater into the building.	*Dated number of the European Standard* *Unique identification code of the product type* *Intended use of the product as laid down in the EN*

Reaction to fire	A1
Watertightness, odourtightness	
— Watertightness — Odourtightness	No leakage No leakage
Effectiveness (Lifting effectiveness)	
— Pumping of solids	No accumulation of solids
— Pipe connections	DN 100
— Minimum dimensions of ventilating pipes system	DN 70
— Minimum flow velocity	0,7 m/s at 40 kPa
— Minimum free passage of the plant	40 mm
— Minimum useful volume	20 l
Mechanical resistance	
— Load bearing capacity of collection tank	0 N
— Structural stability of collection tank	0,5 bar overpressure/ 10 min
Noise level	70 dB(A)
Durability	

Level or class of the performance declared

— of watertightness and odourtightness	No leakage
— of lifting effectiveness	No accumulation of solids
— of mechanical resistance	35 °C
Dangerous Substances	NPD

Figure ZA.1 – Example of the CE marking to be shown in the accompanying documents

Figure ZA.2 gives an example of the information related to products subject to AVCP under each of the different systems to be given on the product.

CE **8910**	*"CE" marking consisting of the "CE"- symbol* *Identification number of the notified test laboratory*
AnyCo Ltd **14** 00001-CPR-567	*Name and registered address of the manufacturer or identifying mark* *Last two digits of the year in which the marking was affixed* *Reference number of the DoP*
EN 12050–1:2015	*Number of the European Standard*

Figure ZA.2 — Example of the CE marking to be affixed on the product (system 3)

Bibliography

[1] EN 1917, *Concrete manholes and inspection chambers, unreinforced, steel fibre and reinforced*

[2] EN 206, *Concrete — Specification, performance, production and conformity*

[3] EN 752:2008, *Drain and sewer systems outside buildings*

[4] EN 1561, *Founding — Grey cast irons*

[5] EN 1563, *Founding — Spheroidal graphite cast irons*

[6] EN 10025-1, *Hot rolled products of structural steels — Part 1: General technical delivery conditions*

[7] EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

[8] EN 10130, *Cold rolled low carbon steel flat products for cold forming — Technical delivery conditions*

[9] EN 12050-4, *Wastewater lifting plants for buildings and sites — Principles of construction and testing — Part 4: Non-return valves for faecal-free wastewater and wastewater containing faecal matter*

[10] EN 13598-2, *Plastics piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U), polypropylene (PP) and polyethylene (PE) — Part 2: Specifications for manholes and inspection chambers in traffic areas and deep underground installations*

[11] EN ISO 9001, *Quality management systems — Requirements (ISO 9001)*

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