

10.6.2014

**Subject: Deficiencies in harmonised product standard EN 12566-3+A2:2013 'Small wastewater treatment systems for up to 50 PT – Part 3: Packaged and/or site assembled domestic wastewater treatment plants**

**COMMENTS from the Head of the Finnish Delegation to SCC**

Finland has sent a letter concerning *Deficiencies in harmonised product standard EN 12566-3+A1 'Small wastewater treatment systems for up to 50 PT – Part 3: Packaged and/or site assembled domestic wastewater treatment plants dated 23.3.2009.*

The Commission asked at the meeting on May 6<sup>th</sup>, 2014 (where problems in EN 12566-3 were discussed) if Finland could check EN 12566-3+A2:2013 and inform its observations to the Commission.

**General**

The main problem is that declared values of characteristics by one manufacturer is difficult to compare to declared values of characteristics by another manufacturer. This comparison is one of the key elements of the Construction Product Regulation. The test results of the same product carried out by different Notified bodies will be different.

CEN TC 165 should elaborate the work program how to improve this comparison and send it to the SCC for discussion. In our comments there are also some proposals how to improve the situation. The full comparison is perhaps impossible to achieve.

One item which has caused problems is different temperatures of raw domestic waste water. When temperature is higher results of treatment efficiency are better. We have two proposals:

I: In the standard there could be two temperature classes:

- a) for cold climate
- b) for warm climate

TC 165 can make a more detailed proposal for criteria for these classes.

II: Temperatures have been monitored and documented in the test report. The test report includes only results of the test according to EN 12566-3. The test report could be public. Then it is up to customers to consider the suitability of product to their use.

EN 12566-3 +A2 is based on the model and requirements of the CPD, not the CPR.

Treatment efficiency of Nitrogen and Phosphorus has been added. This is an important matter because it has been demanded in our legislation.

We wonder why EN 12566-6:2013 which is a harmonised standard is not used as a model because many points in EN 12566-6 have been drafted better.

Finland has sent its comments in March 2009. We are a little surprised that only few points of our comments have been taken into account in EN 12566-3+A2:2013. Finland has not got any explanation from CEN TC 165.

## Detailed comments

### Foreword

EN 12566-6 and 7 are not mentioned in the list of parts of EN 12566 standard. Figure 1 is also old and parts 6 and 7 are missing. See EN 12566-6.

### Scope

As discussed at the meeting the scope shall include

- a) site-assembled by one manufacturer
- b) site-assembled by somebody else according to instructions by the manufacturer

The standard should cover all legal business models.

Treatment plants for the treatment of mere grey water (domestic wastewater except toilet wastewater) shall be more clearly excluded from the scope of this standard. This can be done e.g. by modifying the last sentence of the first paragraph as follows:

*Small wastewater treatment plants according to this European Standard are used for the treatment of raw domestic wastewater **except mere grey water.***

In addition answer to the mandate shall be modified to exclude treatment plants for the treatment of mere grey water.

Justification:

Treatment efficiency test method in this EN-standard is not applicable for the treatment of mere grey water.

### Normative references

Eurocodes standards EN 1992 and EN 1993 are missing.

### Terms and definitions

#### 3.5 Site assembled domestic wastewater treatment plant

This definition shall be improved. See our comments on the scope.

### Symbols and abbreviations

The following symbols and abbreviations are missing. These should be added.

PT	Population total
P	Phosphorus

Add also MFR, PP; PDCPD; PEHD; PVC; EPDM; QN.

#### Clause 6.1.1

Plants are required to be provided with an alarm system. But there is no test method to test reliability. CEN TC 165 should develop an operational reliability test for the alarm system of the treatment plant where it is needed. Then alarm system is included in the scope of this standard and added to clause 6.1.1. In addition the proxy characteristic 'operational reliability of the alarm system' shall be added to Table ZA.1 and to the answer to the mandate

#### Clause 6.1.2

Inlet and outlet pipes shall be compatible with standardized pipe systems. See EN 12566-6 clause 6.1.3.

### Clause 6.1.3 Access

This clause shall be part of the harmonised standard. That is why Table ZA.1 shall make reference to clause 6.1.3 with a pass criterion. Answer to the mandate shall be modified accordingly.

The size of the extension shafts shall have a minimum dimension of 600 mm for products for which there is a need to perform maintenance inside the treatment plant. The requirements related to the volume of the plant shall be deleted.

### Clause 6.1.5 Overall dimensions

This clause shall be part of the harmonised standard. That is why Table ZA.1 shall make reference to clause 6.1.5 with a pass criterion. Answer to the mandate shall be modified accordingly.

#### Load bearing capacity determined by calculations

This part of the standard has been improved but it still needs improvement. Method 1 means that load bearing capacity is according to calculation methods valid in place of use. Load bearing capacity is outside CE marking. In the CE marking material and dimension values shall be expressed.

In method 2 a set or sets of National Determined Parameters shall be expressed together with load bearing capacity. It would be useful to examples in Annex ZA.

Calculation rules should be developed for other materials than concrete and steel so that load bearing capacity can be declared in the CE marking and in DoP.

### Clause 6.5.2

Compressive strength shall be greater or equal to C 35/45, not exactly C 35/45.

Reference is made to Table A.2 and A.2 of EN 13369. However, Annex A in EN 13369 is informative giving just recommended values for the concrete cover of reinforcement. The concrete covers required are given in the National Annexes of EN 1992-1-1.

### Clause 6.5.3

Steel parts in connection with wastewater shall be stainless steel in accordance with EN 10088-1, EN 10088-2 and EN 10088-3 and their corrosion resistance shall be at least equal to austenitic steel X5CrNi1810. Those duplex or ferrite stainless steels which have at least equal corrosion resistance as austenitic steel X5CrNi1810 may also be used.

Justification:

Reference to clause 6.2.3 in EN 858-1 is not correct since it covers also other steels than stainless steel. In addition minimum corrosion resistance requirement is given in clause 6.2.3 of EN 858-1 by reference to austenitic steel X6CrNi1810, which is wrong.

### Clause 6.6 reaction to fire

Note 2 This subject has been discussed at SCC meeting. Class F should not mean any more NPD.

### Clause 8 Evaluation of conformity

#### Clause 8.2

It was discussed at the meeting that the initial type testing is based on nominal capacity of the plant. This should be expressed in the CE marking and in DoP.

It is too expensive to test every size of type. Nowadays there are national scaling rules in some Member States. These national scaling rules create technical barriers to trade. In the standard there should be principles of scaling rules how to determine values of characteristics for sizes which have not been tested. Because AVCP is 3 these values of characteristics should be determined or checked by a Notified Body. We support this Irish proposal.

There should be also rules if reparation is allowed by the manufacturer during the initial test.

The number of times the unit was desludged during the ITT test should be declared as a proxy characteristic in the CE marking and in the DoP. We support this Irish proposal.

### Clause 8.3 Factory production control

Clause 8.3 Factory production rules are very short and very general. Detailed FPC rules (including FPC testing frequencies) for each material shall be prepared. This is especially needed since AoC system is 3 with no intervention of notified body after ITT. Finnish proposal for a new Table to be incorporated in clause 8.3.4 is as follows:

Table X – Minimum frequency of FPC testing for prefabricated small wastewater treatment systems Nr.	Characteristic	Test Method	Minimum frequency of test
1	Overall dimensions	According to 6.1.5	1/200 units
1	Inlets, outlets and connections	According to 6.1.2	1/200 units
1	Accessibility	According to 6.1.3	1/200 units
2	Watertightness	According to 6.4	1/500 units
3	Structural behaviour	Check list of raw materials	Every delivery of components
4	Treatment efficiency	-	-
5	Durability	Check list of raw materials In addition minimum material requirements according to 6.5.	Every delivery of components 1/200 units

EN 12566-6 includes much better and detailed factory control rules which could be used as a model with some adjustment.

### Annex A

Clauses A.2.2, A.3.1 and A.4.1

It shall be clarified that the extension shaft or structurally similar upper part shall be included in the test sample when the connection of the upper part with the treatment plant is under ground water level. In this case the manufacturer shall declare the maximum height of the ground water level in relation to the treatment plant.

Justification:

Water tightness tests do not secure that water tightness is achieved against outside water pressure (when plant is under ground water level) if the extension shaft is separate part connected to the plant with a joint.

### Annex B

Clause B.3.2 In the point c) total nitrogen (TN) should be accepted as well as Kjeldahl nitrogen (KN) and ammonium nitrogen (NH<sub>4</sub>-N). In Finland the total nitrogen is more commonly used method. We propose the following revised sentence in the point c):

*KN: 25 mg/l to 100 mg/l or TN: 25 mg/l to 100 mg/l or NH<sub>4</sub>-N: 22 mg/k to 80 mg/l;*

It should be defined in the standard what to do if the influent quality is not in the required limits. We propose the following addition after the first paragraph:

*During the testing the deviations from the influent limits of given parameter are acceptable if the mean value of sequence samples of this parameter is inside the limits and if the deviation is inside the accuracy of the test method. In the sequence where the mean value of sequence samples was not inside the limits additional samples should be taken so that the mean value of the sequence samples is inside the limits.*

Clause B.3.4.1 The following addition is proposed after the first paragraph:

*The order of the sequences in the test schedules is optional. Nominal, underloading, low occupation stress and overloading sequences may alternate with each other.*

Clause B.3.4.2 It should be defined when the measurement is taken after the overload. We propose the following sentence to be added after the first paragraph or to clause B.3.5:

*After 48 h overload the 1<sup>st</sup> sample shall be taken immediately after the overload and the 2<sup>nd</sup> one week from the 1<sup>st</sup> sample.*

Clause B.3.4.3 The method of peak flow discharge is not clear and should be clarified after the second paragraph or to clause B.3.5 as follows:

*The different peak flow discharges of 200 l shall be made consecutively N times (N is the number of peak flow discharges given in table B.4.)*

It should be defined when the measurement is taken after the peak flow discharge. We propose the following sentence to be added after the second paragraph or to clause B.3.5:

*After peak flow discharge a period of 3 days shall be allowed before sampling.*

Clause B.3.4.4 It should be defined when the measurement is taken after the 24 h power breakdown. We propose the following sentence to be added at the beginning of the second paragraph or to clause B.3.5:

*The 1<sup>st</sup> sample shall be taken after one week from the end of the power breakdown of 24 h.*

Clause B.4 Some of the measurement methods given in Table B.5 are not used anymore by the analyzing laboratories. They use modern analysis methods which are developing all the time. We propose the following sentence to be added after the first paragraph in B.4:

*If other analysis methods are used they should be according to ISO or EN –standards and they should be validated by the relevant sector group of Notified Bodies to ensure the accuracy and quality of the chosen methods.*

## Annex C

Title: Title is misleading since no calculation methods are given, just rules how to determine some material characteristics needed as input values in the calculation.

Table C.1 These are test methods.

Clause C.4.5 Reference to relevant standards is not acceptable. It shall be specified which EN standards can be used to obtain steel characteristics.

Clause C.6.2 Pedestrian load cannot be decided by this standard. Pedestrian loads may vary since they are Nationally Determined Parameters of EN 1991-series. That is why reference shall be made to design pedestrian load of EN 1991-series with the used safety factor. Not to give a fixed value i.e. 2,5 kN/m<sup>2</sup>.

Clause C.6.3 Pedestrian load used in the test shall be given in the test report and shall be declared in the CE-marking.

Requirement for the variation of the volume of the plant after pit test is too large. Requirement shall be much lower than 20 %, e.g. 5 % or 10 %.

Justification: If it is permitted that the variation of the volume is lower than 20 % (= 19 %), the plant is so much deformed that its inner parts may have damaged seriously. 20 % deformation for plastic may also change the tensile properties of the material.

#### Annex ZA

The needed modifications should be done according to aforementioned comments.

In addition power consumption should be added to table ZA.1 and clause ZA.3

With best regards,

Matti J. Virtanen

Head of the Finnish Delegation to SCC