

Back-pressure valves for faecal waste water pumping stations

Part III. Introduction of back-pressure L-shaped valves.

Introduction

The fact that a system of evaluation for construction materials was created for all the countries of the European Union is closely linked with the term 'European system for conformity assessment of construction materials' and it refers to safety, quality and durability of the constructed facilities, which depend widely upon the practical and technical properties of particular products, or product sets used for construction.

Preparation of uniform product quality assessment systems refers also to such building materials as back-pressure valves for faecal or non-faecal water waste.

Directive EC no. 89/106/EWG

If there are any appropriate regulations of the European Union for determining technical requirements for a given product group, they are of a higher priority than national regulations with this respect. With regard to products used in the building industry, the main element harmonizing this field is the European Council Directive no. 89/106/EWG 'regarding mutual approximation of laws and executive acts of the member countries concerning building products'. Apart from initiating the elimination of technical borders in exchange within the common market, it is an essential unifying document for the entire building industry.

The main legal acts introducing the above mentioned directive in Poland are:

- Act from July 7th 1994 – Building Industry Law (Bill Registry, 2003, no. 207, pos. 2016 with subsequent amendments) determining, among other things, the basic requirements for facilities built in the area of the Republic of Poland.
- Act from April 16th 2004 on building products (Bill Registry no. 92, pos. 881) together with executive regulations

determining introduction of building products and rules for their control performed by public administration.

Building product

A building product, according to Article 2, Point 1 of the Act on Building Products, is a mobile object, regardless its stage of processing, meant for trading, produced to be implemented as a single product or a set of products constituting an integral applicable entity (construction safety, fire security, operation security, hygiene and health, noise protection, economy and thermal insulation).

Building materials being subject to the law on building materials are in particular covered by European Council mandates for development of harmonized standards of building materials and EOTA guidelines for European technical approvals as it is stated in Article 7, Section 3, Point 1 of the Act on Building Products. The Minister of Infrastructure announced in the Official Journal of the Republic of Poland titled 'Monitor Polski' from 2004 (no. 32, pos. 571) an index of these mandates, together with their range.

Back-pressure valves for faecal waste water and rain water, as well as organic waste water are covered in the mandate M/118 (CONSTRUCT 96/145A, rev.1) pos. 18 titled 'Products for Sewage Systems' grouped in the following product categories:



Tested valve on a testing system, in a recumbent position

- a) Component sets for waste water pumping stations and devices for waste water purification,
- b) Products for outdoor sewage systems – sets and elements:

- For sewage treatment plants and devices at their production point (private treatment facilities)
- For rain water drainage
- For faecal waste and organic sewage drainage – compost sedimentation tanks

According to a decree issued by the Minister of Infrastructure from August 11th 2004 concerning the procedures for declaration of building products compatibility and their marking (Bill Registry no 198, pos. 2041), these product groups require as a minimum system for compatibility assessment 3, namely with participation of a notified unit (CE mark) or accredited (building mark). Regulation from Section 1, Article 5 of the Act on Building Products specifies Article 4 (on introduction of a building product): 'A building product can be used at building works, provided that: 1) it is CE-marked, which means that assessment of conformity with a harmonized standard, European technical approvals or national technical specification of an EU/EEA member countries has been performed

- and approved by the European Council as consistent with the basic requirements, or
- 2) It has been included by the European Council in the index of products having minor significance to health and security, for which the producer has issued a compatibility declaration with regard to the rules of the Art. of Building, or
 - 3) Marked, as specified in Section 4 (the option to issue a decree for specific product groups imposing obligatory CE-marking), with a building mark, according to the model defined in Attachment 1 of the mentioned act.'

Compatibility evaluation systems for building products

The act regulations estimate the existence of two building products legalization systems in Poland:

- European system (CE-marked building products), referring to products provided with harmonized technical specifications in form of harmonized standards on basis of directive 89/106/EEC or guidelines of the European Organization for Technical Approvals EOTA,
- National system (building products provided with a building mark) based on technical specifications in the form of the Polish Standards of national technical approvals.

The national system based on marking products with a building mark plays a complementary role to the European system. Its scope will be gradually limited along with extensive introduction of technical specifications harmonized with directive 89/106/EEC (harmonized standards and European technical approvals), and the range of implemented CE-marking related to it. Currently, producers of building materials can choose to use CE marking or building Marks, as the harmonized standards are introduced as Polish Standards.

Recent introduction of the following harmonized standard into the index of Polish Standards: 'Sewage pumping stations in facilities and their surroundings.



Nameplate of a valve

Construction and testing rules. Part 4: Back-pressure valves for faecal and non-faecal sewage pumping stations (PN-EN 12050)', caused great confusion on the market of hydraulic back-pressure equipment for sewage, especially non-faecal sewage, because the above mentioned standard could not be omitted while evaluating product compatibility. Additionally, it occurred that type examinations performed according to this standard, especially with regard to back-pressure ball valves present on the market, can hardly be performed with a positive result, and new constructions for these valves should be created. The first valve structure meeting the requirements of the harmonized standard PN-EN 12050-4 is the structure of the back-pressure knee-joint valve of the SZUSTER system.

No sooner than after a positive completion of type examinations performed by a notified unit (notified laboratory) or an accredited laboratory, as well as production quality control, the producer of the back-pressure valve for faecal sewage can initiate the procedure of granting the product with a declaration of compatibility and a CE or building mark.

Summary

The notion of the so-far used reference documents for compatibility evaluation of back-pressure valves for faecal sewage has still been left undiscussed. As it is commonly acknowledged, those have been technical approvals issued by the Central Research & Development Centre for Installation Technology 'INSTAL', as well as Compatibility Certificates issued by the Research & Development for Industrial Fittings in Kielce (currently no longer in existence).

Introduction of a harmonized standard blocks the possibility to

issue a national approval for a given product. The previously issued technical approvals (before the introduction date of a corresponding harmonized standard) keep their validity until its expiration date.

According to the approved rule of priority of harmonized standards, wherever they appear, they should replace the national reference technical specifications. Therefore, the Polish Standardization Committee, according to the Act on Normalization, has removed all the branch standards to the archive. Their status of archived standards enables their use in some individual cases, but they cannot be treated as basis for introduction of a building product into the market or providing it with a building mark.

Nevertheless, the reference document for providing a back-pressure valve for faecal sewage with a CE or building mark on basis of a compatibility declaration will always be the harmonized PN-EN 12050-4 standard.

The update of the Public Order Law (article 30, Bill Registry 2006, no. 79, pos. 551), which clearly states that the object description has to be based upon technical and quality features with respect to Polish Standards transferring the European norms (harmonized standards) into the project description prepared by the bid caller.

REFERENCES:

1. PN-EN 12050-4 standard
2. Picture of the testing system at EkoWodrol Sp. z o. o. Company laboratory in Koszalin.

Author:

MA Miroslaw SZUSTER is the owner of the SZUSTER Technical Workshop and an engineer for production and development in EkoWodrol Sp. z o. o. company of Koszalin.



Contact:

e-mail:miroslaw@szuster.pl
or miroslaw.szuster@ekowodrol.pl
mobile. 0 607 266 751