



District heating: flexible piping systems with plastic medium pipe for transport of warm drinking water outside buildings

Introduction

The certification with the Kiwa mark is based on piping systems, i.e. pipes, fittings, insulation and outer casing assembled together. This means that for these systems is not possible to certify just a particular part like the pipe or fitting on its own. If a piping system is certified, the process for installing also must have been certified.

The plastics piping systems are certified for 50 years life expectancy in application class 2 and 30 years in application class DH1.

For transport of warm drinking water outside buildings there are two pressure classes, under the conditions mentioned in table 1.1.:

- 11 bar

- 9 bar

Table 1.1 Classification system

Class	Material medium-pipe: plastics	Temperature/time profile
2	X	49 years 70°C (T _D) + 1 year 80°C (T _{max}) + 100 h 95°C (T _{mal})
DH1 ^{*)}	X	29 years 80°C (T _D) + 1 year 90°C (T _{max}) + 100 h 95°C (T _{mal})
Remark: Class 2 is according the temperature profile of ISO 10508 Class 2 Class DH1 is according the temperature profile of EN 253 (not according to a temperature profile of ISO 10508)		

*) DH = district heating

The requirements to obtain the Kiwa mark is established in the evaluation guideline (BRL) *BRL K17401 District heating: flexible piping systems with plastic medium pipe for transport of warm drinking water*.

Next to the mechanical properties also the toxicological aspects are required to be investigated due to the national law concerning drinking water ("Waterleidingbesluit"). The materials used for the plastic pipes and plastic fittings have to be evaluated by HA (Hygienic Aspects) for possible migration of components in the drinking water.

Application

For the application the following information about the system are required:

- Type of material pipe/ fitting/ insulation/ outer casing; (PE/PB/PE-X/PE-RT/...);
- Supplier of the raw materials (plastics/ metals);
- ISO 9080 data of the used plastics if available (either 50 or 30 years life expectancy);
- The construction drawings of the pipe/ fittings/ outer casing;
- Dimensions of the pipe/ fitting/ outer casing;
- Production location of the pipe/ fitting/ insulation/ outer casing and the piping system.

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Initial inspection visit

An auditor will visit your company and take the test samples. He will audit the quality system to secure that the products can be produced with a constant quality. The production control data will be registered in an Internal Quality Schedule (IQS).

Type testing

The test program for mechanical tests is described in the BRL and in an internal guideline. The requirements are based on national- or preferably international product standards. For the application we can accept test reports of identical tests, carried out by laboratories that are accredited according to EN-ISO/IEC 17025 and recognized by Kiwa. Please send the test reports along with the application.

Certification

When the initial inspection visit and the type testing are finished with a good result the certificate will be issued. From a half year later the inspection visits will start.

Inspection visits

The inspector will visit the company four times a year. When the company has an ISO 9001 certificate the frequency will be lowered to two times a year. Each year samples will be taken for examination at the KIWA laboratory.

Certificate

The certificate contains information of the products which are covered by the certificate, next to the logistic information and the contract for maintaining the certificate. Also regarding drinking water a confidential part is issued which contains the HA information.

Private label

For an importer of plastics piping system it is possible to have a copy of the certificate from the original producer on your own name. For this the original producer needs to grand permission. Also the brand name of the product can be changed in the new private label certificate.

One Stop Shopping

Kiwa offers you the service of dealing with certification/testing for other countries and Quality marks. When you are interested in this service, please contact us with your specific request.

More information:

warm drinking water outside buildings <https://www.kiwa.com/en/service/brl-k17401-district-heating-flexible-piping-systems-for-transport-of-warm-drinking-water/>

If you have any questions or if you want some more information regarding the Kiwa approval, please send an e-mail to: Hot-Cold@kiwa.nl

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