



Product certificate K5100/04

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Replaces K5100/03

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Fiberglass reinforced epoxy piping systems with filament-wound pipes, for the transport of drinking water

STATEMENT BY KIWA

With this product certificate, issued in accordance with the Kiwa Regulations for Certification, Kiwa declares that legitimate confidence exists that the products supplied by

Future Pipe Industries B.V.

as specified in this product certificate and marked with the Kiwa®-mark in the manner as indicated in this product certificate may, on delivery, be relied upon to comply with Kiwa evaluation guideline BRL-K17104 "Glass fibre reinforced epoxy piping systems with filament wound pipes, for the transport of drinking water and raw water" dated 30-09-2016.

Ronald Karel
Kiwa

Publication of this certificate is allowed.

Advice: consult www.kiwa.nl in order to ensure that this certificate is still valid.

CERTIFICATE

286180711

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Certification process
consists of initial and
regular assessment of:

- quality system
- product

Glass fibre reinforced epoxy piping systems with filament-wound pipes, for the transport of drinking water

PRODUCT SPECIFICATION

General

Glass fibre reinforced epoxy piping systems according to evaluation guideline K17104: "Glass fibre reinforced epoxy piping systems with filament wound pipes, for the transport of drinking water and raw water".

Technical specification

The following types of pipes and fittings are delivered under the trade name Wavistrong: EWT and EWN.

Nominal diameters (DN) and pressure class (PN)

For the nominal diameters and pressure classes covered by this product certificate, reference is made to tables 1, 2 and 3.

Nominal stiffness (SN)

In Europe, the nominal stiffness is based on the initial stiffness (STIS). In The Netherlands it is usual to classify pipes by means of the STES-value, which represents the expected end-stiffness after a lifetime of

50 years. For underground applications in The Netherlands, a minimum STES-value of 2000 N/m² is required.

The STES/STIS ratio amount to approximately 0,9 for Future Pipe Industries BV filament-wound epoxy pipes.

Detailed specification

The dimensions as indicated in the tables belong to this product certificate.

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Table 1 – Wavistrong, glued joint, tensile resistant (EWT)

DN	Class					
	0,1/0,4/0,8	1,25	1,6	2,0	2,5	3,2
25						B/H
40						B/H
50						B/H
80						B/H
100					B/H	B/H
150				B/H	B/H	B/H
200			B/H	B/H	B/H	B/H
250		B/H	B/H	B/H	B/H	B/H
300		B/H	B/H	B/H	B/H	B/H
350	B/H	B/H	B/H	B/H	B/H	
400	B/H	B/H	B/H	B/H	B/H	
450			B/H			
500			B/H			
600			B/H			
700						
750						
800						
900						
1000						
1200						
1400						

Table 2 – Wavistrong with unprocessed ends, tensile resistant (EWT)

DN	Class						
	0,1/0,4/0,8	1,0	1,25	1,6	2,0	2,5	3,2
25							B
40							B
50							B
80							B
100						B	B
150					B	B	B
200					B	B	B
250			B	B	B	B	B
300			B	B	B	B	B
350	B		B	B	B	B	
400	B		B	B	B	B	
450	B/H	H	B/H	B/H	B/H	B/H	
500	B/H	H	B/H	B/H	B/H	B/H	
600	B/H	H	B/H	B/H	B/H	B/H	
700	B/H	H	B/H	B/H			
750	B/H	H	B/H	B/H			
800	B/H	H	B/H	B/H			
900	B/H	H	B/H				
1000	B/H	H	B/H				
1200	B/H						
1400	B/H						

B = Pipes (EWT) - Pipe with spigot and socket end
 - Pipe with spigot ends

B = Pipes (EWT) - Pipe with unprocessed ends

H = Fittings (EWT) - Coupler
 - Fitting piece
 - Bend 45° or 90°, R=1,5 DN
 - T-piece, reducing T-piece
 - Reducing saddle
 - Y-piece 45°
 - Eccentric or concentric reducer
 - Flange with socket and spigot end
 - Blind flange
 - Measuring flange with nipple: 1/4" - 1/2" - 3/4" NPT
 - Saddle with nipple: 1/4" - 1/2" - 3/4" - 1" BSP/ NPT
 - Short reducing piece
 - Fixing saddle

H = Fittings (EWT) - Laminate joint
 - Bend 45° or 90°, R=1,5 DN
 - T-piece, reducing T-piece
 - Y-piece 45°
 - Eccentric or concentric reducer

H = Fittings (EWT) - Flange with unprocessed end
 - Reducing saddle
 - Wall flange

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Table 3 – Wavistrong, rubber ring joint, tensile resistant (EWT) and non-tensile resistant (EWN)

DN	Class						
	0,1/0,4/0,8	1,0	1,25	1,6	2,0	2,5	3,2
25							
40							
50							
80							B/H/b
100						B/H	B/H/b
150					B/H	B/H	B/H/b
200				B/H	B/H/b	B/H/b	B/H/b
250		H/b	B/H	B/H/b	B/H/b	B/H/b	B/H/b
300		H/b	B/H	B/H/b	B/H/b	B/H/b	B/H/b
350	B/H	H/b	B/H	B/H/b	B/H/b	B/H/b	
400	B/H	H/b	B/H	B/H/b	B/H/b	B/H/b	
450	B/H	H/b	B/H	B/H/b	B/H/b	B/H/b	
500	B/H	H/b	B/H	B/H/b	B/H/b	B/H/b	
600	B/H	H/b	B/H	B/H/b	B/H/b	B/H/b	
700	B/H	H/b	B/H	B/H/b			
750	B/H	H/b	B/H	B/H/b			
800	B/H	H/b	B/H	B/H/b			
900	B/H	H/b	B/H				
1000	B/H	H/b	B/H				
1200	B/H	H/b					
1400	B/H	H/b					

B = Pipes (EWT) - Pipe with spigot and socket end

H = Fittings (EWT) - Bend 45° or 90°, R=1,5 DN
 - T-piece, reducing T-piece
 - T-piece 45°
 - Eccentric or concentric reducer
 - Flange with socket or spigot end
 - Fitting piece with socket end (80 till 1400 mm)
 - Fitting piece with spigot end (80 till 1400 mm)
 - Blind flange (450 till 1400 mm)

b = Pipes (EWN) - Pipe with spigot and socket end

Fitness for contact with drinking water

This product is approved on the basis of the requirements for hygienic aspects set in the "Regeling materialen en chemicaliën drink- en warm tapwatervoorziening" ("Materials and chemicals in the supply of drinking water and warm tap water Regulation" dated 01-07-2017; published in the Government Gazette).


These hygienic aspects are based on two main criteria. The product shall permanently comply with:

- The product recipe approved during the assessment procedure. This recipe is not to be changed without prior approval by Kiwa according to the Kiwa approval procedure for the hygienic aspects;
- Specific product requirements for the hygienic aspects.

The recipe and specific product requirements are laid down in the for confidentiality reasons undisclosed 'appendix hygienic aspects' to this certificate.

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MARKING

The certified products are – besides the compulsory marks as indicated for the pipes and fittings below - marked with the Kiwa Water Mark: " KIWA  "

Pipes

Location of the marks: at least on both ends.

Compulsory specifications pipes:

- manufacturer's trade name or logo;
- E (Epoxy);
- T (tensile resistant) or NT (non-tensile resistant);
- nominal size DN;
- nominal pressure PN;
- nominal stiffness SN;
- production date or code;
- above ground application (in case applicable).

Fittings

Location of the marks: on each fitting.

Compulsory specifications fittings:

- manufacturer's trade name or logo;
- E (Epoxy);
- T (tensile resistant) or NT (non-tensile resistant);
- nominal size DN;
- nominal pressure PN;
- nominal stiffness SN;
- production date or code;
- above ground application (in case applicable).

Method of marking:

- imprint
- non-erasable;
- visible after assembly.

APPLICATION AND USE

The pipes and fittings are suitable for underground and above ground transport of drinking or raw water with temperatures between –20°C and +40°C, through whether or not polluted soil.

Depending on the operational circumstances, the piping system may be provided with non-tensile resistant joints.

RECOMMENDATIONS FOR CUSTOMERS

Check at the time of delivery whether:

- the supplier has delivered in accordance with the agreement;
- the mark and the marking method are correct;
- the products show no visible defects as a result of transport etc.

If you should reject a product on the basis of the above, please contact:

- Future Pipe Industries B.V.;

and, if necessary,

- Kiwa Nederland B.V.

Consult the supplier's processing guidelines for the proper storage and transport methods.