



# KOMO®

## Technical approval-with-product certificate

### K26820/05



Issued 2021-10-15 Replaces K26820/04  
 Valid until Indefinite Dated 2020-07-15  
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FLEXALEN

## Thermaflex Isolatie B.V.

### STATEMENT BY KIWA

This technical approval-with-product certificate on the basis of BRL 5609 Pre-insulated flexible plastics piping systems for warm water distribution outside buildings - Part 2: Products issued on 27 August 2019 by Kiwa, in accordance with the Kiwa Regulation for Certification.

The quality system and the product characteristics belonging to the FLEXALEN are checked periodically and the performance of the FLEXALEN in the application as floor heating is assessed. The basic principles for the assessment are checked periodically.

Based on this Kiwa declares that:

- legitimate confidence exists that the by the holder of the technical approval- with-product certificate delivered FLEXALEN comply with:
  - the technical specifications as laid down in this technical approval-with-product certificate;
  - the product requirements as laid down in this technical approval-with-product certificate, provided that they have been marked the FLEXALEN with the KOMO®-mark in the manner as indicated in this technical approval-with-product certificate;
- the FLEXALEN provides the performances as described in this KOMO technical approval-with-product certificate, provided that:
  - the application conditions and technical specifications as described in this KOMO approval-with-product certificate are met;
  - the manufacturing takes place according to the processing methods as laid down in this technical approval-with-product certificate.

Within the framework of this KOMO technical approval-with-product certificate there is no inspections with regard to the production of other parts of the FLEXALEN or the processing of the FLEXALEN.

Ron Scheepers  
Kiwa

*This technical approval-with-product certificate is also included on the KOMO foundation websites: [www.komo.nl](http://www.komo.nl) and [www.komo-online.nl](http://www.komo-online.nl).*

*Users of this technical approval-with-product certificate is advised to check whether it is still valid. For this purpose consult the website of Kiwa: [www.kiwa.nl](http://www.kiwa.nl).*

**Kiwa Nederland B.V.**  
 Sir Winston Churchillaan 273  
 Postbus 70  
 2280 AB RIJSWIJK  
 The Netherlands  
 Tel. +31 88 998 44 00  
 Fax +31 88 998 44 20  
 NL.Kiwa.info@Kiwa.com  
[www.kiwa.nl](http://www.kiwa.nl)

**Certificate holder**  
 Thermaflex Isolatie B.V.  
 Veerweg 1  
 5145 NS WAALWIJK  
 Postbus 531  
 5140 AM WAALWIJK  
 Tel. +31 (0)416 567777



**Assessed is:**

- Quality system
- Product
- Performance in the application
- Periodic control

**FLEXALEN**

**TECHNICAL SPECIFICATION**

**Subject**

FLEXALEN

**Product characteristics**

The product complies to BRL 5609 Pre-insulated flexible plastics piping systems for warm water distribution outside buildings - Part 2: Products.

The system consists of:

- a piping package existing of:
  - PB inner pipes provided with an oxygen barrier layer (colour: grey inside/red outside) manufactured by Thermaflex Isolatie B.V (certificate K25546);
  - PE or PUR isolation layer around the inner pipe manufactured by Thermaflex Isolatie B.V (certificate K40244);
  - HDPE and LDPE protection pipe around the isolation layer (colour: black) manufactured by Thermaflex Isolatie B.V (certificate K40244);
- Electro fusion, socket fusion and mechanical fittings:
  - PB fittings manufactured by Thermaflex Isolatie B.V (certificate K25547);
  - Metal fittings manufactured by Thermaflex Isolatie B.V (certificate K26189);
- products to couple the piping package with a supply-pipe, see above mentioned fitting certificates.

**Specification**

The dimensions of the pipe in the table below are part of this certificate.

PB Service pipe		FLEXALEN 600 / 600SL <sup>a</sup>		FLEXALEN PU <sup>b</sup>	
Nominal outside diameter (mm)	Wall thickness (mm)	Nominal diameter protection pipe, single pipes (mm)	Nominal diameter protection pipe, double pipes (mm)	Nominal diameter protection pipe, single pipes (mm)	Nominal diameter protection pipe, double pipes (mm)
16	2,2	40, 50, 63, 75, 90, 125	90, 125, 160	76, 91	91, 111
20	2,8	40, 50, 63, 75, 90, 125	90, 125, 160	76, 91	91, 111
25	2,3	50, 63, 75, 90, 125, 160	125, 160, 200	76, 91	91, 111
32	3,0	63, 75, 90, 125, 160	125, 160, 200	76, 91, 111	111, 126
40	3,7	75, 90, 125, 160	125, 160, 200	91, 111, 126	126, 142
50	4,6	75, 90, 125, 160	160, 200	111, 126	162, 182
63	5,8	90, 125, 160, 200	200	126, 142	182, 202
75	6,9	125, 160, 200		142, 162	202
90	8,2	160, 200		162, 182	202

<sup>a</sup> FLEXALEN 600/ 600SL system has PE isolation and HDPE protection pipes

<sup>b</sup> FLEXALEN PU has PUR isolation and LDPE protection pipes

**Remarks:**

- The piping package can both be executed as a single pipe as well as a twin pipe inner tubes. The connections for the inner pipe (elektro fusion, butt fusion, socket fusion and press fittings) are made with specialized tools.
- Kiwa declares, that the justified confidence exists, that the welding process during manufacturing at Thermaflex or the plastic piping system FLEXALEN 600 and FLEXALEN PU continuously meet the in the attest with product certificate laid down requirements, for as long as the plastic piping system is marked with the KOMO® mark as specified in the product certificate (see chapter 10 BRL 5609-2 and certificate K26820).
- The producer declares for each system type (combination medium pipe/ protection pipes) the loss of heat per meter, as calculated according to annex V of BRL 5609-2.

**Marking**

The products shall be marked with the KOMO® mark.



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### Pipes

The minimum required marking on the pipes shall be:

- KOMO (or KOMO<sup>®</sup> word mark) + class DH1/ 8 bar;
- material identification: PB;
- the build up of the pipe; PB/EVOH;
- certificate number of accompanying technical approval-with-product certificate of the piping system;
- the manufacturer's name, trade name, system name or logo;
- design pressure: 8 bar;
- nominal outside diameter in mm;
- nominal wall thickness of the pipe in mm;
- production code.

The realization of the marks is as follows: clearly, durable and indelible at intervals of not more than 2 meters.

### Fittings

The minimum required marking on the fittings shall be:

- KOMO (if not possible KOMO only on the smallest packaging);
- the manufacturer's name, trade name or logo;
- nominal outside diameter of the corresponding pipe;
- production code.

Location of the marks: on every fitting.

The realization of the marks is as follows: clearly, durable and indelible.

The minimum required marking on the smallest packaging unit of the fitting shall be:

- KOMO (or KOMO<sup>®</sup> word mark);
- certificate number of the accompanying technical approval-with-product certificate of the piping system, according the marking of the belonging pipe;
- the manufacturer's name, trade name, system name or logo;
- material identification if the fitting body is made of plastics;
- nominal outside diameter and nominal wall thickness of the corresponding pipe in mm.

Location of the marks: on every package.

The realization of the marks is as follows: clearly, durable and indelible on every packaging.

### Protection pipes

The minimum required marking on the protection pipes shall be:

- KOMO (KOMO<sup>®</sup> word mark);
- the manufacturer's name, trade name, certificate number of the protection pipe or the certificate number of the belonging technical approval (system) certificate.
- Class DH1;
- Design pressure: 8 bar;
- nominal outside diameter of the protection pipe in mm;
- nominal outside diameter and nominal wall thickness of the corresponding pipe in mm;
- production code

The realization of the marks is as follows: clearly and indelible at intervals of not more than 2,5 m.

### Logistics

Production and assembly of the system is laid down in the annex of the certification agreement.

### PROCESSING

The supplier shall provide installation instructions, approved by Kiwa. A reference to these instructions shall be made at or near the packaging. The instructions are published in the Dutch language and contains at least specific information with regard to storage, transport, processing temperature and construction of the joints.

So-called "combination boilers" are often applied in individual house heating systems. In such boilers, no double separation between drinking water and heating medium exists. A leak in the single separation may



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result in the heating medium coming into contact with drinking water. Because of this it is important that in case additives are added to the heating medium a Kiwa product certificate for these additives has been issued.

The heat emission to the floor is dependent on the thickness of the finishing coat and the mutual distance between the pipes. The preconditions have to be clearly described in the instructions.

### PERFORMANCES

1. The system is oxygen tight.
2. All joints are leak tight and possess sufficient clamp force to resist external influences.

### PERFORMANCES OF THE PRODUCTS

The medium pipes and fittings are designed for warm water distribution outside buildings with a lifetime of 30 years at an operating temperature profile according to class DH1 of EN 15632-2 and EN 15632-3 and an allowable working pressure of maximum 8 bar.

### RECOMMENDATIONS FOR CUSTOMERS

Check on delivery of the products listed under the "technical specification" whether:

- The product(s) and material(s) ordered are delivered in accordance with the agreement you made.
- The brand and the method of marking is correct
- No defects or damage is visible (for example, resulting from the transportation).

If on the basis of the foregoing you decide to proceed to rejection, please contact

- Thermaflex Isolatie B.V.

And if necessary,

- Kiwa Nederland B.V.

Carry out the storage, transport and processing in accordance with the provisions included in this technical-approval-with-product certificate and/or documents of the certificate holder.