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European Technical Assessment Body
for construction products



European Technical Assessment

ETA-15/0914
of 28 October 2025

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

Fradiflex® metal water stop

Product family
to which the construction product belongs

Single- or double-sided coated metal water stop sheet for construction and controlled crack joints in waterproof concrete

Manufacturer

Max Frank GmbH & Co. KG
Mitterweg 1
94339 Leiblfing
DEUTSCHLAND

Manufacturing plant

Max Frank GmbH & Co. KG
Mitterweg 1
94339 Leiblfing
DEUTSCHLAND

This European Technical Assessment contains

8 pages including 4 annexes which form an integral part of this assessment

This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of

EAD 320002-02-0605

This version replaces

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Specific part

1 Technical description of the product

"Fradiflex®" is a single- or double-sided coated metal water stop sheet for sealing of construction and controlled crack joints in waterproof concrete.

It has the following built-up (see also the table in Annex A2):

- Support sheet: Galvanized steel sheet with the following dimensions:
h = 80 - 200 mm, t = 0.6 mm or 1.5 mm.
The support sheet may also be made of untreated or stainless steel.
- Coating: Single- or double-sided black coating on the basis of a thermoplastic elastomer, with a minimum thickness of 0.2 mm per side.

For installation purposes the water stop is delivered with a protective foil on the coating. Furthermore, there are holders for fixing the water stop during installation and retaining clamps for fixing the overlapping joint between the ends of the water stop.

There are the following types of product:

- Fradiflex® Standard metal water stop: Single side coated for construction joints.
- Fradiflex® Premium metal water stop: Double side coated for construction joints.
- Fradiflex® Standard metal water stop with mounting angle: Single side coated for construction joints.
- Fradiflex® Premium metal water stop with mounting angle: Double side coated for construction joints.
- Fradiflex® Premium induced crack joint/corner (element wall): Double side coated for controlled crack joints in precast concrete element walls.
- Fradiflex® Premium crack-inducing element (in-situ concrete): Double side coated for controlled crack joints in in-situ concrete.
- Stremaflex® Crack inducing formwork with Fradiflex®: Stop end panel with double side coated metal water stop for construction joints and controlled crack joints in in-situ concrete.

Annex A shows the principles and performances of the product and furthermore the different types of products.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The water stop is used to seal joints in constructions made of concrete with high resistance to water (watertight concrete) against the penetration of pressing and un-pressing water (e.g., ground water) and to soil moisture.

There are the following scenarios of intended use:

- a) Construction joints.
- b) Controlled crack joints for the use in pre-cast concrete element walls made of concrete.
- c) Controlled crack joints for the use in in-situ concrete.

The performances given in Section 3 are only valid if the water stop is used in compliance with the specifications and conditions given in Annex B and the installation instructions of the manufacturer stated in the technical documents¹.

¹ The manufacturer's technical documents comprise all information necessary for the production and the installation of the product as well as for repair of the waterproofing made from that and it is deposited with DIBt.

The verifications and assessment methods on which this European Technical Assessment is based lead the assumption of working life of the water stop of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	See Annex A1

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Watertightness in end use conditions	See Annex A1
Bond strength at state of delivery	See Annex A1
Bond strength after heat aging	See Annex A1
Durability	See Annex A1

3.3 General aspects

The verification of durability and serviceability is part of testing the essential characteristics. The durability and serviceability are only ensured if the specifications of intended use according to Annex B and the specifications of the technical documents of the manufacturer are kept.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 320002-02-0605, the applicable European legal act is: 1999/90/EC.

The system to be applied is: 3

In addition, with regard to reaction to fire for products covered by this EAD the applicable European legal act is: 1999/90/EC, as amended by Decision 2001/596/EC.

The system to be applied is: 3

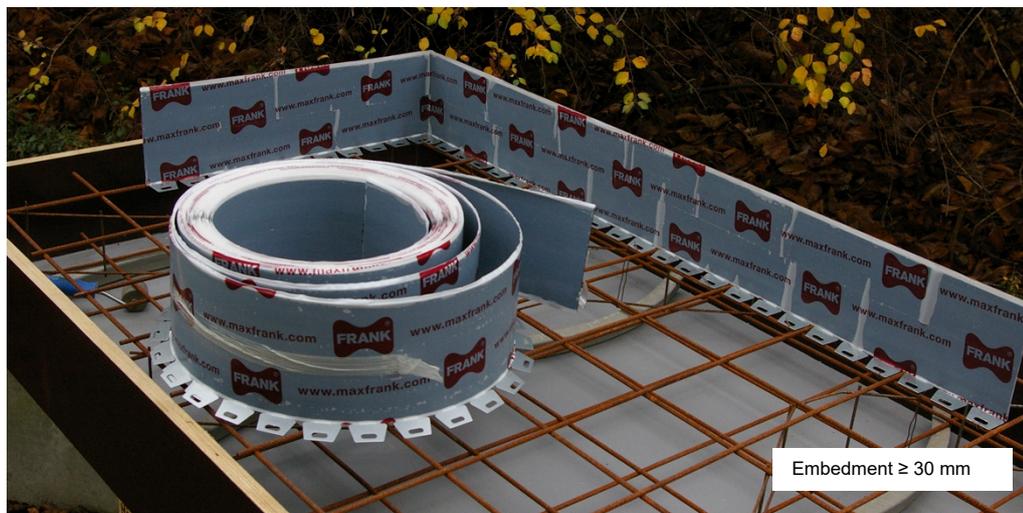
5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 October 2025 by Deutsches Institut für Bautechnik

Bettina Hemme
Head of Section

beglaubigt:
Hannoun



Coated metal water stop "Fradiflex® Premium with mounting angle"
– double side coated – for horizontal construction joints

Performance of the product:

Essential characteristic	Performance	
Reaction to fire	Class E ¹⁾	
Watertightness in end use conditions	Use scenarios ²⁾	
	a)	b) and c)
All types acc. to Annex A2 with $h \leq 100$ mm	Up to 10 m water column ^{3) 4)} (Test pressure: 500 kPa)	Not relevant
All types acc. to Annex A2 with $h > 100$ mm	Up to 20 m water column ³⁾ (Test pressure: 500 kPa)	
Bond strength at the state of delivery	≥ 0.2 MPa	
Bond strength after heat aging	≥ 0.2 MPa Deviation from state of delivery < 20 % (No drop in values)	
Durability Volatile compounds (los of weight)	< 3 %	

¹⁾ Class according to EN 13501-1.

²⁾ Use scenarios according to EAD:

a): Construction joints.

b): Controlled crack joints in pre-cast concrete element walls (pre-cast reinforced concrete components with on-site casting infill).

c): Controlled crack joints in-situ concrete.

³⁾ The water pressure relevant for the intended use corresponds to the test pressure divided by a safety factor of at least 2.5.

⁴⁾ Due to the low height ($h \leq 100$ mm), an increased safety factor is applied. Provided it is permitted in the target market, the product can be used at a water column of up to 20 m, since it has already passed the test at 500 kPa.

Fradiflex® metal water stop
Max Frank GmbH & Co. KG

Performances of the product and description of types

Annex A1

Types of Product	Coated sides (2 mm thick)	t [mm]	h [mm]	l [m]	Use scenario	
Fradiflex® Standard metal water stop	1	0.6	80 - 200 150	2.1 or 25 as coil	a)	construction joints
Fradiflex® Premium metal water stop	2	0.6	80 - 200 150	2,1 or 25 as coil		
Fradiflex® Standard metal water stop with mounting angle	1	0.6	80 - 200 150	2,1 or 25 as coil		
Fradiflex® Premium metal water stop with mounting angle	2	0.6	80 - 200 150	2,1 or 25 as coil		
Fradiflex® Premium induced crack joint (element wall)	2	1.5	150	2.5 3.0	b)	controlled crack joints in precast concrete element walls
Fradiflex® Premium induced crack corner (element wall)	2	1.5	150	2.5 3.0		controlled crack joints for corners in precast concrete element walls
Fradiflex® Premium crack-inducing element (in-situ concrete)	2	1.5	150	2.5 3.0	c)	controlled crack joints in in-situ concrete
Stremaform® Crack inducing formwork with Fradiflex®	2	1.5	150		a) and c)	stop end panel with coated metal water stop for construction joints and controlled crack joints in in-situ concrete

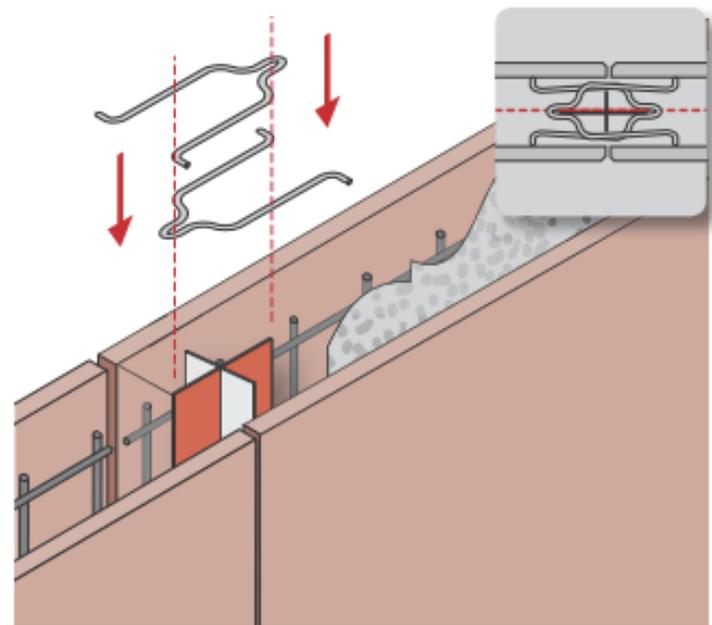
- t: Thickness of the support sheet (without coating)
h: Height of the water stop
l: Length of the water stop

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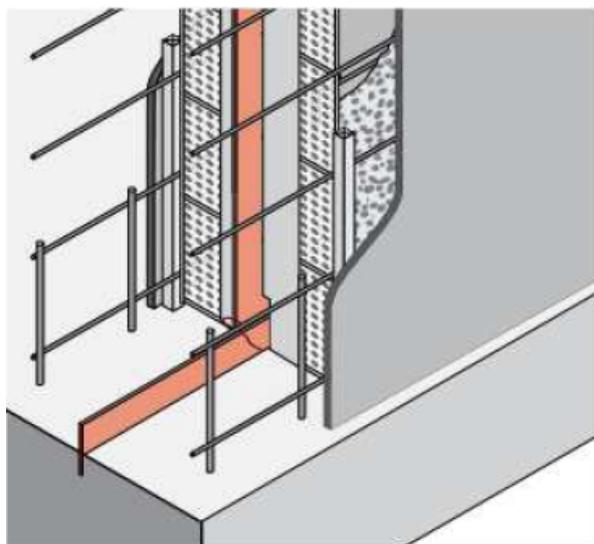
Description of types

Annex A2

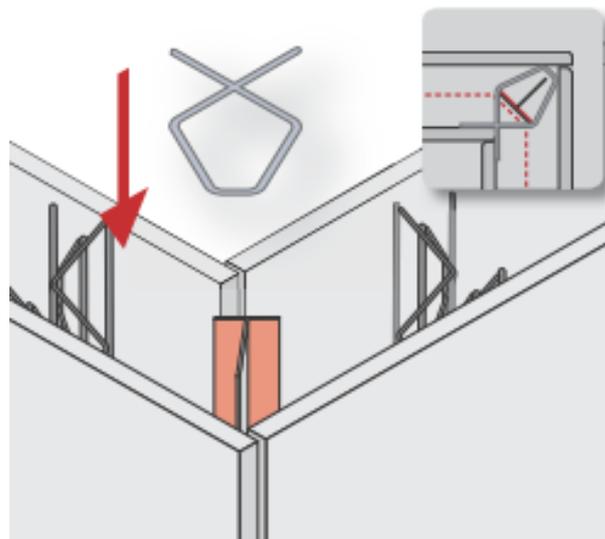
Fradiflex® Premium induced crack joint (element wall) - Controlled crack joints in precast concrete element walls:



Stremaform® Crack inducing formwork with Fradiflex® - Stop end panel with coated metal water stop for construction joints and controlled crack joints in in-situ concrete:



Fradiflex® Premium induced crack corner (element wall) - Controlled crack joints for corners in precast concrete element walls:



Fradiflex® metal water stop
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Description of typs

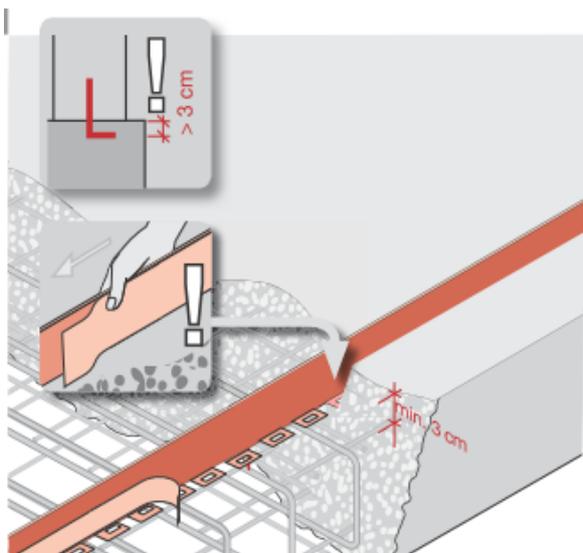
Annex A3

Installation

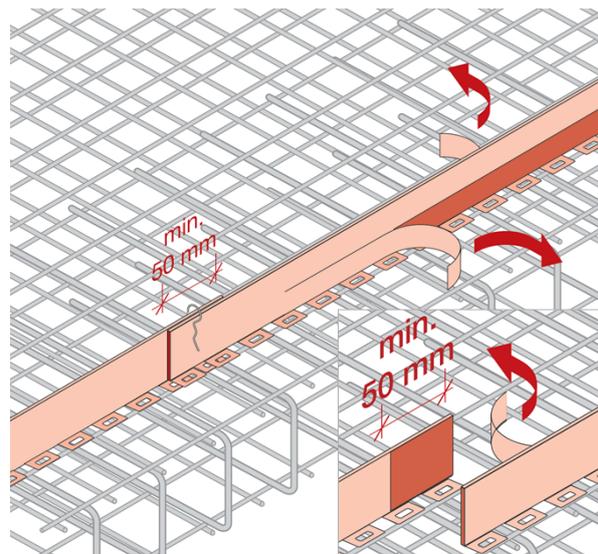
The performance of the waterproofing product can be assumed only, if the installation is carried out according to the installation instructions stated in the technical documents of the manufacturer, in particular taking account of the following points:

- Installation by appropriately trained personnel;
- Installation of only those components which are specified as components of the products;
- Installation with the required tools;
- Inspecting the substrate surface and the joint surface for cleanliness and correct treatment;
- Inspecting of position and fixing of the water stop during installation and of the finished installed water stop, as well as, after the first concreting step and documentation of the results;
- During storage and installation the water stop must be protected from excessive warming;
- The water stop is generally located in the center of the construction joints or the crack control sections;
- The embedment in the concreting steps must be at least 30 mm;
- The distance between water stop and the edge of the construction element must be at least 50 mm, as well as, at least three times of maximum grain size;
- The water stop has to be attached with the mounting angle or the retaining clamps on or at the reinforcement. During concreting the water stop should not move and should not float;
- The overlapping between the water stops is at least 50 mm. After removing the protective foil, the water stops are pressed tightly together. Finally, overlapping has to be secured with the joint clips;
- The protective foil shall only be removed shortly before concreting to protect the coating from contamination. The second part of the protective foil must not be removed until after the first concreting section has been completed.

Embedment:



Overlap



Fradiflex® metal water stop
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Intended use
Specifications for installation

Annex B