

## PROOFMATE FD-SYSTEM

### General Building Authority Test Certificate



#### Properties:

The *PROOFMATE FD-SYSTEM* is a sealing membrane system that can be used for sealing of construction joints, control joints and expansion joints against ground damp, non-standing and standing seepage water as well as water pressure.

It consists of following components:

- *PROOFMATE FD-FOLIE* (EPDM sealing membrane)
- *PROOFMATE F* (adhesive)

The *PROOFMATE FD-SYSTEM* has been awarded a General Building Authority Test Certificate as a verification of applicability for the application areas mentioned above.

The *PROOFMATE FD-FOLIE* is UV-resistant and is also suitable for building construction applications. No mechanical fixation (clamps/flanges) of the edges is required due to the edge sealing applied.

Next to applications in building construction and civil engineering the *PROOFMATE FD-FOLIE* can be also used as waterproofing membrane on shotcrete in tunneling.

#### Technical data:

##### PROOFMATE FD-FOLIE:

###### Substance data:

Material basis	EPDM	
Thickness	1 mm	
Width	100, 150, 200, 250, 300, 400, 500, 1000, 1500 mm	
Shore A hardness	65 ± 5	DIN ISO 7619-1
Temperature resistance	150°C (long-term) 220°C (short-term)	
Tensile strength		DIN EN 12311-2
longitudinal	8.7 MPa	
lateral	8.6 MPa	
Elongation at break		DIN EN 12311-2
longitudinal	531 %	
lateral	483 %	
Joint peel strength	69 N/50 mm	DIN EN 12316-2
Joint shear resistance	282 N/50 mm	DIN EN 12317-2
Resistance to impact	300 mm	DIN EN 12691

Resistance to static load	25 kg	DIN EN 12730
Tear resistance		DIN EN 12310-2
longitudinal	40 N	
lateral	64 N	
Resistance to root penetration	passed	DIN EN 13948
Dimensional stability		DIN EN 1107-2
longitudinal	0.08 %	
lateral	0.05 %	
Foldability at low temperatures	- 60°C	DIN EN 495-5
UV exposure	passed	DIN EN 1297
Exposure to liquid chemicals	passed	DIN EN 1847
Hail resistance		DIN EN 13583
rigid support	17 m/s	
flexible support	37 m/s	
Vapour diffusion resistance	70000 μ	DIN EN 1931
Ozone resistance	passed	DIN EN 1844
Exposure to bitumen	passed	DIN EN 1548
Reaction to fire	class E	DIN EN 13501-1
External fire performance	passed	ENV 1187
Testing for artificial ageing	passed	DIN EN 1296

## **PROOFMATE F:**

### Substance data:

Material basis	SMP	
Consistency	pasty	
Colour	black, grey	
Odour	hardly noticeable	
Spec. density (23°C)	approx. 1.5 g/cm <sup>3</sup>	DIN EN ISO 2811-1
Dyn. viscosity (23°C)	approx. 2000 Pas	DIN EN ISO 2555

### Reaction data (23°C):

Processing temperature	5 - 40°C	substrate temperature
Tack-free time *	approx. 15 min	ASTM C679
Setting process *	approx. 3 mm/24 h	

### Properties of cured adhesive:

Tensile strength	approx. 1.3 N/mm <sup>2</sup>	DIN EN ISO 527
Elongation at break	approx. 350 %	DIN EN ISO 527
Shore A hardness	approx. 40	DIN ISO 7619-1
Temperature resistance	-30 to +80°C	
Bond strength at concrete		DIN EN 1542
dry	approx. 1.65 N/mm <sup>2</sup>	
slightly moist	approx. 1.65 N/mm <sup>2</sup>	

(\* measured at 23°C / 50 % rel. humidity)

## **Processing:**

### Subsurface preparation:

The subsurface to be sealed must be stable and free of grease and dust. It must not rub off or sand. All cement skins, projecting sharp edges, soiling and old coatings must be removed.

The subsurface can be prepared with a high-pressure water jet. If formwork oil cannot be completely removed, the subsurface must be prepared with **FIX-O-FLEX HAFTGRUND**.

There are no special requirements as regards the dampness of the subsurface. **PROOFMATE F** adhesive can be applied to both dry and slightly moist subsurfaces (matt glossy surfaces without a glossy water film, pores not saturated with water). Wet, water saturated subsurfaces must be dried before application.

Any fillets or rounding off in corners that are required must be carried out using a restoration mortar compatible with the system e.g. *F300*. Sharp edges must be chamfered in order to prevent damage to the *PROOFMATE FD-FOLIE*.

Before application of the sealing system, any rock pockets, sinkholes, rigid joints or imperfections must be filled in flush with the surface using a restoration mortar, e.g. *F300*, that is compatible with the system.

If the *PROOFMATE FD-SYSTEM* is going to be used for sealing of expansion joints or on surfaces where negative water pressure can be expected the surface has to be primed in advance with *HYDROPOX EPG*. This primer seals the pores and can be applied even on humid surfaces (see Technical Data Sheet *HYDROPOX EPG*).

#### Application:

##### *Sealing of construction joints and control joints*

*PROOFMATE F* adhesive is applied onto the cleaned subsurface with the manual caulking gun *Z2* in loops of 15 mm thickness. Spreading the adhesive on the subsurface should be carried out with a B3 notched steel in such a way that an even layer of adhesive of approx. 1.5 mm is applied to the subsurface to be sealed.

The *PROOFMATE FD-FOLIE* is wiped with *FIX-O-FLEX HAFTGRUND* on the side to be bonded to remove dust or other contaminants. After that the sealing membrane is positioned on the adhesive layer and rolled into the adhesive from the centre outwards with a wide draw roll. Press down in such a way that no air bubbles are left under the foil but at the same time no adhesive is pressed out at the free edges. Any adhesive outside of the foil must be removed before sealing.

The *PROOFMATE FD-FOLIE* must be cut to fit the run of the joints. The necessary overlaps of the *PROOFMATE FD-FOLIE* must be bonded along the whole surface area for a length of 100 mm. The width of the foil must be chosen to fit the intended application. If it is used as a joint seal against pressurised water, the minimum width is 500 mm.

In the area of floor/wall connections with a protruding bottom slab, must be laid out of the wall area and across the bottom slab on to the front surface of the bottom slab for about 100 mm. Afterwards all edges of the *PROOFMATE FD-FOLIE* are sealed off with *PROOFMATE F* adhesive resulting in a fully covered membrane where no free corners or edges are visible any more.

Before backfilling appropriate measures must be taken to protect all *PROOFMATE FD-SYSTEM* seals in contact with earth from mechanical damage.

##### *Sealing of expansion joints*

The system is useful for sealing un-occupied joints with a width up to 20 mm where slow and rare movements are expected. Change of width including contemporary shearing must not exceed 50% of the initial width.

Before applying the *PROOFMATE FD-SYSTEM* with a minimum width of membrane 300 mm it has to be paid attention to the fact that the sealing has to be supported and the joints need a backfilling. The application is done the same way as known from the procedure at working joints. Inner and outer joints have to be sealed first with prefabricated shrink boots. Over the corners

the *PROOFMATE FD-SYSTEM* is adhered entirely. The backfilling of the joint must not get in touch with the adhesive of the membrane fixed on top.

#### Consumption:

Membrane width [cm]	Quantity <i>PROOFMATE F</i> [g/rm]
20	300
25	375
30	450
40	600
50	750
80	1200
100	1500
150	2250

(The quantities indicated are rule of thumb, they may vary depending on the composition of the subsurface.)

#### Special applications:

Expansion and construction joints should be completed in the same way as normal joint bridging using a joint profile e.g. *PROOFMATE* round profile.

For connection to brickwork the brickwork must be prepared with a flexible sealing slurry (two coats with fabric).

Greak-throughs (pipe lead-throughs) must be furnished with a collar and a fillet type connection.

#### *Sealing in tunneling*

For sealing of tunnels, which are build by the "new Austrian tunneling method" the *PROOFMATE FD-FOLIE* is fixed in between the outer and the inner layer of shotcrete.

Corners, edges as well as overlappings are adhered by means of *PROOFMATE F* adhesive at a width of at least 10 cm. Beside this the membrane is fixed to the outer layer of shotcrete with shot-dowels in a suitable grid. All holes appearing due to doweling are secured by a 10 x 10 cm big *PROOFMATE FD-FOLIE*, which is adhered like a plaster on top of the dowel-hole. The adhesive has to be applied fully over the entire 10 x 10 cm big piece of membrane. This secures the *PROOFMATE FD* membrane to stay 100% water proof.

Compared to conventional tunneling membranes made from PVC, Polyolefine and alike materials the *PROOFMATE FD-SYSTEM* shows a surpassing high mechanical strength. Due to this property the *PROOFMATE FD-FOLIE* does not need an extra securing membrane (e.g. non-woven material) towards the shotcrete.

#### **Safety information:**

*PROOFMATE F* is not classified as hazardous according to Regulation (EC) 1272/2008 (CLP).

Even in the case of not classified products, the standard precautionary measures applicable for chemical products should be observed.

It is therefore necessary, before beginning processing, to become familiar with the precautions and safety advice as indicated in the material safety data sheet.

**Packaging:**

*PROOFMATE FD-FOLIE* 20 m rolls

*PROOFMATE F* 600 ml aluminium foil sausages

Bigger packaging on request

**Storage:**

*PROOFMATE FD-FOLIE*

Shelf life at least 24 month in original packaging when stored in dry conditions between 15-25°C.

*PROOFMATE F*

Shelf life at least 9 month in original packaging when stored in dry conditions between 15-25°C, protected from heat, frost and direct sunlight.

After the expiration the use of the product is generally not recommended, unless an approval has been provided by TPH. This approval can only be obtained by the quality assurance department of TPH releasing the material after verification of main properties being within specification.

**Disposal:**

*PROOFMATE FD-FOLIE*

*Recommendation:*

Small quantities of product residues can be disposed of as normal domestic waste. Dispose of bigger quantities must be effected in accordance with the corresponding local regulations.

*PROOFMATE F*

Small quantities of cured product residues can be disposed of as normal domestic waste. Dispose of not cured product components must be effected in accordance with the corresponding local regulations. For further information please refer to the material safety data sheets.

**Test certificates:**

Paint compatibility testing of *PROOFMATE FD-SYSTEM*; BMW Group Labortechnik, plant Leipzig 2002

Testing of fire behavior of construction materials, Ignitability of products subjected to direct impingement of flame according to DIN EN ISO 11925, part 2 issue july 2002 *PROOFMATE F*; MFPA Leipzig 2007

Classification of fire behavior of the one-component liquid synthetic sealant *PROOFMATE F*, MFPA Leipzig 2007

Testing of watertightness of liquid synthetic sealant *PROOFMATE F* for negative water pressure; MFPA Leipzig 2007

Testing of a joint sealing for building construction according to IVD data sheet no. 4, *PROOFMATE FD-SYSTEM*; MFPA Leipzig 2007

*PROOFMATE FD-FOLIE* - Determination of the chemical resistance to sewage, liquid manure and silage effluent (JGS); MFPA Leipzig 2012



General Building Authority Test Certificate for *PROOFMATE FD-SYSTEM*  
waterproofing membrane system; MFPA Leipzig 2016

**Legal notice:**

The correct and thus successful application of our products is not subject to our control. A guarantee can be issued for the quality of our products within the framework of our sales and supply conditions, however not for successful processing. All data and specifications in this specification sheet are based on the present state of the art and the right to changes and adaptations for the sake of development remains explicitly reserved. The consumption specifications designated by us can be only average empirical values, where deviations are possible on an individual basis and therefore cannot be excluded by us.

**TPH Bausysteme GmbH**  
Nordportbogen 8  
**D-22848 Norderstedt**

Tel.: +49 (0)40 / 52 90 66 78-0  
Fax: +49 (0)40 / 52 90 66 78-78  
e-mail [info@tph-bausysteme.com](mailto:info@tph-bausysteme.com)  
Web [www.tph-bausysteme.com](http://www.tph-bausysteme.com)

