



## Roofing membrane system Rhepanol® hg

Supplement to the  
Technical Manual  
Rhepanol fk 2008

# Roof gardens



## Imprint

### **Roofing membrane system Rhepanol hg Supplement to the Technical Manual Rhepanol fk**

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This manual corresponds with the  
FDT manufacturer application instructions  
for designers and applicators.

It cannot, however, replace professional  
knowledge.

Every user is obliged to keep his  
knowledge up to date!

Technical changes reserved.

## FDT - Legal Details

We refer emphatically to the fact, that all details mentioned, especially the application and utilization recommendation for the roofing membranes and their system accessories, have been developed under normal conditions, and based on our knowledge and experience. Appropriate storage and usage of the products are assumed.

A warranty or reliability of a finished project cannot be deduced because of varying materials, substrates and differing work conditions, neither by any indications nor from verbal statements, irrespective of any legal positions.

For the possible accusation, FDT acted intentionally or grossly negligent, the applicator has to supply evidence, that he provided FDT with all information and details, necessary for an appropriate and correct evaluation through FDT in written form, immediately available and complete.  
The applicator himself is responsible to control that the products are suitable for the given application.

It is FDT's right to change product specifications without notice.

Property rights of third parties are to be considered.  
In addition our particular sales- and delivery terms are valid.

Obligatory is the latest version of our product data sheet, which can be requested directly through FDT.



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## Rhepanol® hg - advantages

### The strong roofing membrane for roof gardens

Rhepanol hg, like Rhepanol fk, is based on polyisobutylene (PIB) and meets the requirements of DIN 16731 and DIN 20000-201.

The only difference is that Rhepanol hg is not reinforced with a fleece backing but with a central glass fleece reinforcement.

Furthermore, Rhepanol hg is optimised for hot air application. So for joining the seams only hot air welding is used.

### Material properties Rhepanol hg

- Long-term proven material polyisobutylene (PIB). A roofing membrane following the standard DIN 16731 and DIN 20000-201 according to the General Building Construction Supervision Test Certificate ABP-Nr.: P-K 010/01.05 MPA Darmstadt.
- Compatible with bitumen.
- A roofing membrane for green roofs according to the FLL Guideline.
- Highly resistant to perforation.
- Certified in a life cycle assessment according to DIN EN ISO 14040 ff.
- Free from plasticizers and halogen fire resistant agents.
- Permanently resistant to UV radiation.
- Hail-resistant according to SIA 280.
- Compatible with all kinds of insulation materials.
- Flexible at temperatures as low as - 60 °C.
- Hot air weldable.
- Dimensionally stable due to the glass fleece reinforcement.
- Application without open flame.
- Compatible with Rhepanol fk and the self-sealing edge system.





## Quality control

### Official seal of approval for Rhepanol hg

FDT does not focus on short-term profit, but on high-quality and durable products. Therefore we have established stringent quality control requirements that eliminate sources of error.

This in-house quality assurance system for the whole company has been certified according to **DIN EN ISO 9001**, the world's most strict quality standard, and is constantly monitored by TÜV CERT.

We pay the same attention to materials control carried out during production as to the quality assurance measures and the highly mechanised production.



### Control measures (amongst others):

- No blisters or cracks
- Thickness, width
- Weight per square metre
- Maximum tensile force, elongation at maximum tensile force
- Dimensional stability after storage at + 80 °C
- Bending at low temperatures

In addition, Rhepanol hg is permanently monitored by an officially approved testing institute. In 1980 we signed a quality control agreement with the State Material Testing Institute Darmstadt, plastics department. The regular controls carried out by the Material Testing Institute not only include production, but also external stores and building sites. The quality control of an independent testing institute provides additional security when waterproofing flat roofs with Rhepanol hg.



### Warranty on materials

Warranty certificates are available for all roofing membranes supplied by FDT.

FDT offers comprehensive warranty, securing everybody's investments in new buildings or refurbishment.

### Quality assurance

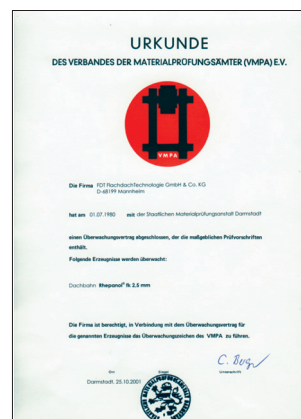
Testing according to DIN EN ISO 9001. A copy of the TÜV certificate is available on request.



### Ecology

Since 1990, Rhepanol has been subjected to a life cycle assessment, carried out by the renowned and independent Batelle-Institute. It confirmed the outstanding ecological profile of Rhepanol during its whole life cycle.

In 2002 the C.A.U. GmbH (Gesellschaft für Consulting und Analytik im Umweltbereich) (Company for Ecological Consulting and Analytics Ltd) was commissioned to update this survey for the product Rhepanol according to DIN EN ISO 14040 ff. The result was a life cycle assessment in which all environmental aspects along the entire life cycle of this product were analysed and assessed. The conclusions confirm the findings of 1990. We shall be glad to provide you further information.







## Safety and functional efficiency



### Safety and functional efficiency

The roofing membrane Rhepanol hg meets all requirements drawn up for a secure waterproofing of roof gardens.

As regards resistance to root/rhizome penetration, Rhepanol hg fulfils the test requirements according to the FLL test. This means that roofing membranes serve as a waterproofing and a root penetration protection at the same time. A separate root protection layer is not necessary.

Because of loose laying, the roof covering is separated from the other layers of the build-up across the complete area. Cracks due to shrinkage or tensions in adjacent layers thus will not impede the roof covering.

In many cases, the ballast formed by the vegetation layer is sufficient to ensure position stability against wind uplift.

The waterproofing is rot-proof. Natural chemical solutions and humic acid do not impede its functionality.

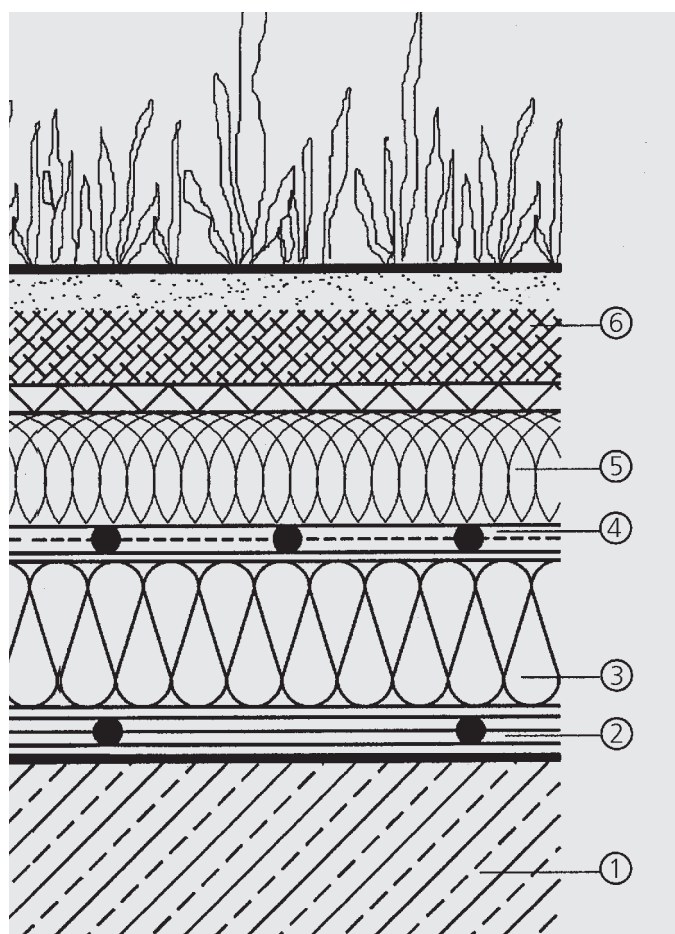


## Layer build-ups

### Extensive roof gardens

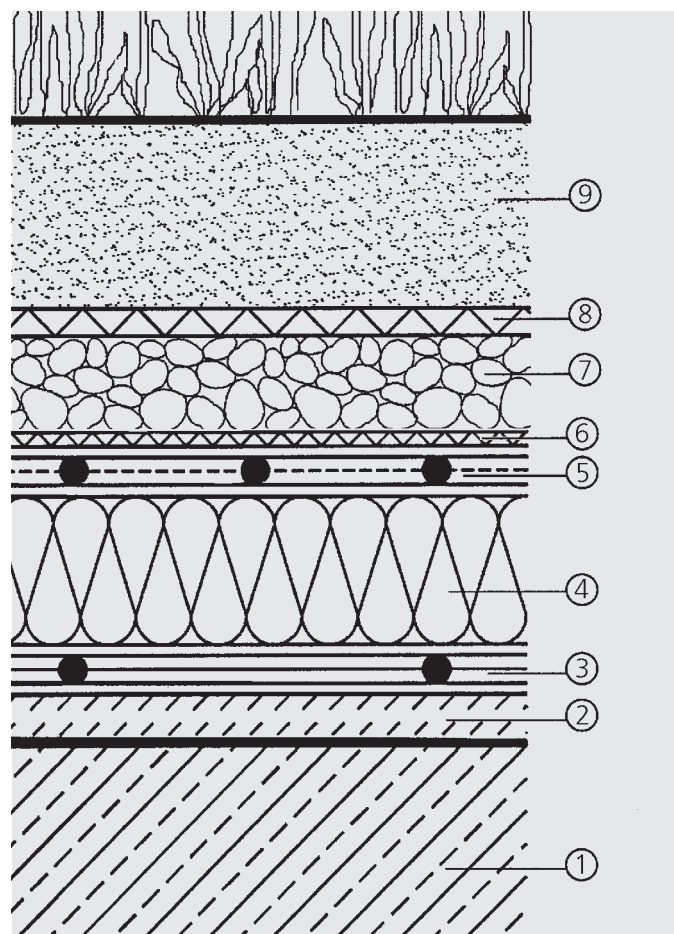
### Intensive roof gardens

Example for layer build-up:  
Extensive roof garden



- ① Reinforced concrete
- ② FDT vapour control layer fk
- ③ Thermal insulation layer of expanded polystyrene (EPS)
- ④ Roofing membrane Rhepanol hg 1.8 mm
- ⑤ Drainage and filter layer, at the same time protection layer
- ⑥ Vegetation mat

Example for layer build-up:  
Intensive roof garden



- ① Reinforced concrete
- ② Screed to falls
- ③ FDT vapour control layer fk
- ④ Thermal insulation layer of expanded polystyrene (EPS)
- ⑤ Roofing membrane Rhepanol hg 1.8 mm
- ⑥ FDT protection layer
- ⑦ Drainage layer
- ⑧ Filter layer
- ⑨ Vegetation layer, no storage irrigation



## Supporting construction, vapour control layer

### Application instructions

#### Supporting construction

- The supporting deck structure has to meet the technical requirements with regard to load-bearing capacity, deflection, anchorage and drainage.
- Clean, dry and even roof surfaces.
- Substrates for application must be free of open cracks, rough concrete, sharp projections and stones.
- Joints that may impede the functional efficiency of the roof sealing due to their width or movements have to be formed according to constructional requirements.
- Roof gardens should be designed with a slope. The designed slope should be 2% or more.
- With steeper roof slopes (from 5°) special shearing protection measures are necessary, which must be agreed with the manufacturer of the roof garden system, depending on the roof. In this respect, the instructions of the manufacturer of the roof garden system must be observed.
- For compatibility reasons, timber board cladding or chipboards may be treated only with salt-based wood preservatives. Oil or solvent based impregnation agents must not be used.
- An intrusion of air underneath the roof sealing at the roof perimeter and at roof penetrations must be prevented. Therefore these areas have to be made windtight
- National standards and regulations must be observed.

### Vapour control layer

As vapour control layers, in the case of non-ventilated roofs, we recommend:

- For non air-conditioned rooms (e.g. living rooms and offices or similar rooms without suspended ceiling):
  - FDT vapour control layer fk with  $\mu \times s \geq 120 \text{ m}$ .

The FDT vapour control layer fk is applied with a 10 cm seam overlap. The seams are sealed with seam or connection tape.

- For rooms with high air condition loads (e.g. swimming pools, air-conditioned rooms):
  - aluminium compound foils
  - vapour control membrane with metal tape reinforcement, e. g. AL + V 60 S 4.

In case of doubt, we recommend a calculation of the building physics in order to identify the diffusion characteristics of the roof build-up.

The FDT vapour control layer fk must be taken up and flashed at connections and cappings with connection tape; at roof penetrations it must be flashed.

- National standards and regulations must be observed.





# Thermal insulation layer

## Sealing

### Upper protection layer

#### Thermal insulation layer

When designing the thermal insulation layer on steel profile supporting decks, you must bear in mind tread-fastness.

As materials for thermal insulation layers we recommend:

- Insulation boards made of expanded polystyrene, EPS DAA dm, with rebated edge.
- Non-flammable mineral fibre boards class A, according to DIN EN 13163.

Insulation materials that are not dimensionally stable and which buckle or bulge must not be installed.

The insulation boards must be laid with pressed joints in a brick-bond pattern.

In the case of inverted roofs, the insulation manufacturer's instructions must be observed.

- National standards and regulations must be observed.
- The guidelines of the insulation board manufacturer have to be observed.

#### Sealing

Green roof areas are sealed with loose-laid roofing membranes Rhepanol hg (following the DIN 16731 and DIN 20000-201), at least 1.5 mm thick. Immediately apply ballast on loose-laid roofing membranes to secure its position against wind uplift.

#### Perimeter fixing

In principle, you will need perimeter fixing (at least 4 single fasteners/m or fixing with Rhepanol laminated metal sheet) at all flashings and cappings, built-in details etc.

#### Upper protection layer

The FDT protection layer is applied as an upper protection. With extensive roof garden systems, instead of the FDT protection layers, FDT synthetic fleece (at least 300 g/m<sup>2</sup>) can be applied.

At flashings and cappings a separate flashing strip is used loosely overlapping the protection layer in the roof level by approx. 250 mm.

In the case of extensive roof gardens, you may leave out an additional protection sheet. Therefore, however, there must be a drainage layer installed serving as upper protection layer at the same time.

For compatibility reasons coarse rubber protective sheets must be laid on a separation layer (e.g. FDT synthetic fleece 180 g/m<sup>2</sup>).

- National standards and regulations must be observed.



## Roof garden system/position stability

### Roof garden system/position stability

Planting of the roof is done with standard roof garden systems.

You must use only drained roof garden systems, since the described sealing build-ups are not designed for storage irrigation.

#### Note:

- As regards roof garden layers (drainage, filter and vegetation layer) the instructions of the manufacturer of the roof garden system must be observed.

The roof garden build-up in many cases provides position stability against wind uplift at the same time.

The calculated wind loads must be observed. Only the dry weight of the roof garden build-up will be taken into consideration.

If the roof garden does not provide sufficient ballast, e.g. in case of lightweight extensive roof gardens, at the perimeter and corner areas of the roof, the roofing membrane must be mechanically fastened in these areas, e.g. at the overlapped membrane edge. Spacing of the mechanical fastening is normally done with respect to the overall wind load. In this case, the weight of the roof garden layers is not taken into consideration.

- National standards and regulations must be observed.



## Flashings and cappings/built-in details

### Flashings and cappings/built-in details

All flashings and cappings are also carried out with Rhepanol hg or Rhepanol h flashing strips.

The flashing strips must be sufficiently fixed. If the connecting membrane is bonded, then at flashing heights over 200 mm a full adhesive bonding is necessary. Valley areas are left unbonded at a width of 200 mm to allow movement compensation.

With mechanical fastening of the flashing membrane - with Rhepanol laminated metal sheets or by clamping with the mounting rail of the roof edge trim - the spacing between the in-line fasteners must be not more than 500 mm. In this case the whole girth length must be taken into consideration. The Rhepanol laminated metal sheets for intermediate fixing must be at least 50 mm in width.

All flashings and cappings, roof penetrations etc. must be kept free of vegetation. Paving slabs in a fine gravel bed are most suitable for these purposes.

Roof outlets should be at least 500 mm away from all edges of the building as well as from joints and penetrations. Besides this, they must also be designed to be accessible at any time.

At all flashings the sealing must be taken up at least 150 mm over the surface of the roof garden, fixed with mounting rails and made rain-proof.

- National standards and regulations must be observed.



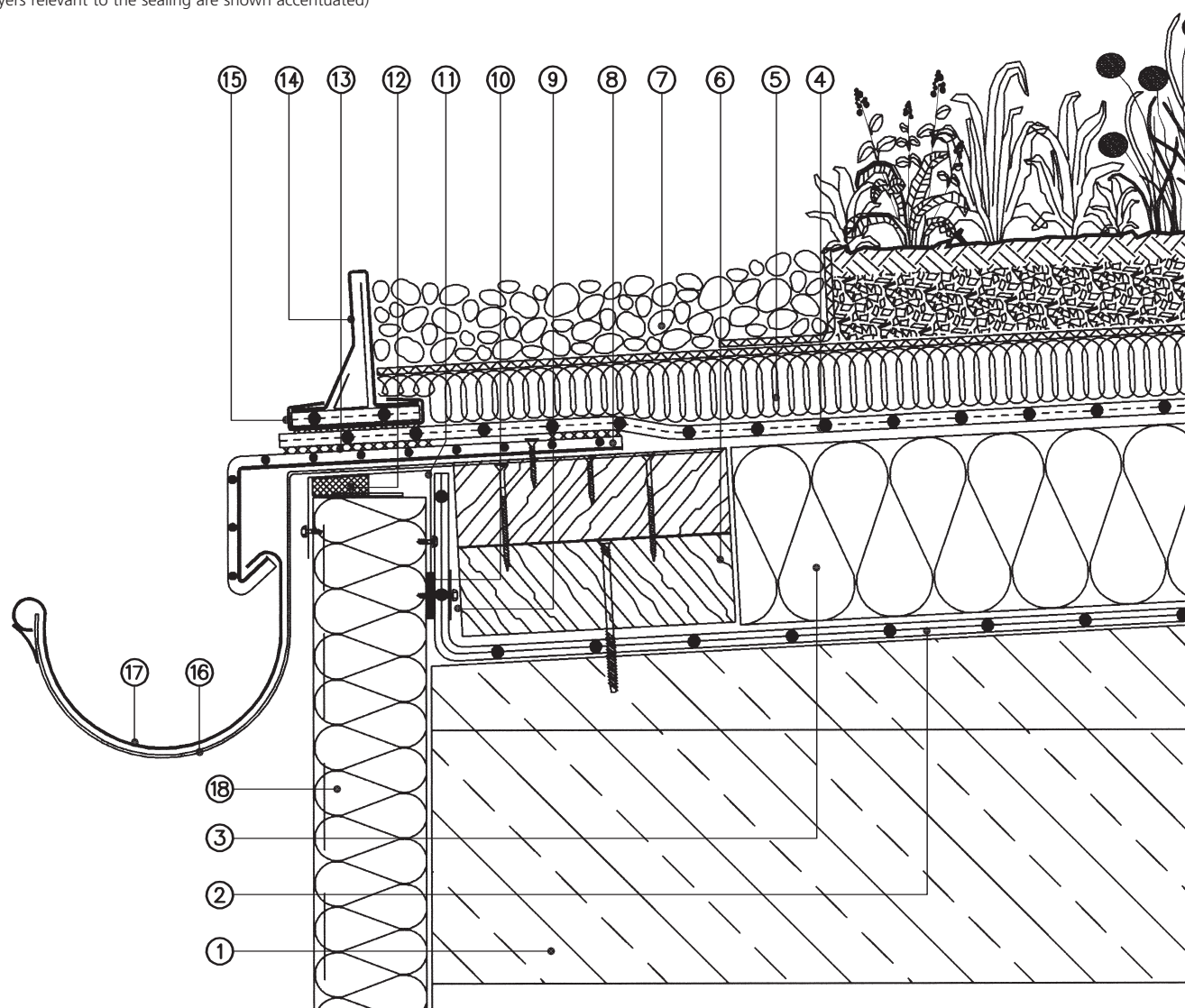
## Flashing to bracket-mounted gutter

### Non ventilated roof

For roof slopes up to 5°

Scale 1:5

(The layers relevant to the sealing are shown accentuated)

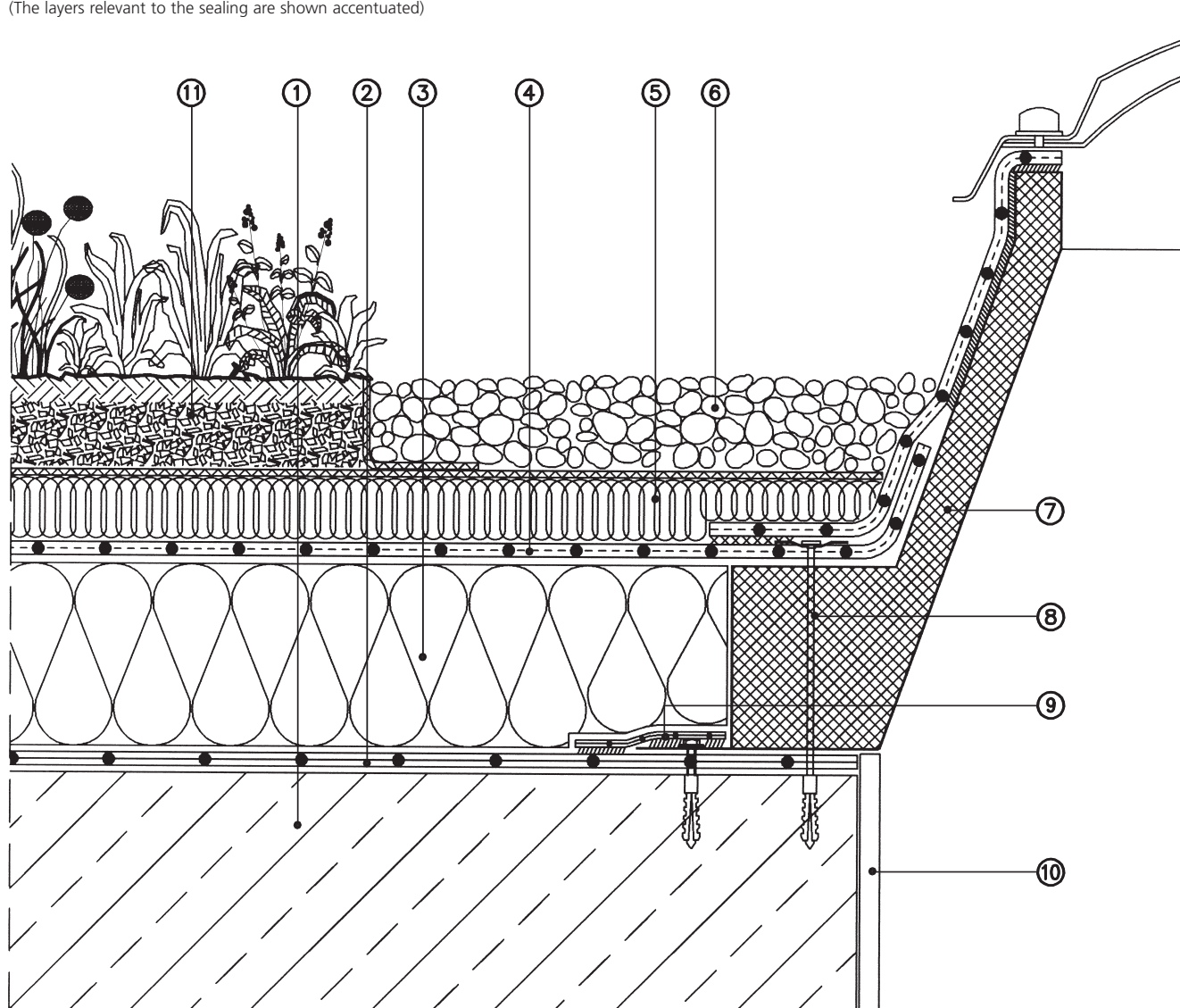


- |   |                                       |
|---|---------------------------------------|
| ① Bare surface with sloping concrete layer                        | ⑨ Termination bar                     |
| ② FDT vapour control layer fk                                     | ⑩ Airtight sealing tape               |
| ③ Thermal insulation layer (EPS)                                  | ⑪ Metal cladding closer               |
| ④ Roofing membrane Rhepanol hg 1.8 mm                             | ⑫ Sealing tape                        |
| ⑤ Drainage and filter layer,<br>at the same time protection layer | ⑬ Welding                             |
| ⑥ Treated timber profile (salt based)                             | ⑭ FDT gravel stop profile 100 mm high |
| ⑦ Min. 50 mm round washed gravel<br>20/40 mm                      | ⑮ Holder for FDT gravel stop profile  |
| ⑧ Rhepanol laminated metal angle                                  | ⑯ Bracket                             |
|   | ⑰ Gutter                              |
|   | ⑱ Insulated steel sandwich element    |



## Rooflight connection Non ventilated roof

Scale 1:5  
(The layers relevant to the sealing are shown accentuated)



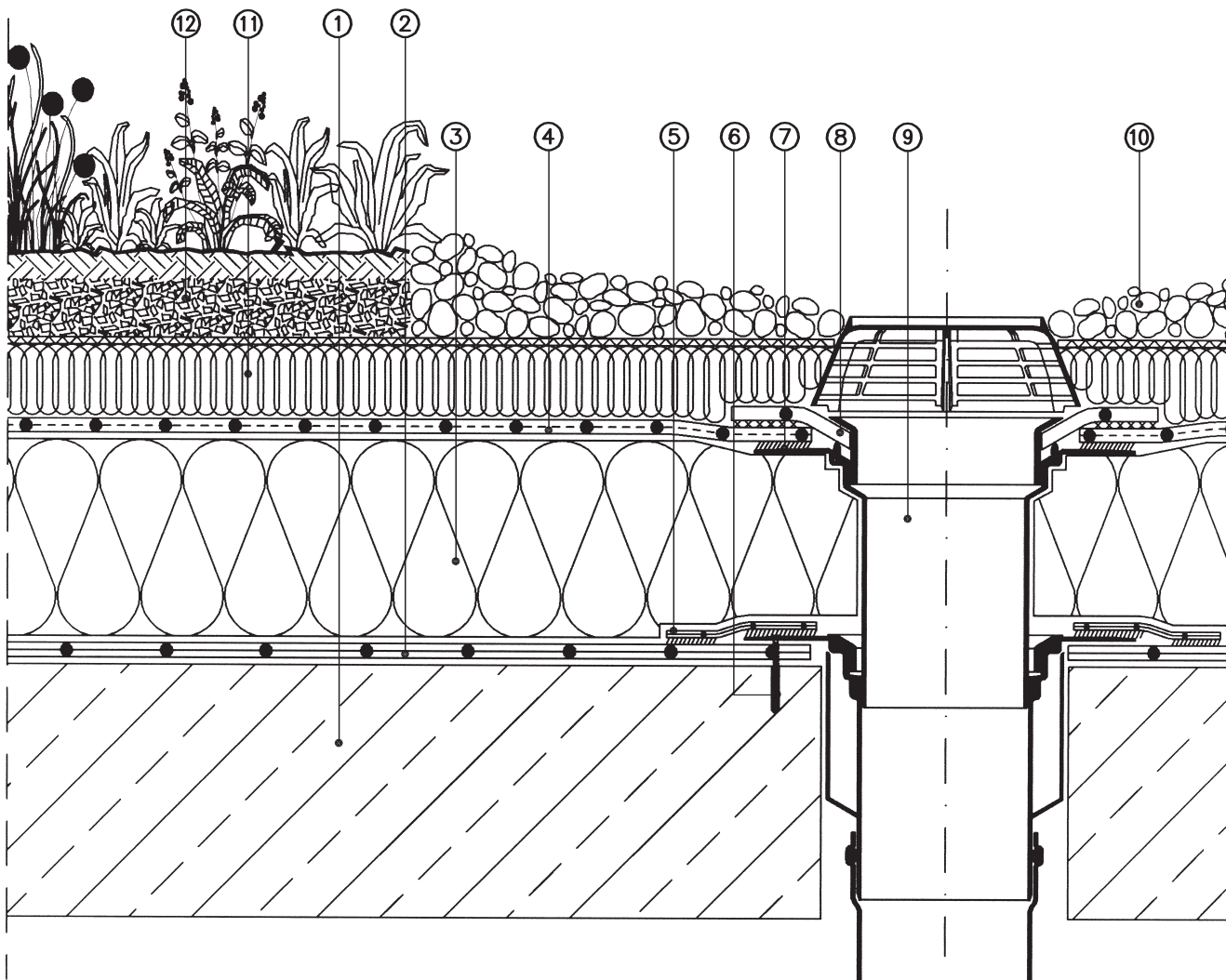
- |  |  |
|--|--|
| ① Reinforced concrete  | ⑦ Rooflight with thermal insulation                |
| ② FDT vapour control layer fk                                  | ⑧ Perimeter fixing with single fasteners           |
| ③ Thermal insulation layer (EPS)                               | ⑨ FDT sealing tape for FDT vapour control layer fk |
| ④ Roofing membrane Rhepanol hg 1.8 mm                          | ⑩ Render finish                                    |
| ⑤ Drainage and filter layer, at the same time protection layer | ⑪ Vegetation mat                                   |
| ⑥ Min. 50 mm round washed gravel 20/40 mm                      |  |





## Rainwater outlet with gravel Non ventilated roof

Scale 1:5  
(The layers relevant to the sealing are shown accentuated)

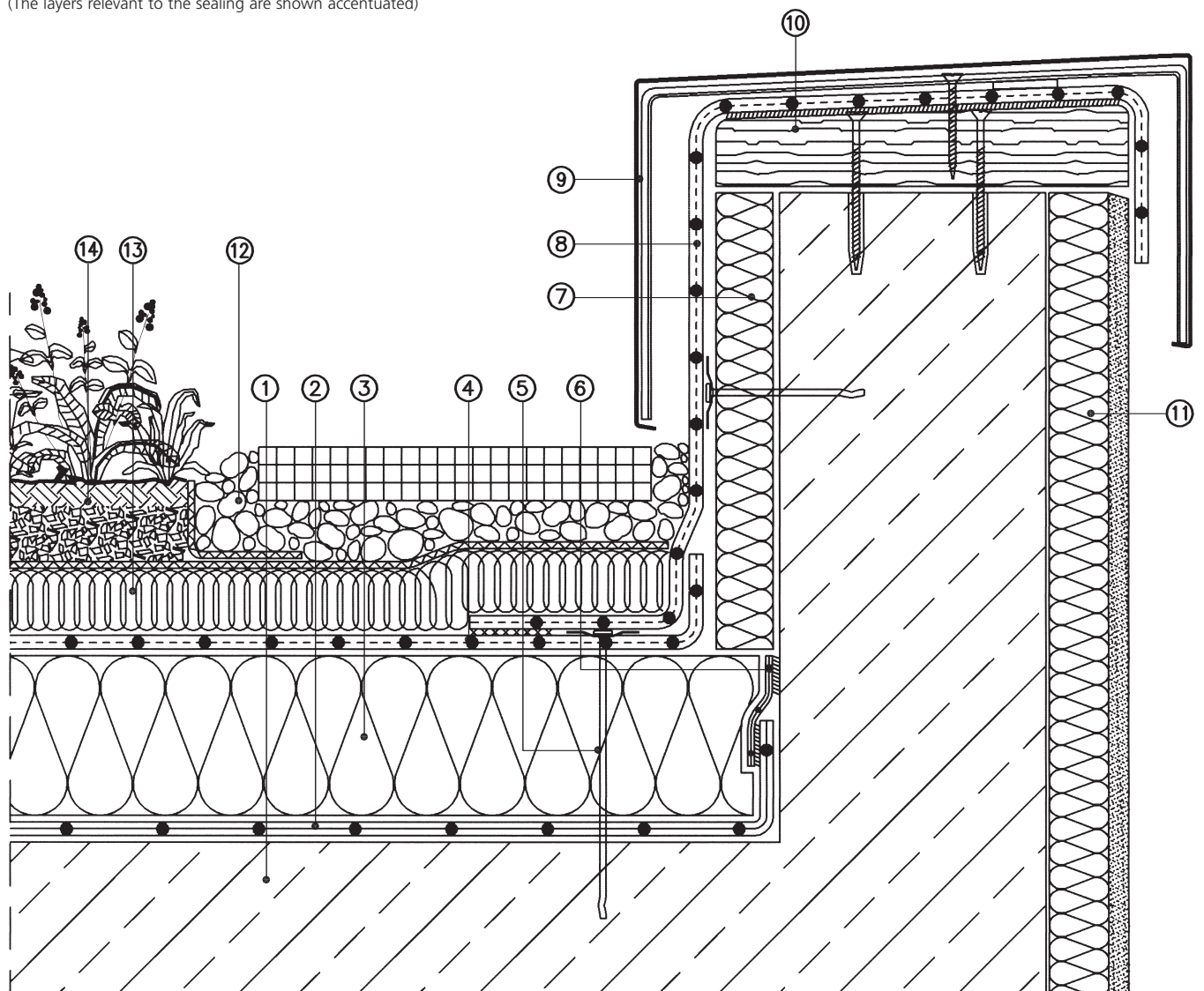


- |  |  |
|--|--|
| ① Reinforced concrete                              | ⑦ Adhesive bond with Rhepanol h contact adhesive 50            |
| ② FDT vapour control layer fk                      | ⑧ Rhepanol h collar  |
| ③ Thermal insulation layer (EPS)                   | ⑨ FDT VarioGully   |
| ④ Roofing membrane Rhepanol hg 1.8 mm              | ⑩ Round washed gravel  |
| ⑤ FDT sealing tape for FDT vapour control layer fk | ⑪ Drainage and filter layer, at the same time protection layer |
| ⑥ Rainwater outlet fixing                          | ⑫ Vegetation mat   |



## Parapet Non ventilated roof

Scale 1:5  
(The layers relevant to the sealing are shown accentuated)

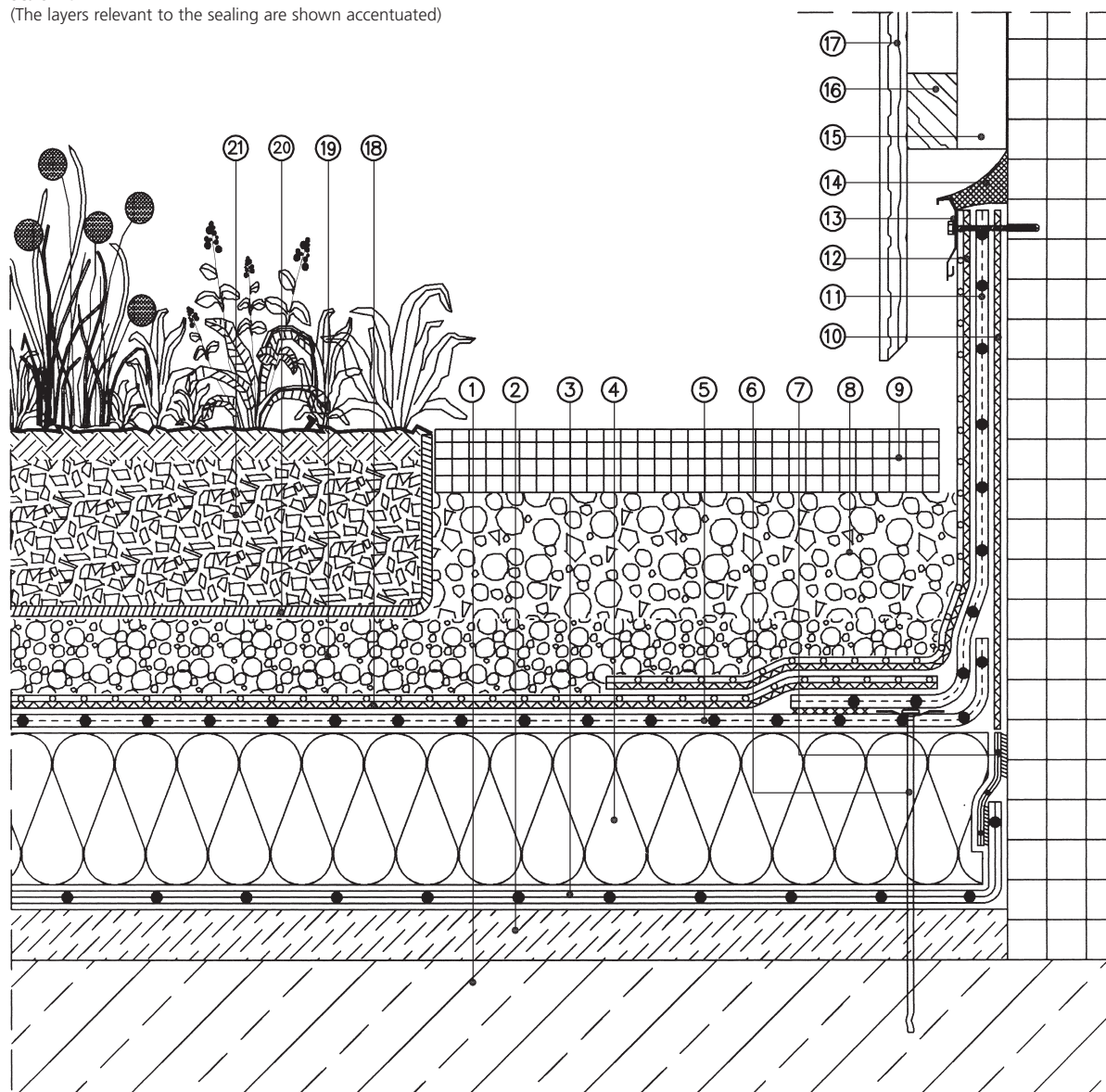


- |   |   |
|---|---|
| ① Reinforced concrete                                 | ⑧ Rhepanol hg flashing strip                                      |
| ② FDT vapour control layer fk                         | ⑨ Capping   |
| ③ Thermal insulation layer (EPS)                      | ⑩ Treated timber profile (salt based)                             |
| ④ Roofing membrane Rhepanol hg 1.8 mm                 | ⑪ Thermal insulation  |
| ⑤ Perimeter fixing with single fasteners              | ⑫ Paving slabs in gravel bed                                      |
| ⑥ FDT sealing tape for<br>FDT vapour control layer fk | ⑬ Drainage and filter layer,<br>at the same time protection layer |
| ⑦ Vertical insulation                                 | ⑭ Vegetation mat  |



## Wall connection Non ventilated roof

Scale 1:5  
(The layers relevant to the sealing are shown accentuated)



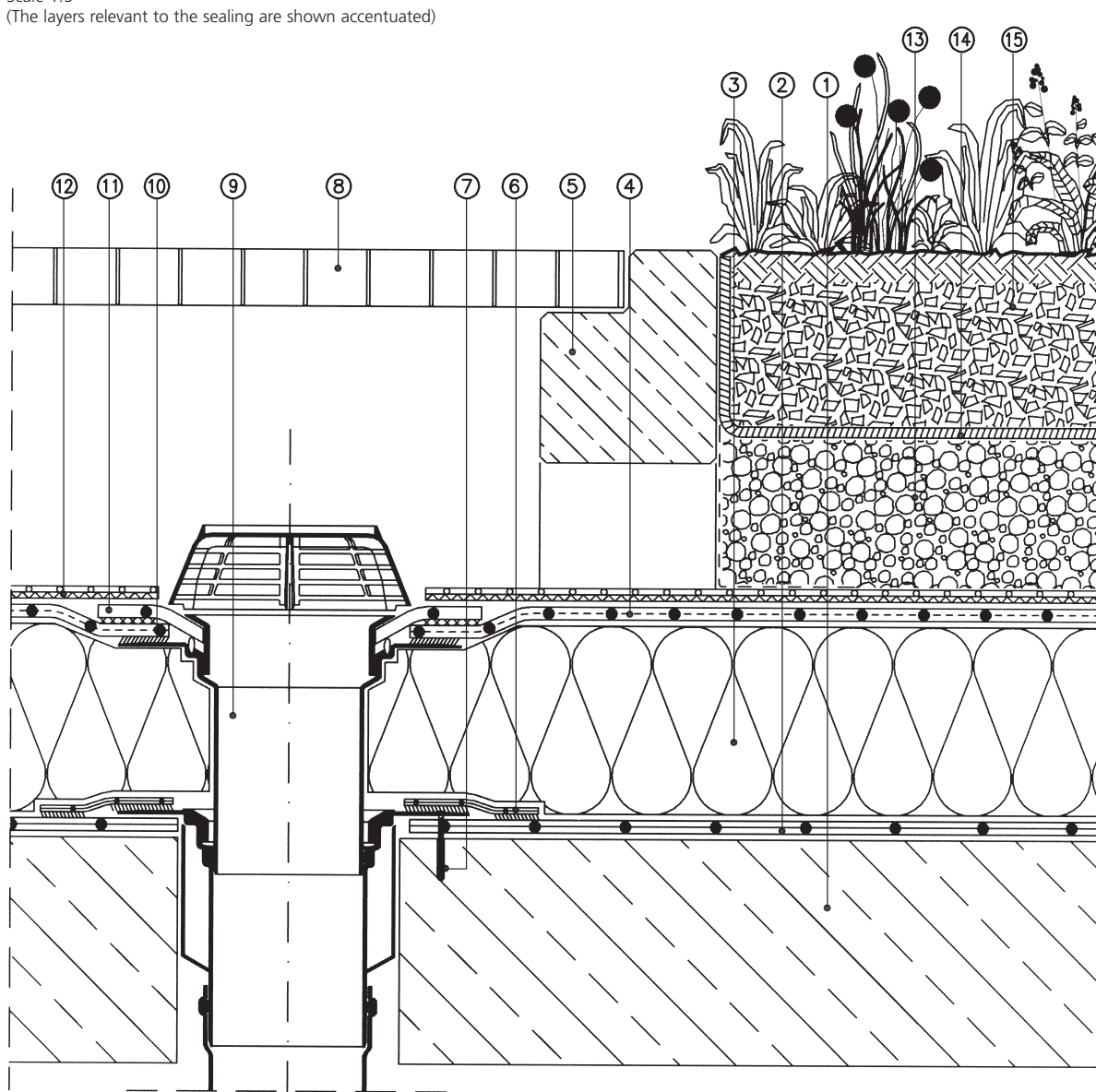
- |  |  |                        |
|--|--|------------------------|
| ① Reinforced concrete                              | ⑧ Gravel bed   | ⑮ Lathing              |
| ② Concrete to falls                                | ⑨ Paving slabs   | ⑯ Cladding support     |
| ③ FDT vapour control layer fk                      | ⑩ Protection layer FDT synthetic fleece 300 g/m <sup>2</sup> as required | ⑰ Cladding             |
| ④ Thermal insulation layer (EPS)                   | ⑪ Rhepanol hg flashing strip   | ⑱ FDT protection layer |
| ⑤ Roofing membrane Rhepanol hg 1.8 mm              | ⑫ FDT protection layer   | ⑲ Drainage layer       |
| ⑥ Perimeter fixing with single fasteners           | ⑬ FDT wall connection profile  | ⑳ Filter layer         |
| ⑦ FDT sealing tape for FDT vapour control layer fk | ⑭ FDT sealant A  | ㉑ Vegetation mat       |



## Rainwater outlet with concrete ring

### Non ventilated roof

Scale 1:5  
(The layers relevant to the sealing are shown accentuated)



- |  |   |
|--|---|
| ① Reinforced concrete                              | ⑧ Grating   |
| ② FDT vapour control layer fk                      | ⑨ FDT VarioGully                                    |
| ③ Thermal insulation layer (EPS)                   | ⑩ Adhesive bond with Rhepanol h contact adhesive 50 |
| ④ Roofing membrane Rhepanol hg 1.8 mm              | ⑪ Rhepanol h collar                                 |
| ⑤ Concrete ring                                    | ⑫ FDT protection layer                              |
| ⑥ FDT sealing tape for FDT vapour control layer fk | ⑬ Drainage layer                                    |
| ⑦ FDT rainwater outlet fixing (4 fasteners/outlet) | ⑭ Filter layer                                      |
|  | ⑮ Vegetation mat                                    |



**Data sheets**

**Product information**

**Accessories**





## Roofing membrane Rhepanol® hg

### Rhepanol hg

#### Sealing in loose-laid layer build-ups with ballast with roof garden system.

Rhepanol hg, like Rhepanol fk, is based on polyisobutylene (PIB) and, as regards the material, also meets the requirements of DIN 16731 and DIN 20000-201. The only difference is that Rhepanol hg is not reinforced with a fleece backing but with a central glass fleece reinforcement.

Furthermore, Rhepanol hg is optimised for hot air application. So for joining the seams only hot air welding is used.

Owing to the outstanding material characteristics, roofing membranes Rhepanol hg are suitable for single-ply application.

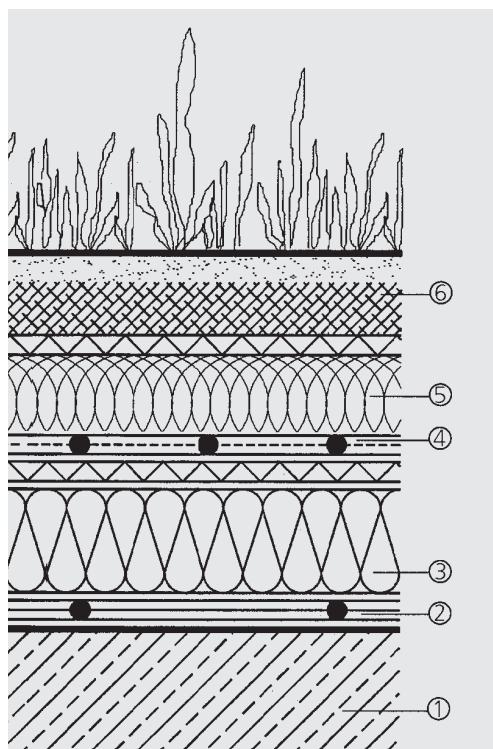
Finally, Rhepanol hg is a CE marked water proofing membrane according to the standards EN 13956 and EN 13967.

### Quality assurance

Rhepanol hg is subject to constant in-house and external quality control. The in-house quality assurance system for the whole company has been certified according to DIN EN ISO 9001, the world's most strict quality standard, and is constantly monitored by TÜV CERT.

### Range of application

Rhepanol hg is used as a roof sealing in loose-laid layer build-ups with ballast, with roof garden system.



*Example:  
Extensive roof garden, sealed with  
Rhepanol hg, loose-laid with ballast.*

### Material properties

- Long-term proven material polyisobutylene (PIB).  
A roofing membrane following the DIN 16731 and DIN 20000-201 according to the General Building Construction Supervision Test Certificate ABP-Nr.: P-K 010/01.05 MPA Darmstadt.
- Compatible with bitumen.
- A roofing membrane for roof gardens according to the FLL Guideline.
- Highly resistant to perforation.
- Certified in a life cycle assessment according to DIN EN ISO 14040 ff.
- Free from plasticizers and halogen fire-proofing agents.
- Permanently resistant to UV radiation.
- Hail-resistant according to SIA 280.
- Compatible with all kinds of insulation materials.
- Flexible at temperatures as low as - 60 °C
- Hot air weldable.
- Dimensionally stable due to the glass fleece reinforcement.
- Application without open flame.
- Compatible with Rhepanol fk and the self-sealing edge system.

- ① Reinforced concrete
- ② FDT vapour control layer fk
- ③ Thermal insulation layer
- ④ Roofing membrane Rhepanol hg 1.5 mm/1.8 mm
- ⑤ Drainage and filter layer, at the same time protection layer
- ⑥ Vegetation mat



# Roofing membrane Rhepanol® hg

## Physical data

Properties	EN standard	Value	Unit
Water tightness	EN 1928	≥ 400	kPa
Joint shear resistance	EN 12317-2	≥ 200	N/50 mm
Tensile strength	EN 12311-2 (A)	≥ 4	N/50 mm
	EN 12311-2 (B)		N/mm²
Elongation	EN 12311-2 (A)	≥ 400	%
	EN 12311-2 (B)		%
Resistance to static load	EN 12730 (B)	20	kg
Tear resistance	EN 12310-1	≥ 250	N
	EN 12310-2		N
Resistance to root penetration; FLL testing	EN 13948	passed	
Foldability at low temperatures	EN 495-5	- 60	°C
Exposure to bitumen	EN 1548	passed	
Reaction to fire	EN 13501-1	class E	
Durability of water tightness against ageing	EN 1296	passed	
	EN 1928		
Durability of water tightness against chemicals	EN 1847	passed	
	EN 1928		

## Forms of supply

Material	Colour	Thickness	Width	Lenght	Weight
		mm	m	m	kg/m²
Rhepanol hg 1.5	grey	1.5	2.05	15	1.70
Rhepanol hg 1.8	grey	1.8	2.05	15	2.05



Product name	Properties	Range of application
Rhepanol h	Colour grey/black	Roofing membrane for detail work
FDT protection layer	Colour black	Synthetic membrane made of PIB, with polyester fleece backing as a highly perforation-resistant protection layer.
FDT adhesive tape	Special coated adhesive tape	For forming joints at Rhepanol laminated metal sheets and for covering of edges when flashing to the membrane with cover tape. This adhesive tape will not stick to the self-sealing edge material of the cover tape.
Rhepanol h seam cleaner	Solvent mixture	For cleaning the seams.
Rhepanol h intensive cleaner 50	Solvent mixture	For cleaning highly soiled Rhepanol hg areas. For diluting Rhepanol h contact adhesive 50.
FDT cleaning kit		For cleaning seams with Rhepanol h seam cleaner and for cleaning Rhepanol hg areas with Rhepanol h intensive cleaner 50. The cleaning kit contains 150 absorbent cleansing tissues and 100 disposable PE gloves.
Rhepanol h contact adhesive 50	Synthetic rubber based contact adhesive	For bonding Rhepanol h/hg roofing membranes to concrete, timber, polyester, steel etc. Not suitable for bonding to polystyrene.
Rhepanol laminated metal sheet		Hot galvanized metal sheet laminated with Rhepanol h and a varnish backing. For forming profiles for flashings and cappings and fixings. To be cut and bent like galvanized metal sheets.
Rhepanol h internal corner 90°	Preformed detail	For sealing internal corners at roofing membranes Rhepanol hg.
Rhepanol h external corner 90°	Preformed detail	For sealing external corners at roofing membranes Rhepanol hg.



Product name	Properties	Range of application
<b>Rhepanol h rooflight corner</b>	Preformed detail	For sealing rooflight corners at roofing membranes Rhepanol hg.
<b>Rhepanol h rainwater outlet collar</b>	Preformed detail	For reliable flashing of Rhepanol hg roofing membranes to the FDT VarioGully.
<b>Rhepanol h universal collar</b>	Preformed detail	For built-in details and roof penetrations at roofing membranes Rhepanol hg, diameter 340 mm.
<b>Rhepanol h collar loose/fixed flange</b>	Preformed detail	For all standard rainwater outlets with bolt connection (6 or 8 holes). When ordering please indicate the exact type and manufacturer of the rainwater outlet. Installation is possible only with framing rings and according to the respective manufacturer's instructions.
<b>FDT EPDM framing ring</b>	Preformed detail	For flashing to loose/fixed flange rainwater outlets at roofing membranes Rhepanol hg. A set consists of 4 framing rings per outlet.
<b>FDT Teflon pressure roller</b>	30 mm wide.	For rolling on Rhepanol h preformed details and Rhepanol hg membrane seams during hot air welding.
<b>Rhepanol h flat roof vent pipe DN 100</b>	Made of rigid PVC with increased impact strength.	With removable cap and bearing ring. Ready for installation with integrated collar.
<b>Rhepanol h cold roof vent DN 100</b>	Made of rigid PVC with increased impact strength.	Vent cross section of 88 cm <sup>2</sup> . Weather cap can be removed for maintenance. Ready for installation with integrated collar.
<b>Rhepanol h refurbishment vent pipe for DN 100</b>	Made of rigid PVC with increased impact strength.	With removable cap and ready-to-install integrated collar. For flashing to vents (pipe diameter DN 100) in the case of roof refurbishment with Rhepanol hg.
<b>Rhepanol h lightning conductor sleeve</b>	Preformed detail made of PP.	For flashing against lightning protectors and for penetrations up to Ø 51 mm or as water spout and emergency outlet with connection to DN 50.



Product name	Properties	Range of application
FDT gravel stop profile package	Stainless steel gravel stop profile	The FDT holders are fixed to the sealing with a Rhepanol h roofing membrane. The stainless steel clamp serves as a joint connection and for stiffening the gravel stop profile above the holder. At slopes exceeding 5°, application should be agreed with our experts.

The packages can be complemented by the following items as required

FDT holders and clamps	Stainless steel.	
FDT gravel stop profile	2 m Stainless steel.	
FDT internal corner for gravel stop profile	Stainless steel.	For inserting the FDT gravel stop profile.
FDT external corner for gravel stop profile	Stainless steel.	For inserting the FDT gravel stop profile.





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