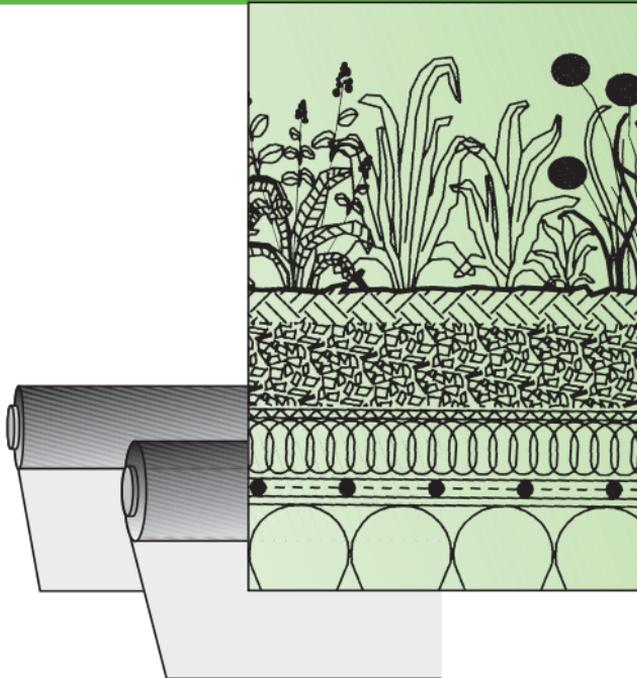




Application manual

Rhepanol® hg



U 2 vakat

Contents

Page

Introduction	5
Product information/range of application	7
Material properties/storage	8

Part A

A

Sealing the roof area with Rhepanol hg	9
Application of the roofing membranes	10
Sealing the seams by hot-air welding	11
Flashing to long-term weathered and heavily soiled roofing membranes	15

Part B

B

Flashings and cappings with Rhepanol hg	16
General information on flashings and cappings	17
Wall flashing	19
Parapet/FDT aluminium roof edge trim	20
Parapet/Rhepanol laminated metal sheet	21
Gutter flashing	24
Internal corners	25
External corners	27

Rooflight flashing	29
FDT flat roof elements with collars	33
FDT flat roof vent pipe DN 100	34
FDT refurbishment vent pipe DN 100	35
FDT cold roof vent DN 100	36
FDT lightning conductor socket	37
FDT rainwater outlets (RWE), through wall outlets, weir overflows	38
Pipe flashing	39
FDT gravel stop profile	42

C

Part C

Product range, form of supply, tools, accessories	47
--	----

Recycling of polymeric roofing membranes	60
---	----

Basic and advanced training	61
------------------------------------	----

Notes	62
--------------	----

Introduction

Application manual for Rhepanol® hg

This application manual contains the basic rules for working with the Rhepanol hg roofing membranes. The Guidelines for the Design and Application of waterproofing - Flat Roof Guidelines - of the International Federation for the Roofing Trade (IFD) are considered. Project-related, detailed solutions are provided by our specialists.

Requirements for correct application:

- Clean, dry and even roof surfaces.
- Substrates must be smooth, free from concrete nibs and sharp projections (e. g. chippings).
- Joints have to be formed according to requirements, as their width or movements may impede the performance of the roof seal.

- Materials containing tar or solvents must not come in contact with Rhepanol hg roofing membranes.

- If it comes into contact with fresh bitumen the colour of the roofing membrane may change; however, this will not impede its functional efficiency.

- Labour standards and safety regulations must be adhered to, if necessary, ask for our safety data sheets.

Manufacturer's installation instructions as of September 2008. 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.

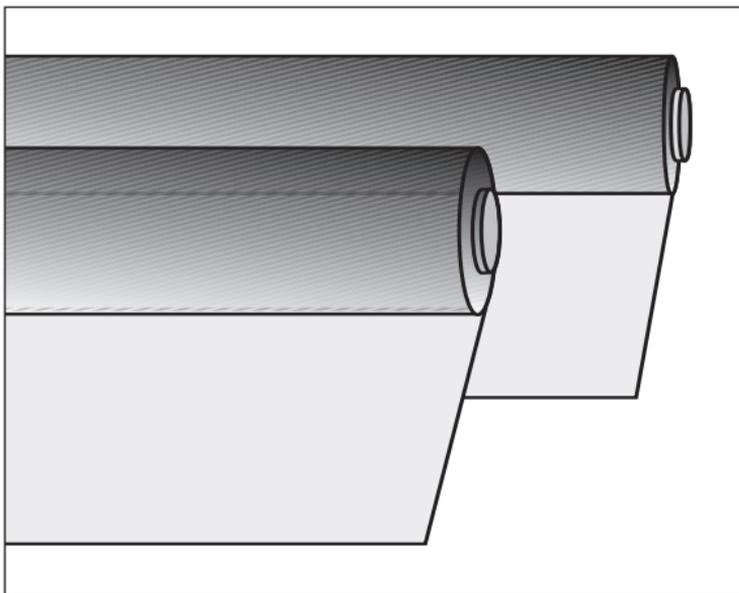
Product information Rhepanol® hg

Rhepanol hg is based on the proven raw material polyisobutylene (PIB). The membranes have a width of 2.05 m, thus ensuring effective application.

Range of application for Rhepanol® hg

Rhepanol hg, the roofing membrane with glass fleece reinforcement, according to DIN 16731 and DIN 20000-201 is used as a roof sealing in loose-laid layer build-ups with ballast, with roof garden systems.

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



Material properties/storage

8

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 green roofs according to the FLL Guidelines.
- Highly resistant to perforation.
- Certified in a life cycle assessment according to DIN EN ISO 14040 ff.
- Free from plasticizers and halogen fire retarder.
- 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.

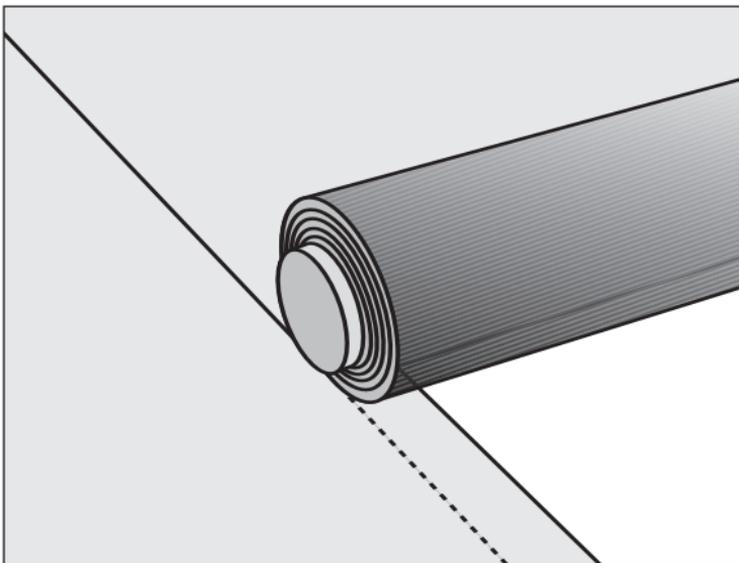
Storage

- Rolls should be stored only horizontally.
- Leave the material in its original packing until used and protect from moisture.
- Unsealed packing unit must be carefully closed, if stored in the open for a longer period.
- Single rolls, pre-formed Rhepanol laminated sheets and accessories should be covered with tarpaulin.

Part A
Sealing the roof area
with Rhepanol® hg

Application of the roofing membranes

- 10**
- Unroll the Rhepanol hg roofing membrane and remove the release paper. Seam overlap 50 mm.
 - During work breaks, the applied roof layers must be secured against wind uplift.
 - Cross joints must be staggered and also overlap by 50 mm.



Sealing the seams by hot-air welding

General information

In setting the welding temperature it is essential not to overheat the material. Welding temperatures, which are too high, will not allow welding.

These areas cannot be even welded afterwards, and have to be redone with a new roofing membrane piece. The overheated section is noticeable once the membrane starts to "gloss".

During the welding the black underlayer will be squeezed out when rolling and will leave black spots on the Teflon roller and roofing membrane.

Due to these facts please consider the basic adjustments of the welding temperature.

... with the handheld welder and the pressure roller.

■ The basic welding temperature is 380 °C - 400 °C.

Compared to the welding machine, the welding temperature of the handheld welder is slightly lower in order to work more precisely at details like corners.

The welder must be held under the seam so that the edge of the nozzle projects approx. 3 mm from the edge of the seam.

Sealing the seams by hot-air welding

12

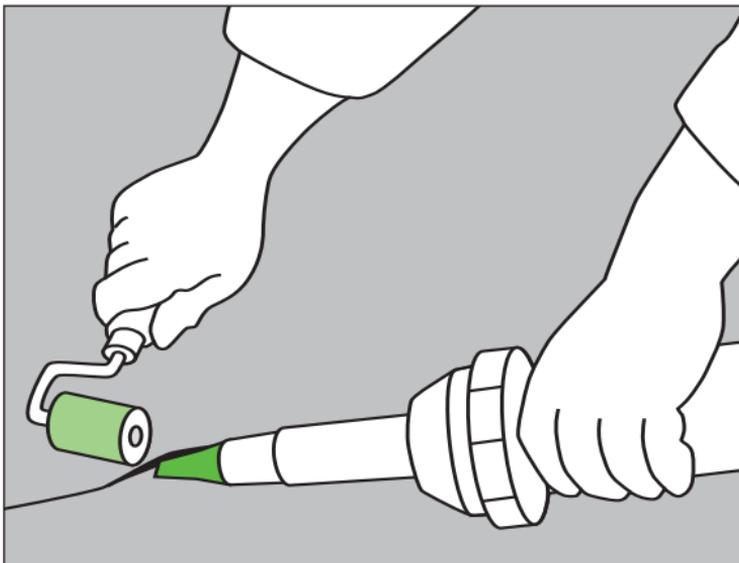
... with the handheld welder and the pressure roller.

With the continuously adjustable, handheld, hot-air welder with a 40 mm nozzle (industrial hot-air welder) the seam areas are evenly heated and immediately closed with the FDT Teflon pressure roller.

■ **Before welding always clean the seams on both sides with cleaning tissues and Rhepanol h seam cleaner.**

■ The seam must be formed with a welding width of min. 30 mm. To keep the roofing membranes in place, the membrane seams should be tacked with slight pressure (not welded!) at the back of the overlap.

■ In general, particularly when using welding equipment without permanent temperature indication, the seam quality must be controlled by test welds.



Sealing the seams by hot-air welding

...with the welding machine

**The basic welding
temperature is ~ 450 °C
and the welding speed is
3.5m/min.**

The correct settings should be checked by performing test welds before starting to work. Since the nozzle in the rear area of the seam is slightly pressed to the lower membrane when welding with the welding machine, the welding results will always be sufficient in that area, which is not necessarily true for the front area. Therefore the weld sample must be taken parallel to the seam and must be checked also at the front area of the seam. In peeling tests, at welding level, the cooled-down weld seam must not peel. Either the membrane material must tear or the lamination joint must unravel. The hot-air welding machines, which are manually operated in the welding direction, are mainly used for sealing membrane seams of larger roof areas.

As for reliable sealing of the seams, the same requirements as for manual welding apply, tacking is not necessary (s. pages 9/10).

Note:

When starting the machine, a function test must be carried out! **Permanently monitor the welding process!** In case of uneven substrates, the machine must be guided on rigid compensation strips (e.g. aluminium sheets), which are alternately placed along the seam.

Thus perpendicular bulges are avoided and a smooth weld without beads is ensured.

Sealing the seams by hot-air welding

14

If flashings are carried out at Rhepanol roofing membranes or Rhepanol laminated metal sheets these welding areas must also be cleaned prior to further processing.

- Clean them with a cleansing tissue that has been moistened with Rhepanol h seam cleaner.
- Allow the cleaner to evaporate before hot-air welding.
- Check all seam edges.

Note:

With Rhepanol hg solvent welding **is not possible**.

- **T-joints** should be secured by slightly melting and chamfering the centre membrane edge, thus preventing capillary action. Avoid overheating any surfaces.
- In case of ash build-up, the metal nozzle should be cleaned with a wire brush or with scissors.
- To produce a secure weld, the following should be observed: The seam areas must be clean and dry.

Note:

If Rhepanol hg roofing membranes are to be flashed to built-in details made of polypropylene, the reliability of such a connection must be checked by test welding. The areas to be welded must also be cleaned with Rhepanol h seam cleaner.

Flashing to long-term weathered and heavily soiled roofing membranes

■ Wipe off loose dirt (drilling dust, bitumen residues etc.), depending on the type of dirt clean first with water then detergent, if required, and allow the surface to dry.

■ Thoroughly clean the soiled/weathered area from one side with Rhepanol h intensive cleaner 50 and a fresh cleansing tissue. Frequently change cleansing tissue. Dry the area and allow approx. **1 hour for evaporation.**

■ Then quickly clean the seam with Rhepanol h seam cleaner and weld it.

Note:

- When handling cleaning agents, thinners etc. we recommend wearing the enclosed protective gloves.
- Cleaning agents/solvents will corrode polystyrene insulation materials, so avoid any contact.
- Cleaning will be less time-consuming if the new roofing membrane to be flashed is pushed under the old membrane.
- Always use separate cleansing tissues for Rhepanol h intensive cleaner 50.

B**Part B
Flashings and cappings
with Rhepanol® hg**

General information on flashings and cappings

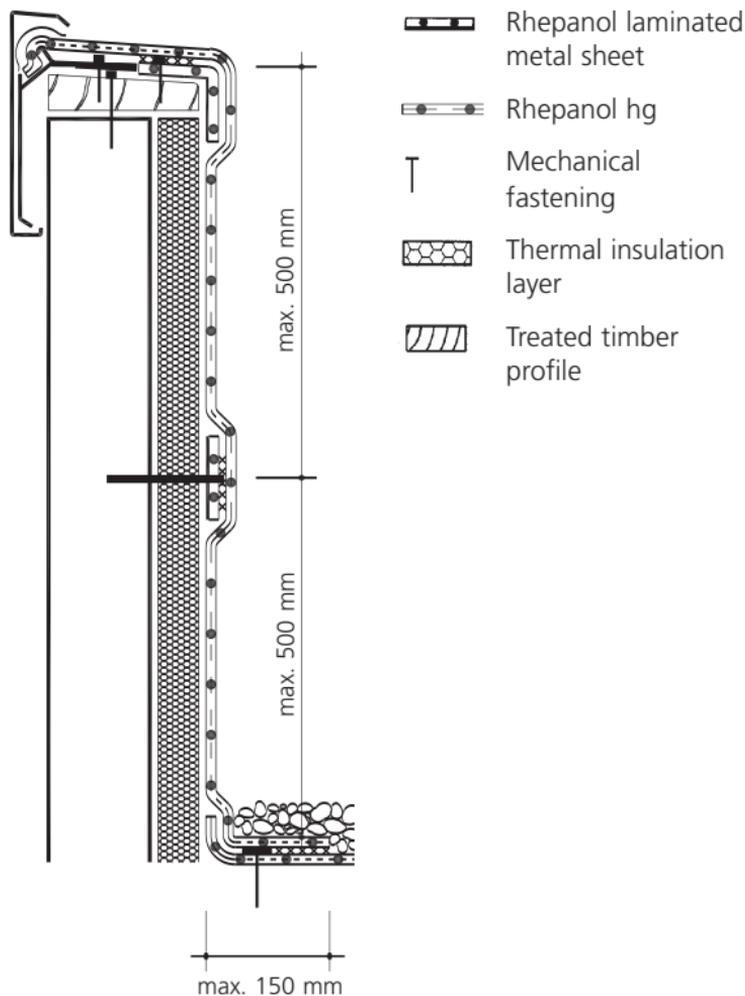
The performance of flat roofs depends to a large degree on the functional reliability of flashings and cappings.

Special attention has to be paid to the following points:

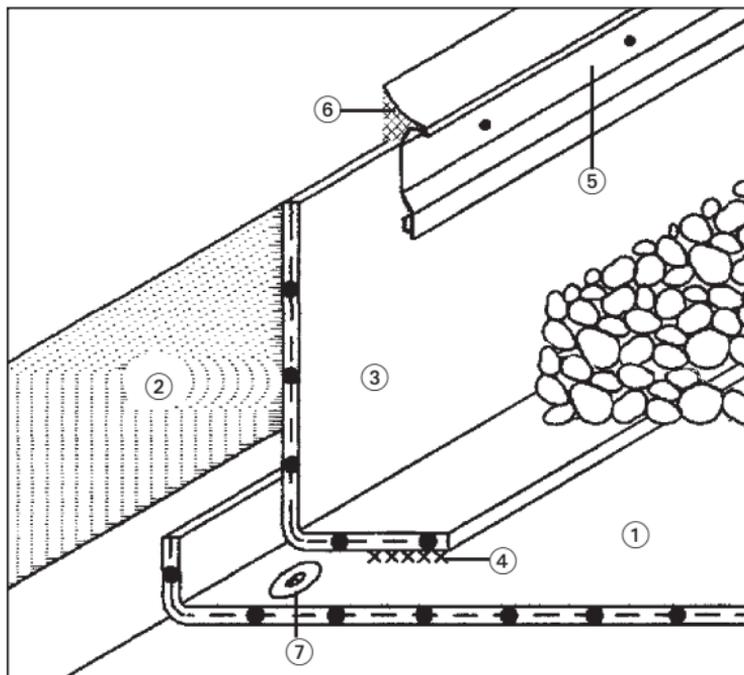
- Rhepanol hg roofing membranes must always be fixed at all roof perimeters, flashings, roof penetrations and valleys.
 - Sealings of flashings and cappings must be **secured against wind** intrusion by bonding, clamping or full-size fastening.
 - The flashing strips must be properly fixed. If the connecting membrane is bonded with Rhepanol contact adhesive 50, then at flashing heights over 200 mm a full-size adhesive bonding is necessary. Valley areas are left unbonded at a width of 200 mm to allow movement compensation.
- In case of 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 linear fastenings must not exceed 500 mm (the whole roll out length is considered). Rhepanol laminated metal sheets for intermediate fixing should be at least 5 cm wide.
- You can leave out separation layers at the flashing area, if the substrate is smooth and even and edges are specially protected (e. g. with angles of Rhepanol laminated metal sheets or with synthetic fleece 300 g/m²).
 - **If materials are incompatible, suitable separation layers are obligatory.**

General information on flashings and cappings

18



Wall flashing

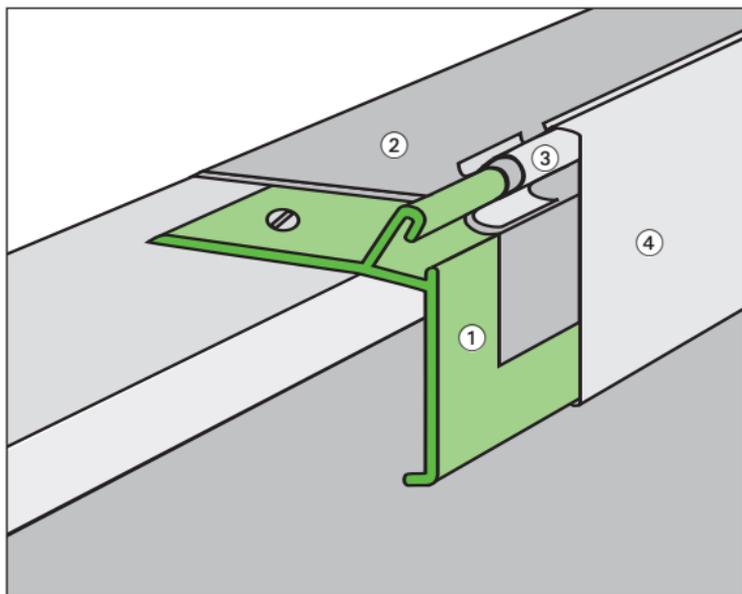


- ① Rhepanol hg
- ② Rhepanol contact adhesive 50
- ③ Rhepanol hg flashing strip
- ④ Welded seam
- ⑤ FDT aluminium wall connection profile Classic
- ⑥ FDT sealant A or S
- ⑦ Perimeter fixing with single fasteners

Parapet/FDT aluminium roof edge trim

20

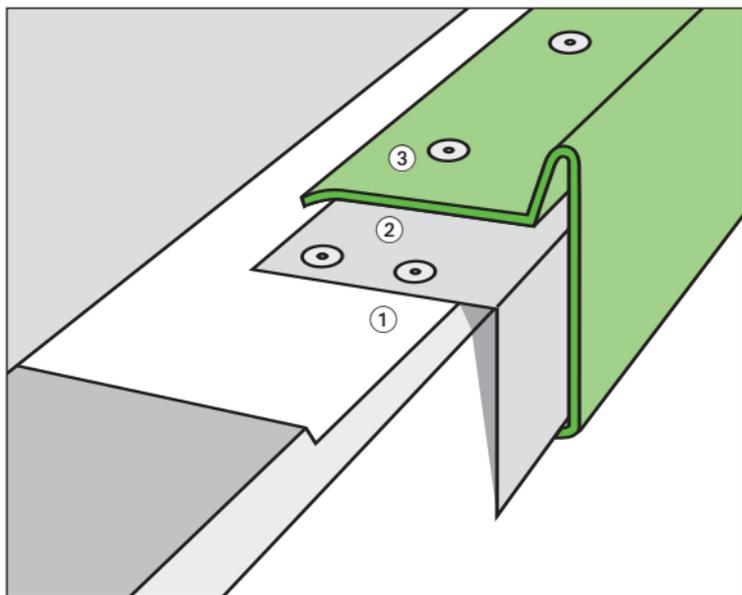
- ① Mounting rail, fastened every 300 mm
- ② Rhepanol hg flashing strip, clamped in the FDT aluminium roof edge trim
- ③ Plastic clamps every 150 mm
- ④ Fascia panel



Parapet/Rhepanol laminated metal sheet

- ① FDT synthetic fleece
300 g/m²
- ② Galvanized steel stiffeners, 1.2 mm thick, at the joint area of the sheets, applied with a 4 mm clearance.
- ③ Fasten the bent and de-burred Rhepanol laminated metal sheets with body-bound rivets 4.8/26 mm at a spacing of 150 mm in a staggered pattern.

For wind uplift or stiffness reasons, additional stiffeners or continuous stiffening profiles should be installed.



Parapet/Rhepanol laminated metal sheet

22

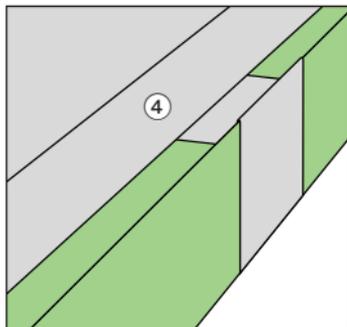
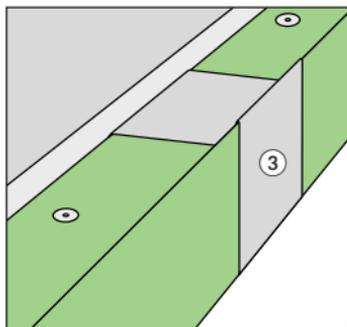
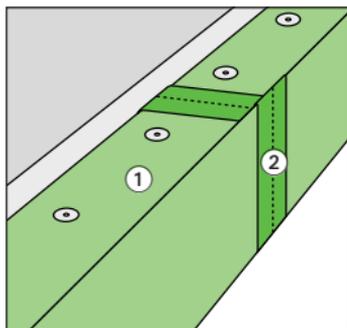
■ Rhepanol laminated metal sheets (de-burred cut edges) are applied with a clearance of 4 mm (profile length max. 2.00 m). With profile lengths exceeding 2.00 m, the joint clearance must be 10 mm.

■ Cover the joint area with FDT adhesive tape (upper figure).

■ Afterwards, a 150 mm wide Rhepanol h strip is applied which is homogeneously welded with hot air (centre figure). Chamfer membrane edge at T-joints.

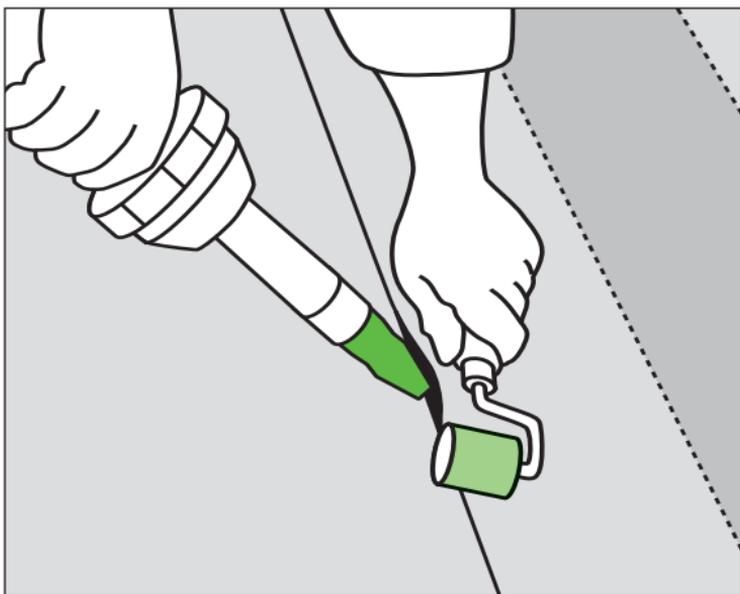
■ Weld on flashing strip.

- ① Rhepanol laminated metal sheet
- ② FDT adhesive tape
- ③ Rhepanol h strips for joint forming
- ④ Rhepanol h or hg flashing strip



Parapet/Rhepanol laminated metal sheet

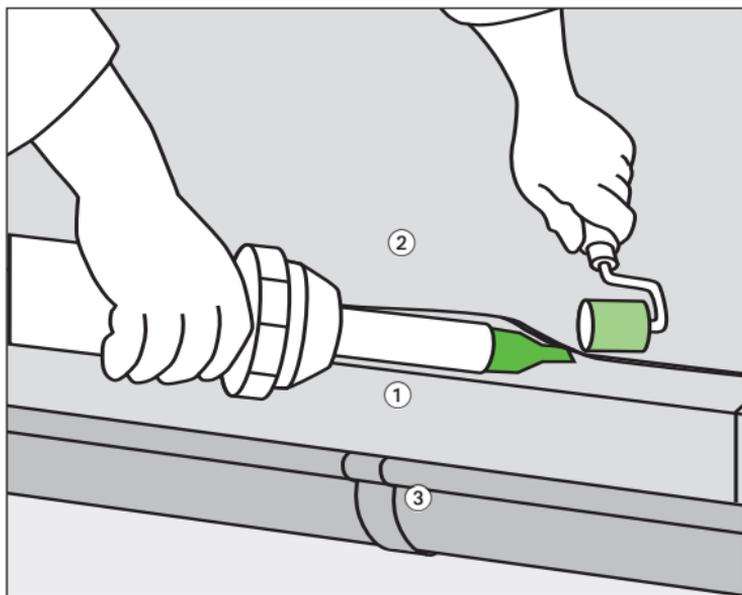
- Welding the Rhepanol hg flashing strip to the roofing membrane with the handheld hot-air welder or the welding machine.



Gutter flashing

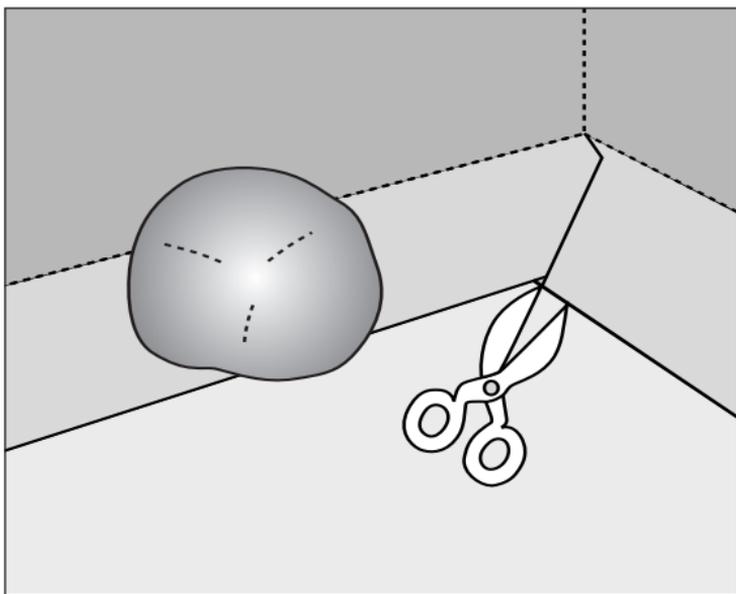
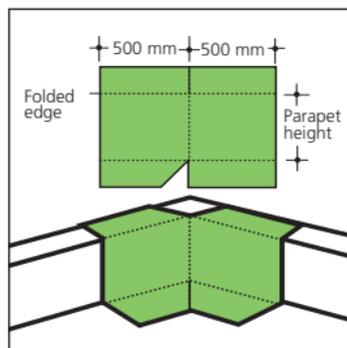
24

- ① Rhepanol laminated metal sheet as drip angle
 - ② Roofing membrane Rhepanol hg
 - ③ Bracket-mounted gutter
- Steel drip angle joint see page 20.



Internal corners

- Cut the flashing strip Rhepanol hg at right angle and cut off the overlap to the corner.
- Clean the seams with Rhepanol h seam cleaner.
- Weld the seams and chamfer at T-joint area (green circles see sketch page 24).
- Weld in the Rhepanol h internal corners.

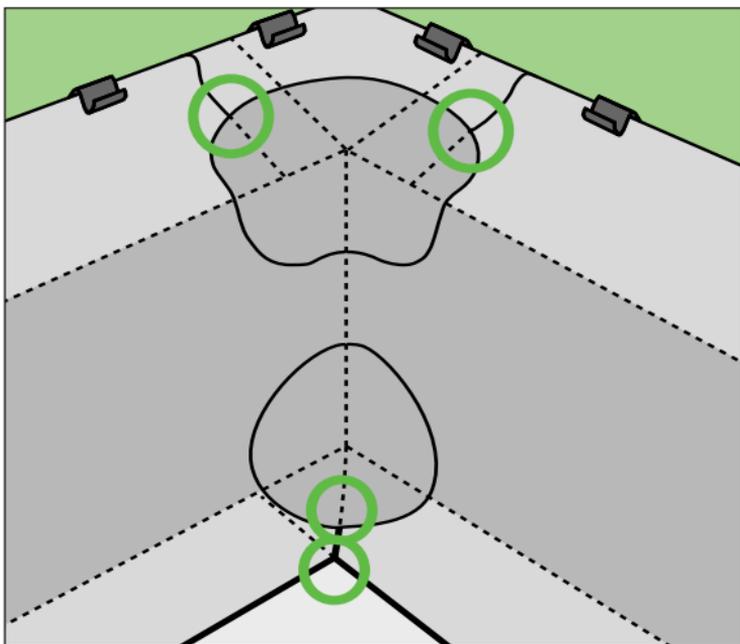


Internal corners

26

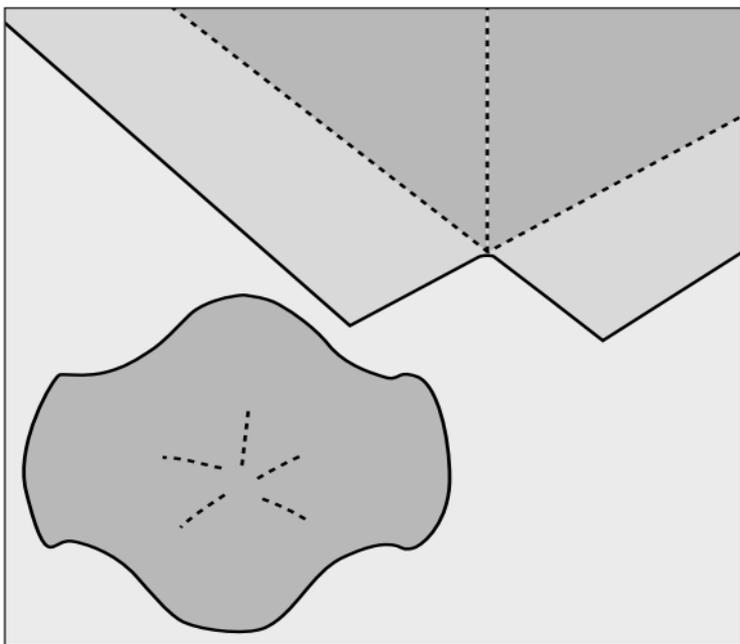
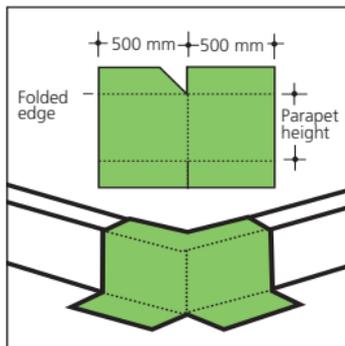
Upper trim of the parapet completed with cut-to-size Rhepanol h or hg and Rhepanol h external corner 90°.

- Check all seam edges.



External corners

- Cut the Rhepanol hg flashing strip to size.
- Clean the seams with Rhepanol h seam cleaner.
- Weld all seams and chamfer T-joint area (green circles see sketch page 26).
- Weld in the Rhepanol h external corners.

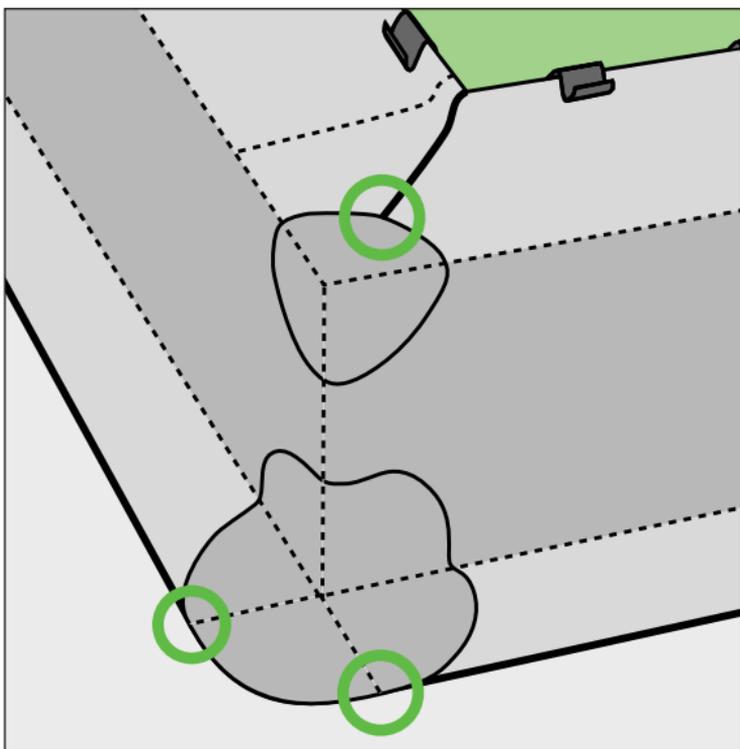


External Corners

28

Upper trim of the parapet completed with prefabricated Rhepanol h internal corner.

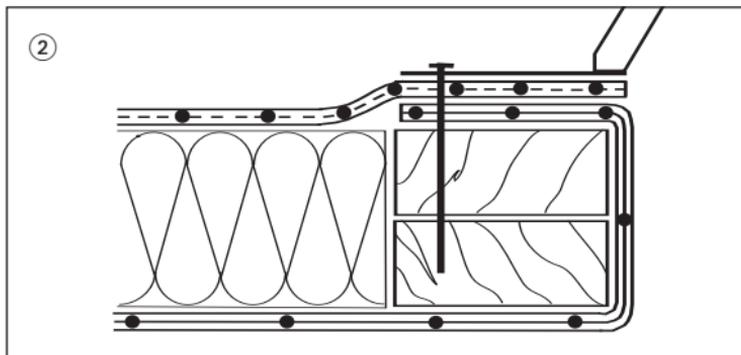
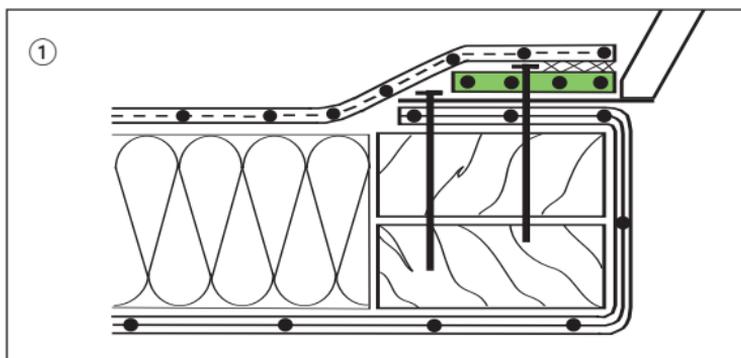
- Check all seam edges.



Rooflight flashing

- Fix the roofing membranes Rhepanol hg at roof level on strips of Rhepanol laminated metal sheet ①.

Alternatively, fixing can also be carried out with single fasteners ②.

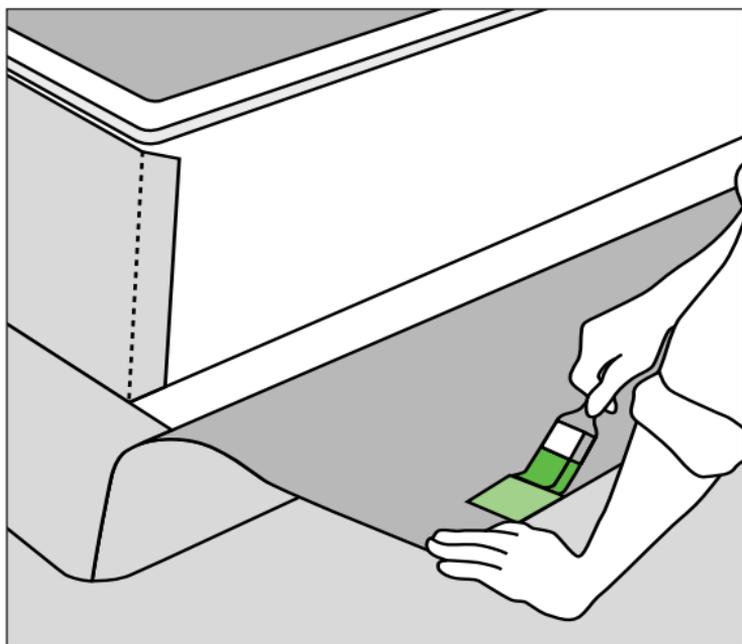
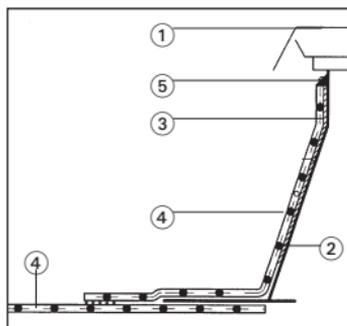


Rooflight flashing

30

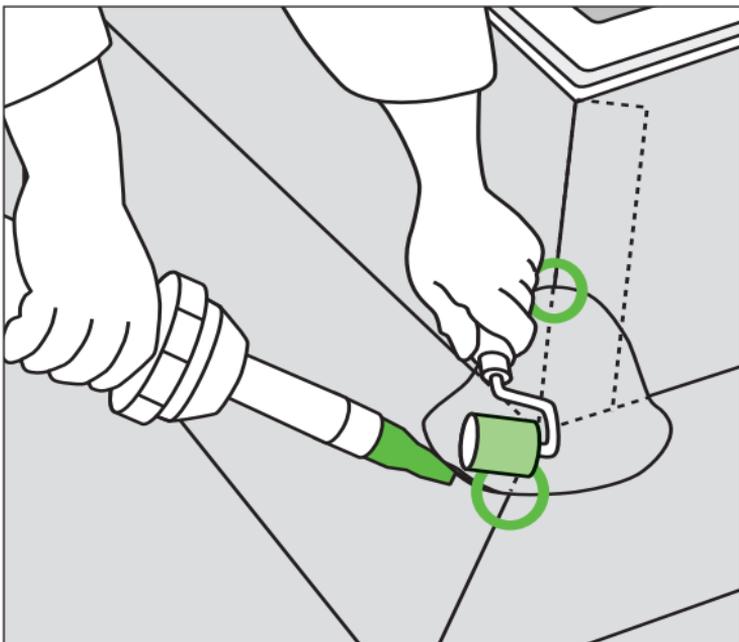
■ Bond the Rhepanol h or hg flashing strip with Rhepanol contact adhesive 50 to the rooflight upstand.

- ① Rooflight
- ② Upstand
- ③ Rhepanol contact adhesive 50
- ④ Rhepanol hg
- ⑤ FDT sealant S



Rooflight flashing

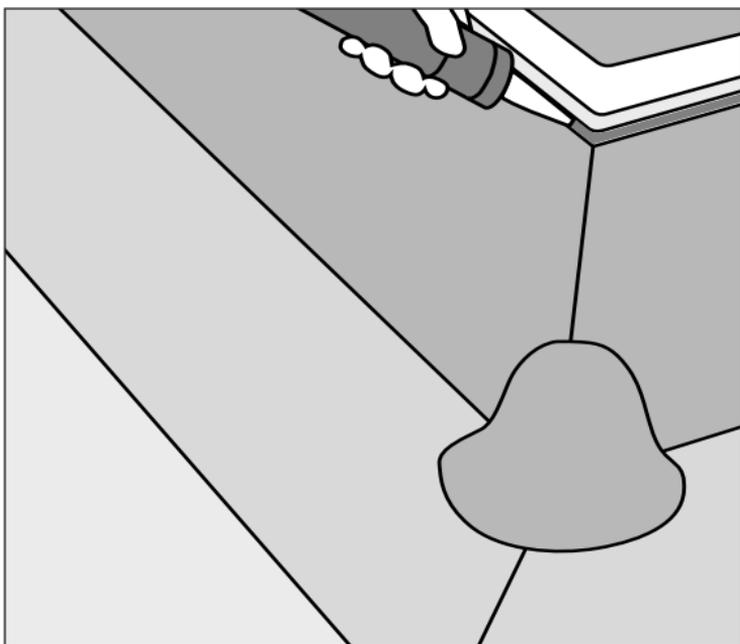
- Weld the Rhepanol h or hg flashing strip to the roofing membrane.
- Weld the overlapping seams of the flashing strips, chamfer the T-joints (green circles see sketch) and weld on the Rhepanol h rooflight corner.



Rooflight flashing

32

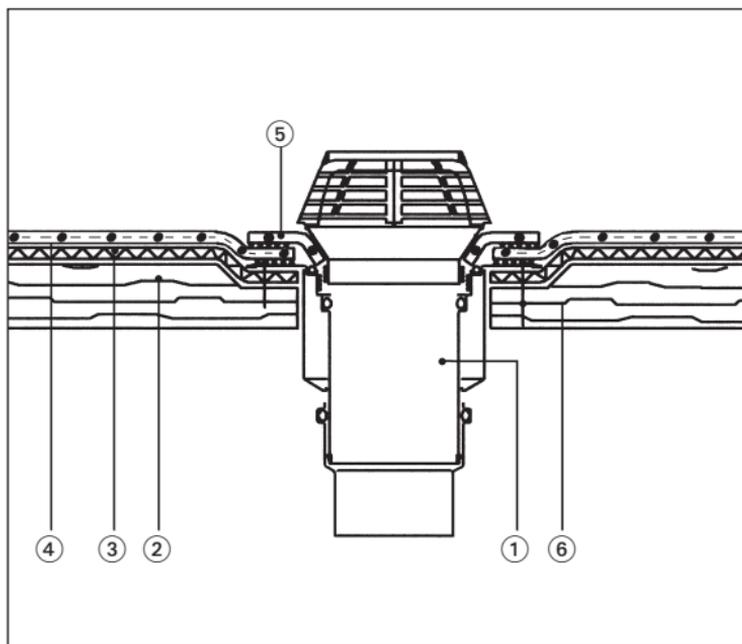
- Seal the upper edge with FDT sealant S.



FDT flat roof elements with collars

Rhepanol hg roofing membranes are fixed with a Rhepanol laminated metal sheet or bonded to the flange with Rhepanol contact adhesive 50.

- ① FDT VarioGully
- ② Supporting deck
- ③ Separation layer
- ④ Rhepanol hg roofing membrane bonded to the rainwater outlet flange
- ⑤ rainwater outlet collar welded to Rhepanol hg
- ⑥ Rainwater outlet fastening (4 or 3 fasteners/outlet)



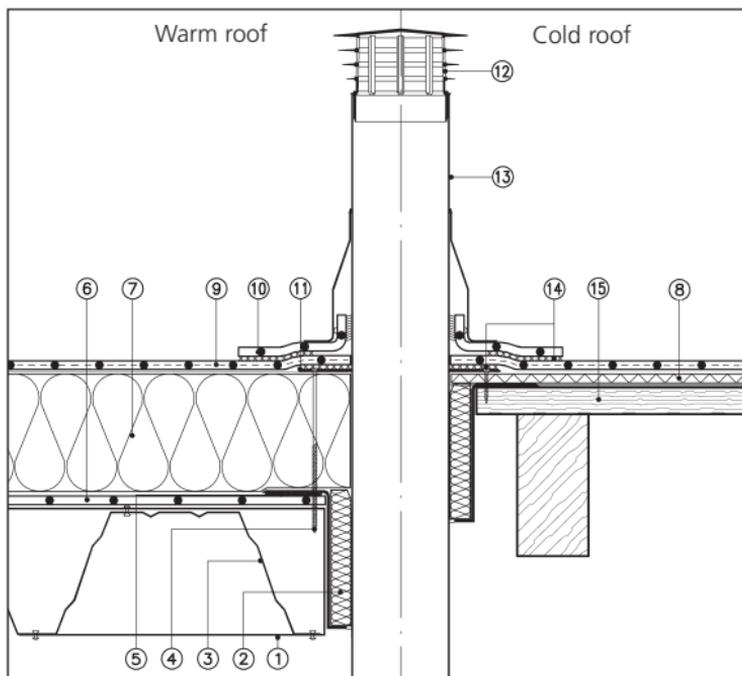
FDT flat roof vent pipe DN 100

34

FDT flat roof vent pipe DN 100

Roof penetration: Ø 190 mm

- ① Edge angle
- ② Penetration curb with insulation sleeve
- ③ Profiled steel decking, corrosion protected
- ④ Mechanical fastening
- ⑤ Rhepanol sealing tape
- ⑥ Air and vapour control layer
- ⑦ Thermal insulation layer
- ⑧ Separation layer
- ⑨ Roofing membrane Rhepanol hg
- ⑩ Rhepanol h collar welded to the roofing membrane
- ⑪ Bearing ring
- ⑫ Vent pipe cowl, removable
- ⑬ FDT flat roof vent pipe
- ⑭ Contact bonding with Rhepanol contact adhesive 50
- ⑮ Roof boarding

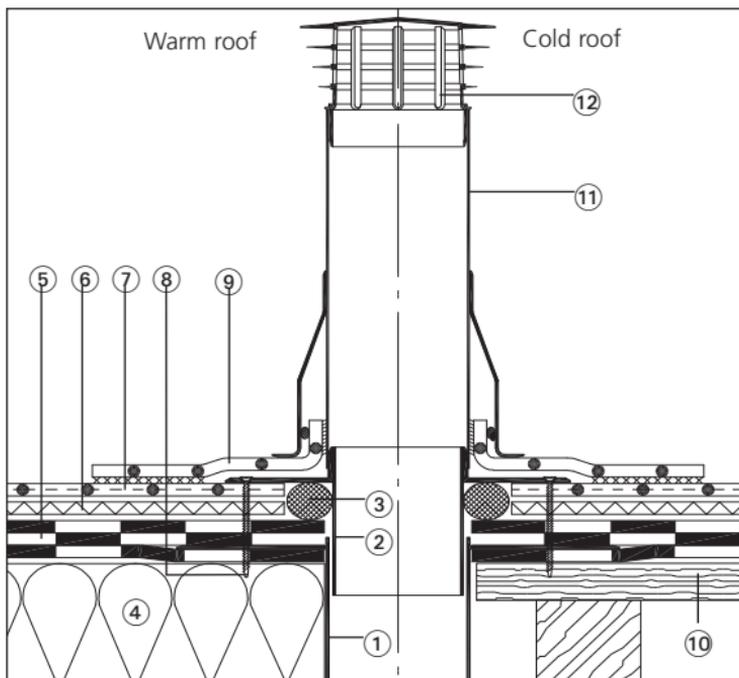


FDT refurbishment vent pipe for DN 100

FDT refurbishment vent pipe for DN 100

for flashing to existing vents.

- ① Old vent pipe, cut flush at the old roof area
- ② Pipe socket at Rhepanol h refurbishment vent pipe
- ③ FDT sealant S
- ④ Thermal insulation layer
- ⑤ Old roof covering
- ⑥ FDT synthetic fleece 300 g/m²
- ⑦ Roofing membrane Rhepanol hg
- ⑧ Mechanical fastening of the pipe socket
- ⑨ Rhepanol h collar welded to the roofing membrane
- ⑩ Roof boarding
- ⑪ Rhepanol h refurbishment vent pipe for DN 100
- ⑫ Vent pipe cowl, removable



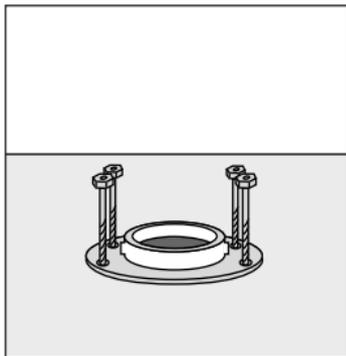
FDT cold roof vent DN 100

36

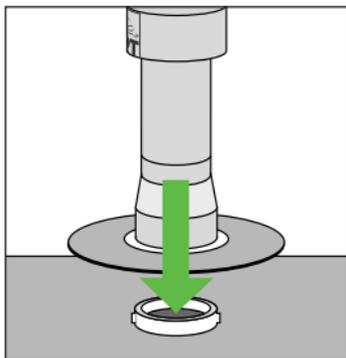
With collar Rhepanol h (watertight under heavy rain)

Roof penetration: Ø 100 mm.

- Install the flange with 4 fastenings. Then apply the roofing membrane Rhepanol hg and bond to the flange with Rhepanol contact adhesive 50.

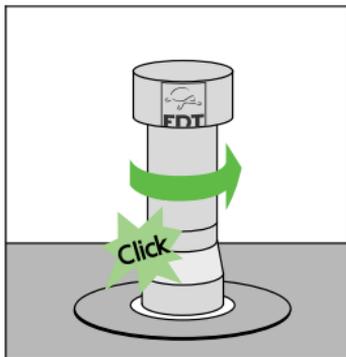


- Put on the FDT cold roof vent DN 100.



- Turn the FDT cold roof vent until it clicks into place.

- Weld the collar to the roofing membrane.

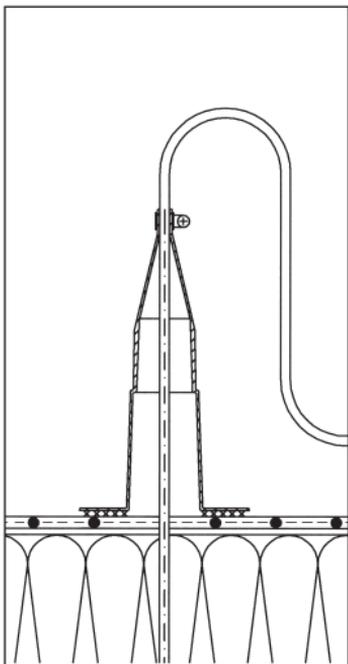


FDT lightning conductor socket

Flashing to the roofing membrane

The FDT lightning conductor socket is directly welded to the Rhepanol hg roofing membrane with its flange (cut off the fastening lug).

Before welding clean the areas with Rhepanol h seam cleaner.



Flashing to lightning protection wire, cable, pipes with 8 mm diameter

Secure the socket with the supplied jubilee clip by squeezing the squeeze point with pliers.

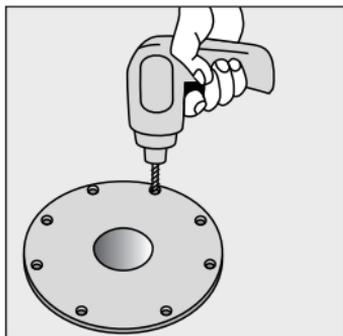
Flashings with wider passages up to max. 51 mm diameter

For wider diameters simply cut off the lightning conductor socket Rhepanol h. The inner diameter at the cut point should be at least 2 mm narrower than the component to be passed through. For passing through, the end is heated up with a hot-air blower and stretched while putting it on. At the forming cylindrical shaft, carry out the connection with a suitable stainless steel clamp.

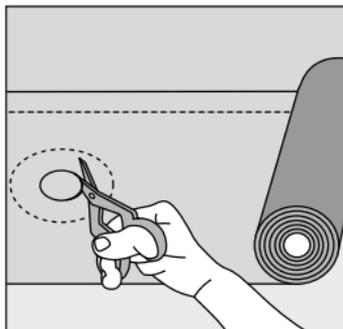
Note:
Check flashing height.

FDT rainwater outlets (RWE), through wall outlets, weir overflows

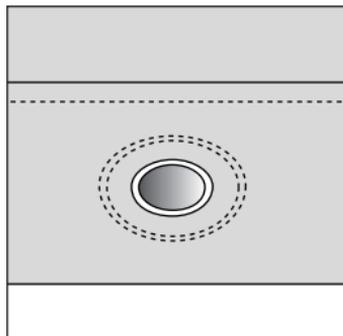
(RWE) installed and fixed.



Unroll roofing membrane,
mark and cut out centre
hole \varnothing 200 mm.
Clean joint area with
Rhepanol h joint cleaning
agent.



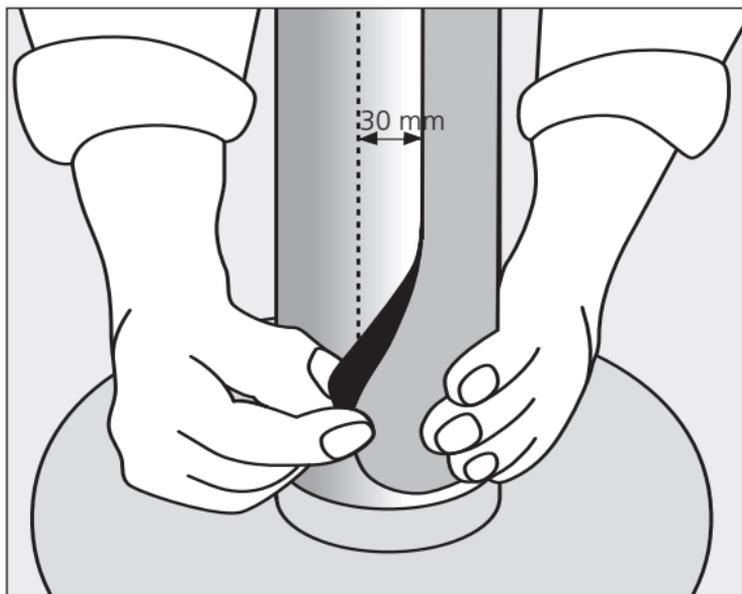
Weld the roofing membrane
to the flange.



**For through wall outlets and weir overflows the same
procedure is applied.**

Pipe flashing

- Cut the Rhepanol h collar to size, pull over the pipe and weld to the membrane. The cut out hole equals approx. 1/3 of the pipe diameter.
- Cut the Rhepanol h roofing membrane for the pipe sheathing to size so that it will overlap by 30 mm for forming the welding seam. Round off both sides (lower and upper membrane) in the seam area. Fix the overlap by tacking.



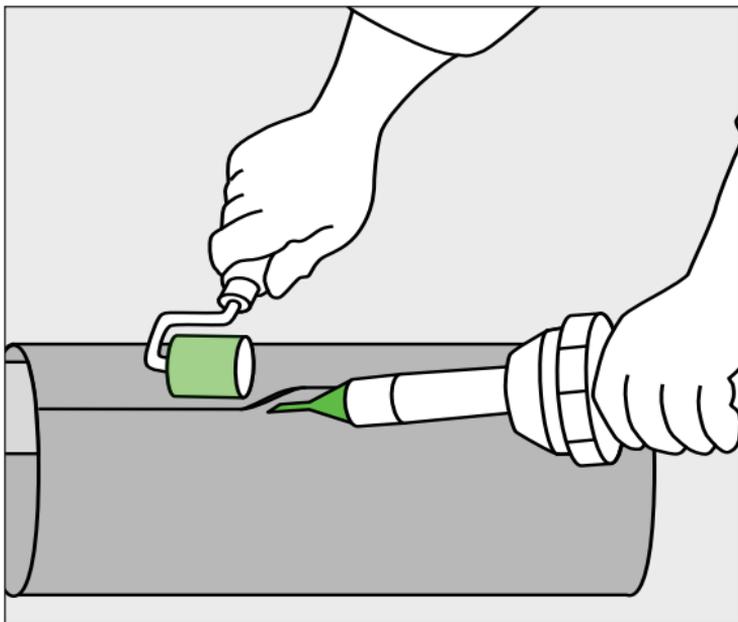
Pipe flashing

40

- Preweld and finish weld the pipe sheathing.

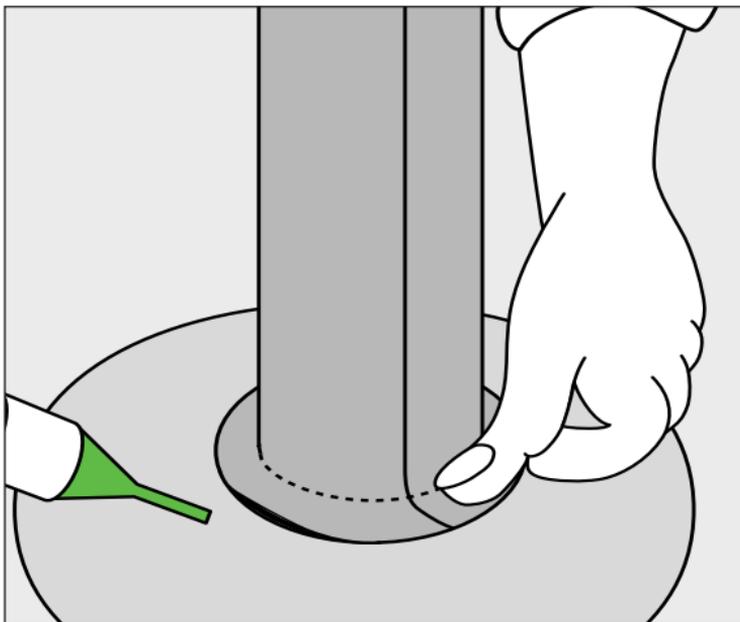
Attention:

Before welding clean the seams with Rhepanol h seam cleaner.



Pipe flashing

- Remove the sheathing from the pipe. Evenly heat up the flashing overlap and spread it to 20 - 30 mm. Chamfer the inner seam edge.
- Pull the preformed Rhepanol h pipe sheathing over the pipe and weld it to the Rhepanol h collar.



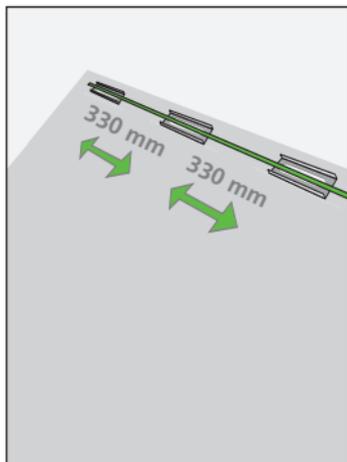
FDT gravel stop profile

42

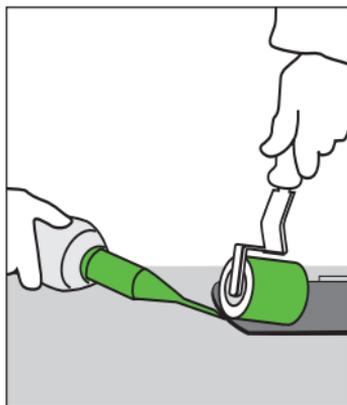
The FDT holders for the FDT gravel stop profiles are installed after laying the membranes. When laying the membranes please take care that a Rhepanol laminated metal sheet is fastened in the substrate in the holder areas. In these areas the membrane must be fully welded (see sketch on page 41).

- Mark the position of the FDT holders. The holders must be in alignment with each other. **Holder spacing at roof slopes up to 5° 330 mm!**

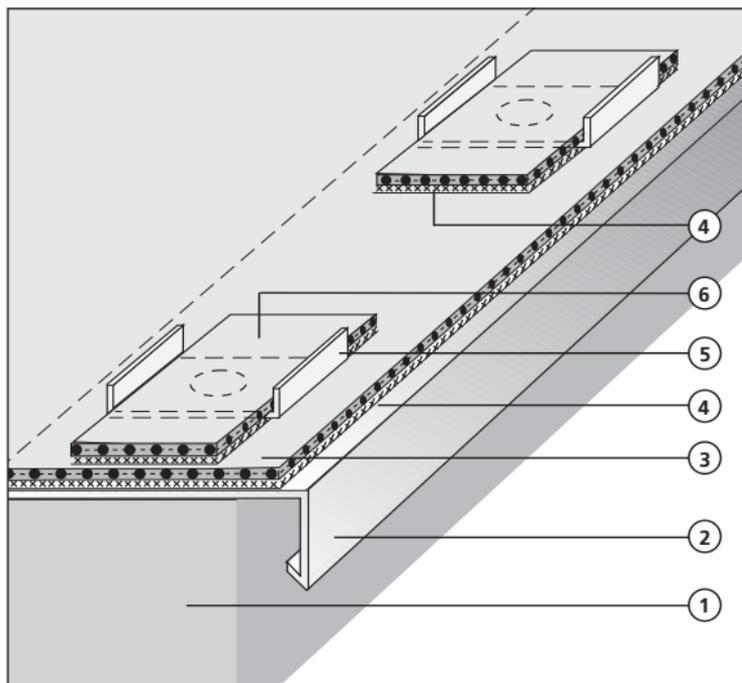
At joints of the FDT gravel stop profiles the holders must be installed in such a way that the profiles are equally positioned on the holder. If there is no joint at the last holder the gravel stop profile may project over it by 150 mm.



- Place the FDT holder and completely weld a 48 mm x 120 mm membrane strip onto it. **Note: Weld also in the cut-out for the holder.**



FDT gravel stop profile



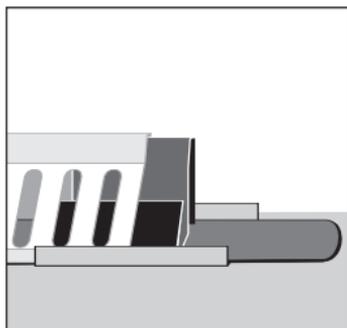
- ① Supporting construction
- ② Rhepanol laminated metal sheet
- ③ Roofing membrane Rhepanol hg
- ④ Welded seam
- ⑤ FDT holder for FDT gravel stop profile
- ⑥ Rhepanol hg strip

FDT gravel stop profile

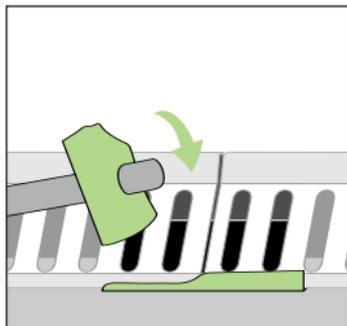
44

- Insert the FDT gravel stop profiles into the FDT holders and push in clamp at the holder area.

The FDT gravel stop profiles must not be butt joint but left with a clearance of 2 mm at the joint!



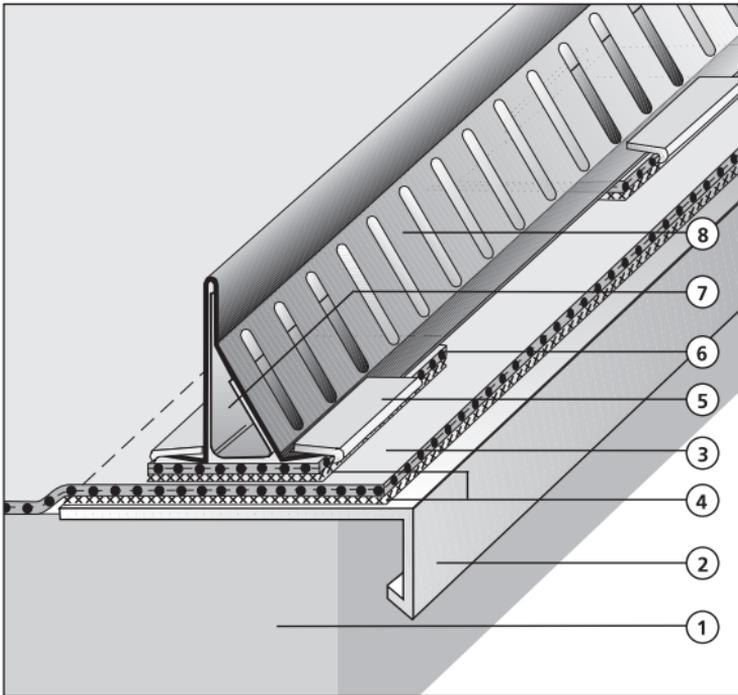
- Bend the holder flange with a hammer.



■ Forming corners

The preformed details for corner connections provided with the system allow for easy installation. Place the FDT holders each at 150 mm from the corner. Simply push in the FDT gravel stop profiles into the corners, then place them into the holders.

FDT gravel stop profile



- ① Supporting construction
- ② Rhepanol laminated metal sheet
- ③ Roofing membrane Rhepanol hg
- ④ Welded seam
- ⑤ FDT holder for FDT gravel stop profile
- ⑥ Rhepanol hg strip
- ⑦ FDT clamp
- ⑧ FDT gravel stop profile

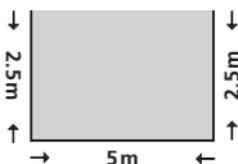
FDT gravel stop profile

46

Calculation of the amount of required FDT holders for the FDT gravel stop profile:

Divide the actual length in meters by 0.334 and round up the result, this number +1 is the required amount of holders. In case of disconnected lengths, the amount of holders required for every partial section is to be considered separately.

Example



$$2.5 \text{ m} + 5 \text{ m} + 2.5 \text{ m} \\ = \mathbf{10 \text{ m of FDT gravel stop profile}}$$

Amount of FDT holders for	$2.5 : 0.334 = 7.4$	rounded = $8 + 1 = 9$
FDT gravel	$5.0 : 0.334 = 14.9$	rounded = $15 + 1 = 16$
stop profile	$2.5 : 0.334 = 7.4$	rounded = $8 + 1 = 9$
		Total = 34 FDT holders

Part C
Product range, form of supply
tools and accessories

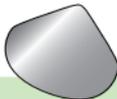
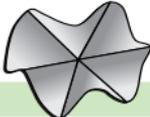
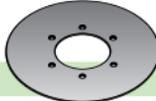
Roofing membrane Rhepanol hg for loose-laid layer build-ups (roof gardens)

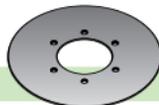
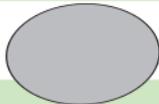
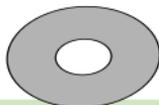
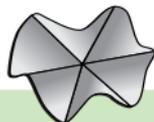
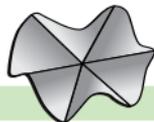
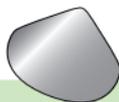
Item No.	Colour	Thickness mm	Forms of supply Rolls Length x width (m)
17 02 000	grey	1.5	15 x 2.05
17 01 090	grey	1.8	15 x 2.05

Roofing membrane Rhepanol h for detail work

10 10 960	grey	1.5	15 x 0.15
17 08 900	grey/black	1.5	20 x 0.50

Rhepanol h internal corner 90°

Item No.	Colour	Forms of supply
17 10 010	grey/black	
Rhepanol h external corner 90°		
17 11 000	grey/black	
Rhepanol h rooflight corner		
17 12 000	grey/black	73°
17 12 010	grey/black	60°
Rhepanol h collar		
14 18 700	grey/black	
Rhepanol h universal collar		
14 18 590	grey/black	
Rhepanol h collar loose/fixed flange		
14 18 990	grey/black	
FDT EPDM framing rings		
14 18 910	black	



Rhepanol laminated metal sheet

For forming profiles for flashings and cappings
(1.4 mm thick).

Item No.	Colour	Thickness	Forms of supply
10 10 950	grey	1.4 mm	30 units stack 2 x 1 m
10 10 980	grey	1.4 mm	30 units stack 3 x 1 m
10 11 010	grey	1.4 mm	Coil 30 x 1 m

Rhepanol h strips

For forming joints using Rhepanol laminated metal sheets.

10 10 960	grey	1.5 mm	15 x 0.15 m
-----------	------	--------	-------------

FDT adhesive tape

For forming joints and edge protection using Rhepanol laminated metal sheets.

10 10 970	brown		50 m x 38 mm
-----------	-------	--	--------------

FDT sealant A

For flashings with FDT aluminium wall connection profile.

Consumption: approx. 50 ml/m.

Item No.	Colour	Forms of supply
12 65 200	grey	300 ml cartridge

FDT sealant S

For flashings with FDT aluminium wall connection profile and with rooflights. Consumption: approx. 50 ml/m.

10 14 300	grey	300 ml cartridge
-----------	------	------------------

Rhepanol h seam cleaner

For cleaning the seams.

17 30 000	5 kg container
-----------	----------------

Rhepanol h cleaning kit

For cleaning the seam with Rhepanol h seam cleaner containing 150 absorbent cleansing tissues and 100 disposable PE gloves.

17 50 010	Kit
-----------	-----

Rhepanol h intensive cleaner 50

For cleaning heavily soiled Rhepanol hg areas (and for diluting Rhepanol h contact adhesive 50).

17 30 010	2 kg container
-----------	----------------

Rhepanol contact adhesive 50

For bonding roofing membranes Rhepanol hg to concrete, timber, polyester, steel etc. (but not polystyrene).

17 30 020	12 kg container
-----------	-----------------

Note: Always apply Rhepanol contact adhesive 50 on both the substrate and the underside of Rhepanol hg. Note the drying time! Check: During the finger check the adhesive must not produce threads. Consumption: approx. 500 g/m².

FDT protection layer

For layer build-ups with Rhepanol hg as a highly perforation-resistant protection layer.

Item No.	Colour	Nominal thickness mm	Forms of supply Rolls
17 09 000	black	1.8 ¹⁾	20 x 2.05 m

FDT synthetic fleece 300 g/m²

As a protection layer on rough substrates. As a separation layer to prevent interaction between incompatible materials such as roofing membrane Rhepanol hg and non-rigid PVC areas.

12 60 000	white		50 x 2.25 m
-----------	-------	--	-------------

FDT vapour control layer fk

Polyethylene foil with $s_d \geq 120$ m.

10 10 900	blue	0.4	25 x 4.00 m
-----------	------	-----	-------------

FDT connection tape

Seam connection between FDT vapour control layers fk as well as for flashings and cappings of FDT vapour control layer fk on various substrates.

12 60 800	black		12 x 0.08 m
-----------	-------	--	-------------

FDT seam tape

Seam connection between FDT vapour control layers fk, in the overlap.

According to the requirements of DIN 18234-1.

12 87 900	grey	1.0	25 x 0.015 m
-----------	------	-----	--------------

¹⁾including fleece backing

FDT teflon pressure roller

For rolling on Rhepanol h/hg preformed details and Rhepanol hg membrane seams during hot-air welding.

Item No.

17 50 000

FDT scissors 25 cm

For easy cutting of Rhepanol hg.

12 66 100

FDT flat brush 5 cm

For applying Rhepanol h contact adhesive 50.

12 63 000

FDT sheet cutter

For easy and safe cutting of Rhepanol hg.

12 65 500

FDT VarioGully programme

Item No.	Application	Dimension
14 30 000	vertical	DN 125 u. DN 100
14 30 100	vertical, heatable*)	DN 125 u. DN 100
14 30 050	vertical	DN 150 (OD 160)
14 30 200	angled	DN 125
14 30 300	angled, heatable*)	DN 125
14 30 250	angled, extremely flat	DN 70 u. DN 100
14 30 350	angled, extremely flat, heatable*)	DN 70 u. DN 100
14 30 500	refurbishment	

FDT VarioGully warm roof upstand

14 30 400	for insulation material thicknesses	35 mm - 160 mm
14 30 410	for insulation material thicknesses	160 mm - 240 mm
14 30 420	for insulation material thicknesses	250 mm - 360 mm
14 30 430	for insulation material thicknesses	> 360 mm

Accessories

14 17 300	FDT leaf guard made of aluminium with lift ring	
14 17 200	FDT lift ring	
14 17 100	eccentric reducer	DN 125/70
14 30 800	FDT emergency outlet socket 40 mm banking height	
14 18 010	FDT screw-driving aid	

Flashing collar see page 47

*) Note on heating

The splash-proof installed - not foamed-in - heater unit is doubly protected by the two integrated safety systems (heat monitoring relay and fuse).

The installation of the heating system must be carried out by a professional electrician, using a safety transformer 230/24 V. Control of the heating system is carried out by the client.

The power of the heating system is 10 W. According to the regulations of VDE 0700, special section 233, § 7.12, in the area of heatable outlets only non-combustible insulation materials, class A according to DIN 4102, part 1, must be used.



FDT rainwater outlets (RWE)

item No.	product name	outer Ø d (mm)	for inner pipe Ø DN	Application
14 20 000	Rhepanol-RWE	50		for bushing DN 50
14 20 010	Rhepanol-RWE	56		for down pipe Ø 60
14 20 020	Rhepanol-RWE	63	70	for down pipe Ø 80
14 20 030	Rhepanol-RWE	75		for bushing DN 70
14 20 040	Rhepanol-RWE	95	100	lip seal (see below)
14 20 050	Rhepanol-RWE	110	125	for bushing DN 100
14 20 060	Rhepanol-RWE	125		for bushing DN 125
14 20 070	Rhepanol-RWE	140		
14 20 080	Rhepanol-RWE	160		for bushing DN 150

FDT leaf guard

The leaf guard is suitable for all RWE and is adjusted by cutting the centre point to the required diameter.

14 22 000		universal
-----------	--	-----------

FDT lip seal

The lip seals are suitable as backwater sealing of the RWE to each other, resp. for the installation directly to the down pipes or old rainwater outlets.

14 22 010	for RWE 95	100
14 22 020	for RWE 95	125
14 22 030	for RWE 125	150
14 22 040	for RWE 160	200

FDT through wall outlets

Item No	product name	outer diameter (mm)	Fall	pipe length (mm)
14 20 500	Rhepanol through wall outlet	50 50	5°	480
14 20 510	Rhepanol through wall outlet	75 75	5°	480
14 20 520	Rhepanol through wall outlet	110 110	5°	480

FDT weir overflows

14 20 800	Rhepanol weir overflow	63	63	5°	500
14 20 810	Rhepanol weir overflow	110	110	5°	500
14 20 820	Rhepanol weir overflow	660 x100		2°	400
14 20 830	Rhepanol weir overflow				
	'tailor made'		*)	2°	*)

*) on request

FDT flat roof vent pipe DN 100

Made of rigid PVC with increased impact strength. With removable cap and bearing ring. Ready for installation with integrated collar.

Item No.	For flashing to	Colour	For thermal insulation thicknesses (mm)
14 03 810	Rhepanol hg	grey	160
14 03 800	Rhepanol hg	grey	240

FDT refurbishment vent pipe for DN 100

For flashing to vents (pipe diameter DN 100) in the case of roof refurbishment with integrated collar.

14 03 630	Rhepanol hg	grey
-----------	-------------	------

FDT hose connection

14 13 300	Vent pipe DN 100
-----------	------------------

FDT cold roof vent DN 100

Made of rigid PVC with increased impact strength. Vent cross section of 88 cm². Weather cap can be removed for maintenance. Ready for installation with integrated collar.

Item No.		Colour
14 10 800	Rhepanol hg	grey

FDT lightning conductor socket

For flashing to lightning protectors and for roof penetrations up to Ø 51 mm or as water spout and weir overflow with connection to pipe DN 50.

Total height 250 mm.

14 40 050		black
14 60 020	FDT post support	

FDT wall connection profiles/roof edge trims

Item No.		Length
14 09 930	FDT aluminium wall connection profile Economy	3 m
14 09 900	FDT aluminium wall connection profile Classic	4 m
14 11 500	FDT aluminium roof edge trim 110	
	silver metal grey, fascia board height 110 mm	4 m
14 12 200	FDT corner 110	
14 12 100	FDT joint connection 110	
14 11 501	FDT aluminium roof edge trim 175 silver metal grey, fascia board height 175 mm	4 m
14 12 201	FDT corner 175	
14 12 101	FDT joint connection 175	

Package of FDT gravel stop profile

Stainless steel gravel stop profile for roof edge trimming.

Item No.

14 40 150	60 mm high	10 units at 2 m each incl. 61 FDT holders and clamps
14 40 250	100 mm high	10 units at 2 m each incl. 61 FDT holders and clamps

Supplementary package of FDT gravel stop profiles as required:

14 40 170	FDT holder and clamp	stainless steel silver
14 40 140	FDT gravel stop profile 2 m	"
14 40 120	FDT internal corner for gravel stop profile	"
14 40 130	FDT external corner for gravel stop profile	"

FDT fastening material

Item No.	max. thickness of layer build-up (mm)	length of fastening elements (mm)
----------	--	--------------------------------------

FDT Type SS, self-tapping screw¹⁾ for steel profiles and derived timber products Ø 4,8

14 15 000	10	35 ³⁾
14 15 010	20	45 ³⁾
14 16 000	100	120 ³⁾
14 16 010	120	140 ³⁾
14 16 020	140	160 ³⁾

FDT washer D51 for self-tapping screw

14 16 500	bore Ø 5.1 mm
-----------	---------------

FDT washer D65 for impact plug

14 16 510	bore Ø 6.5 mm
-----------	---------------

¹⁾ Placing the fastening elements with a bit holder for screwdriver drills is recommended. With crosstip bit Ph2 (Phillips size 2).

²⁾ Other lengths on request.

³⁾ Screws Ø 5.0 mm. Only for derived timber products.

Note:

For application possibilities, please see our current manufacturer's application instructions.



FDT develops in association with – Synthetic-roofing membranes recycling in favour of the environment

Together with ESWA (European Single Ply Waterproofing Association), the European Organisation of Synthetic Roofing Membrane Manufacturers, we have installed a recycling solution for old PVC roofing membranes within Europe, based on a unique German recycling solution, where we played an important role during the development. ESWA today will provide innovative recycling possibilities, regardless of the manufacturers for different synthetic roofing membranes. For the return of materials the following procedure has to be considered:

- After ordering, you will receive from Interseroh Entsorgungsleistungs GmbH (recycling provider) big bags with a capacity of 300 till 400 square meters and a load

capacity of up to 1.000 kg or for big job sites containers.

- It has to be stated whether the roof membrane consists of PVC-P, EVA-PVC, PE-C, ECB, TPO, or PIB.
- Even fleece backed and bonded old roof membranes made of these materials will be accepted
- They have to be declared separately.
- The roof membranes have to be clean swept.
- The area has to be cut into one meter wide membranes and rolled.
Remark: roll up the membranes tight to reduce the transporting volume

Service upon request

For questions and remarks our Customer Service is available for you
Phone: + 49 621 - 8504 - 372
Fax: + 49 621 - 8504 - 378
E-Mail: export@fdt.de

Basic and advanced training

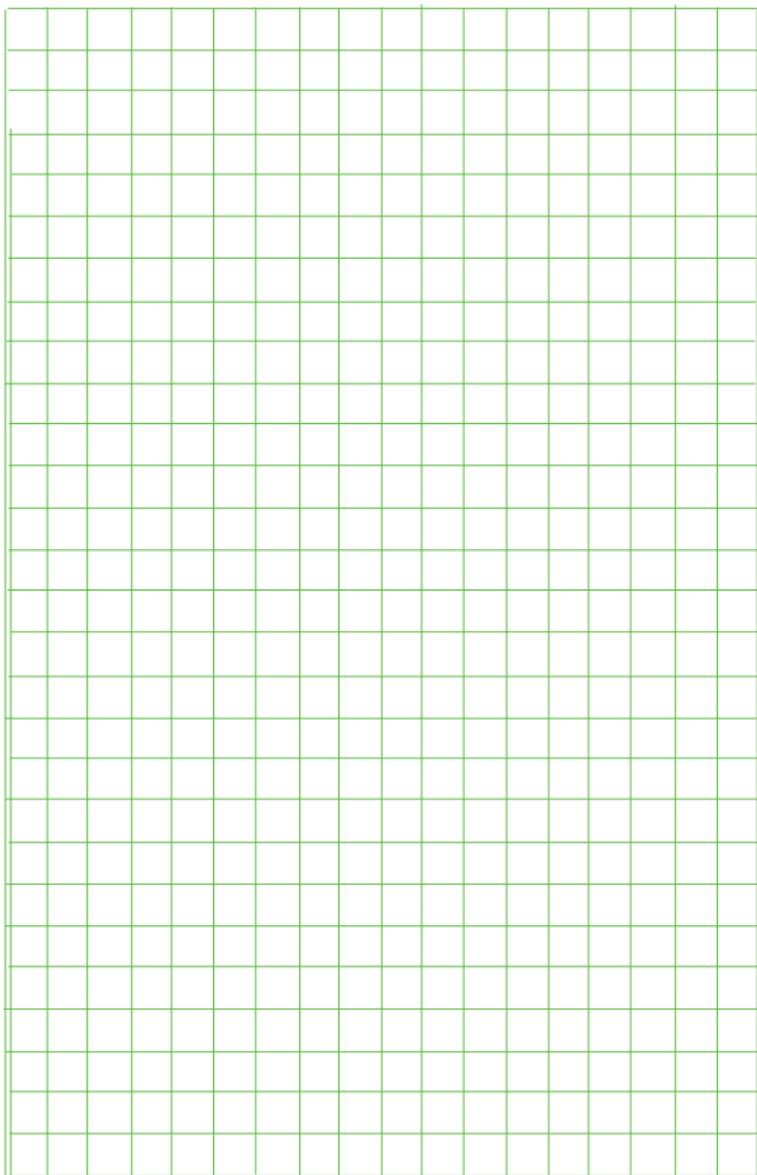
Top performance of a roofing membrane is always a question of professional application!

In order to ensure this, we offer special practical training, supervised by our experienced Technical department staff.

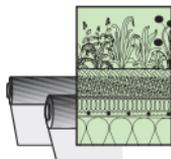
Rhepanol and Rhenofol trainings for apprentices, journeymen and foremen provide knowledge for the installation of synthetic roof sealing membranes.

Advanced Rhepanol courses for foremen and masters of the roofing craft are designed to provide wider and more comprehensive knowledge for the installation of synthetic roof sealing membranes.

Please contact
Export department
Phone: + 49 621 - 8504 - 372
Fax: + 49 621 - 8504 - 378
E-Mail: export@fdt.de



U 3 vakat



Export department:

Phone +49 6 21-85 04-3 72

Fax +49 6 21-85 04-3 78

E-Mail export@fdt.de



**FlachdachTechnologie
GmbH & Co. KG**

Eisenbahnstraße 6 - 8
D-68199 Mannheim
Germany

Tel +49-6 21-85 04-0
Fax +49-6 21-85 04-2 05
www.fdt.de