Triflex

Delivering solutions together.

Planning documents

Roof surface waterproofing system

Triflex ProTect®

FLAT ROOFS | ROOF FLASHINGS

Roof surface waterproofing system

Triflex ProTect®

Applications

Flat roofs may appear to be simple constructions. But they often place the highest demands on the waterproofing material used. Rain, wind and weather; mechanical, thermal and chemical loads imposed by the environment: these are the demands that a waterproofing system must be able to cope with if it is to prove its functionality.

Particularly in areas where there are valuable production plants, underlying offices and sales rooms or in the case of complex roof surfaces with numerous penetrations, Triflex liquid waterproofing systems offer crucial advantages compared to conventional waterproofing sheeting.

Triflex has more than 45 years experience of using durable waterproofing and coating systems in the world of building refurbishment. **Triflex ProTect** is a waterproofing system developed specially for flat roofs that ensures the lasting reliable protection of buildings.

Versatile application options

Triflex ProTect is a waterproofing system with outstanding material characteristics. This means it can be used for roof surface waterproofing, as well as a host of other applications.

The mechanically stable material is ideal for installation underneath other coverings, such as gravel, paving or grass. The extremely high hydrolysis resistance of Triflex ProTect means it can even be used in standing water applications, e.g., for ornamental fountains.

Advantages at a glance

Highly resilient with dynamic crack-bridging

The fully reinforced system offers a level of flexibility that leaves it unaffected by any movement of the other functional layers.

Ideal for refurbishments

The system can be applied to virtually all substrates, is vapour-permeable and, with a surface weight of less than 4 kg/m², it is also suitable for application on existing waterproofing systems without negatively affecting stability. This saves removal costs and time.

Waterproof down to the smallest detail

The cured liquid-applied waterproofing forms a seamless surface with no joints. Even complicated details such as H-beams can be easily and homogeneously waterproofed using the liquid application technique.

Short curing times

The liquid-applied system has particularly rapid curing times. The waterproofing resin is fully functional after just one hour. This ensures reliable processing even in changeable weather and at substrate temperatures of down to 0 °C.

Versatile application options

Triflex ProTect is used as surface waterproofing on flat roofs. The particularly high-quality liquid applied waterproofing also permits use as waterproofing for waterproof-concrete joints, under other coverings, for ornamental fountains or in other areas in a wide range of system versions.

Easy to maintain

Triflex ProTect has excellent mechanical and chemical stability. The system can be walked on normally and requires no further overlays as surface protection. It also fully bonds to the substrate preventing the underflow of rainwater. This means that any leakages are easy to locate and repair.

Certified reliability

Triflex ProTect has obtained a European Technical Assessment (ETA) and meets the requirements of the EU Construction Products Directive (CE marking). Its root resistance is also certified acc. to FLL standards (EN 13948). Also, Triflex ProTect has a general building supervisory authority test certificate (abP) in accordance with PG-FLK for waterproofing of building structures as per VV TB No. C 3.28. Triflex ProTect meets the requirements as per DIN 18531 and the German Flat Roof Guidelines.

Triflex ProTect®

And this is how it's done…

1. The substrate is prepared.

2. Prior to applying the waterproofing, Triflex Catalyst is stirred into the resin.

3. First, all details are waterproofed using Triflex ProDetail.

4. Triflex ProTect is applied generously to the surface.

5. Triflex Special Fleece is applied across the entire surface ensuring there are no air bubbles.

6. A second layer of Triflex ProTect is applied.

7. If required, the surface can be finished after approx. 1 hour.

8. All surfaces are waterproofed down to the smallest detail!

Compatible system components

All the Triflex products mentioned in this system are carefully coordinated on the basis of laboratory testing and years of experience. This standard of quality ensures optimum results during both application and use.

Roof surface waterproofing system

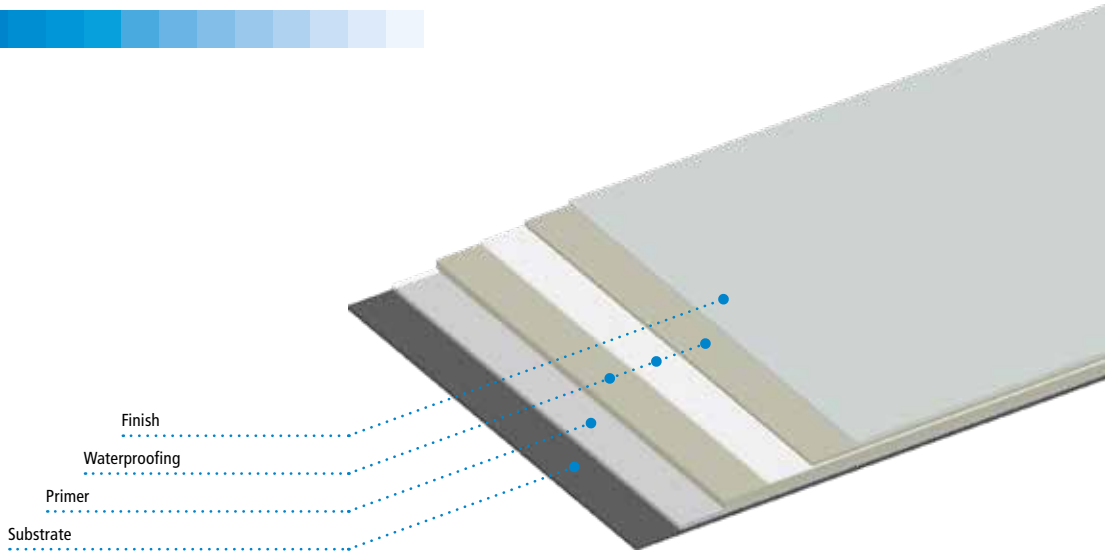
Triflex ProTect®

System description

Properties

- Fully reinforced waterproofing system with a polymethyl methacrylate (PMMA) base
- Hydrolysis-resistant
- Seamless
- Cold-applied
- Fast-curing
- Flexible in low temperatures
- Excellent adhesion properties on a multitude of substrates
- Root-resistant in line with FLL
- Can be used at substrate temperatures of down to 0 °C
- Extremely weather-resistant (UV, IR, etc.)
- Radon-resistant
- Suitable for normal pedestrian traffic
- Elastic and crack-bridging
- Vapour-permeable
- Resistant to chemicals present in air and rainwater
- Resistant to external fire exposure to DIN 4102/DIN EN 13501
- Hard roofing in accordance with the German regional building regulations
- European Technical Approval with CE mark in the highest usage categories (W3, M and S, P1 to P4, S1 to S4, TL4, TH4)
- Meets the requirements of DIN 18531 and the German Flat Roof Guidelines
- General building supervisory authority test certificate (abP) for liquid-applied waterproofing of building structures set out in PG-FLK as per VV TB No. C 3.28

System build-up



System components

Primer
Triflex Primer for sealing the substrate and ensuring substrate adhesion (if necessary, see Substrate pre-treatment table).

Waterproofing
Triflex ProTect waterproofing membrane, fully reinforced with a sturdy Triflex special polyester fleece.

Finish
Triflex Cryl Finish 205, wear-resistant system finish (for visually appealing design if required) and Triflex Cryl SC 237 for non-slip maintenance paths.

Substrate

The suitability of the specific substrate should always be tested on a case-by-case basis. The substrate must be clean, dry and free of cement bloom, dust, oil, grease and other adhesion-inhibiting substances.

Moisture: When carrying out waterproofing work, the substrate moisture must not exceed 6 % by weight. Ensure that structural measures are taken to prevent moisture penetration of the coating from underneath.
Dew point: During application, the surface temperature must be at least 3 °C above the dew point temperature. Below this temperature, a separating film of moisture can form on the surface.
Hardness: Mineral substrates must be permitted to fully harden for at least 28 days.
Adhesion: The following tensile strengths must be verified on pretreated test surfaces:
Concrete: at least 1.5 N/mm² on average, and no single value below 1.0 N/mm².

System description

Substrate pre-treatment

Substrate	Pre-treatment	Primer
Acrylic glass	Abrade with Triflex Cleaner, roughen surface	No primer
Aluminium	Remove loose rust and rust scale, abrade with Triflex Cleaner	Triflex Metal Primer [B]
Asphalt	Grinding	Triflex Cryl Primer 222
Cold bitumen coating	Adhesive strength test	Triflex Cryl Primer 222
Composite thermal insulation systems	Remove any loose material	Triflex Pox R 100
Concrete	Grinding	Triflex Cryl Primer 276
Copper	Remove loose rust and rust scale, abrade with Triflex Cleaner	Triflex Metal Primer [B]
FRP/skylight frame	Abrade with Triflex Cleaner, roughen surface	No primer
Glass	Abrade with Triflex Glass Cleaner, adhesive strength test	Triflex Glass Primer
Hot bitumen coating	Adhesive strength test	Triflex Cryl Primer 222
Lightweight concrete	Remove any loose material	Triflex Cryl Primer 276
Mortar, resin-modified	Grinding	Triflex Pox R 100
Paint	Completely grind off	See substrate
Plaster/masonry	Remove any loose material	Triflex Cryl Primer 276
Plastic sheeting (PIB)	Roughen surface, adhesive strength test	On request [A]
Plastic sheeting (PVC-P, nB), EVA	Abrade with Triflex Cleaner	No primer
Plastic sheeting (TPO, FPO, EPDM)	Abrade with Triflex Cleaner, roughen surface, adhesive strength test mandatory	On request [A]
Polymer bitumen sheeting (PYE) mod. (SBS)	Remove any loose material	No primer
Polymer bitumen sheeting (PYP) mod. (APP)	Remove any loose material, adhesive strength test	Triflex Cryl Primer 222
PVC mouldings, rigid	Abrade with Triflex Cleaner, roughen surface	No primer
Screeds	Grinding	Triflex Cryl Primer 276
Stainless steel	Remove loose rust and rust scale, abrade with Triflex Cleaner	Triflex Metal Primer [B]
Steel, galvanised	Remove loose rust and rust scale, abrade with Triflex Cleaner	Triflex Metal Primer [B]
Wood	Remove any paint	Triflex Cryl Primer 276
Zinc	Remove loose rust and rust scale, abrade with Triflex Cleaner	Triflex Metal Primer [B]

[A] Depending on the type of sheeting, e.g. using Triflex Primer 610.
[B] Alternative to priming: Abrade with Triflex Cleaner and roughen surface.
Information on other substrates is available on request (technik@triflex.de).

Important:
Adhesion must always be tested on the specific substrate!

Priming

Triflex Cryl Primer 222
Apply evenly with a Triflex universal roller.
Consumption: at least 0.40 kg/m².
Can be recoated after approx. 45 mins.

Triflex Cryl Primer 276
Apply evenly with a Triflex universal roller.
Consumption: at least 0.40 kg/m².
Can be recoated after approx. 45 mins.

Triflex Glass Primer
Wipe on GP evenly with a cleaning cloth.
Consumption: approx. 0.05 l/m²
Can be recoated after approx. 15 mins. up to max. 3 hrs.

Triflex Metal Primer
Apply a film with a short-pile roller (e.g. MP roller) or alternatively, apply a film with a spray can.
Consumption: approx. 0.15 l/m².
Can be recoated after approx. 60 mins.

Triflex Pox R 100
Apply evenly with a Triflex universal roller.
Dress the fresh primer with a surplus of quartz sand.
Consumption of Triflex Pox R 100: at least 0.30 kg/m²,
Consumption of quartz sand 0.2–0.6 mm: at least 2.00 kg/m².
Can be recoated after approx. 12 hrs.

Triflex Primer 610
Apply evenly with a brush or roller.
Consumption: approx. 40 to 80 g/m²
Can be recoated after approx. 20 mins.

Triflex ProTect®

System description

Detail waterproofing

Triflex ProDetail must be applied to all junctions, transitions and other detail solutions before surface waterproofing.
Application is wet-on-wet.

1. **Triflex ProDetail**
   Apply evenly with a radiator roller.
   Consumption: at least 2.00 kg/m².
2. **Triflex Special Fleece/Triflex Special Fleece PF**[1]
   Embed cut-outs with no air bubbles.
   Overlap the fleece strips by at least 5 cm.
3. **Triflex ProDetail**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

Total consumption of Triflex ProDetail: at least 3.00 kg/m².
Can be recoated after approx. 45 mins.
For dimensions, see Triflex ProTect system drawings.

Detail waterproofing for hard-to-reach areas:

Triflex ProFibre
Apply with a brush.
Consumption: approx. 3.00 kg/m².
Rainproof after approx. 30 mins.
Can be recoated after approx. 45 mins.

Joint waterproofing

All joints must be waterproofed with Triflex ProDetail before surface waterproofing.

1. **PE round sealing band**
   Seal the joint with the round sealing band.

Points 2 to 4 below are implemented wet-on-wet.

2. **Triflex ProDetail**
   Apply with a width of at least 5 cm on both sides with a radiator roller.
   Consumption: at least 2.00 kg/m².
3. **Triflex Special Fleece/Triflex Special Fleece PF**
   Embed strips with no air bubbles.
   Overlap the ends of the fleece by at least 5 cm.
4. **Triflex ProDetail**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

Total consumption of Triflex ProDetail: at least 3.00 kg/m².
Can be recoated after approx. 45 mins.
For dimensions, see Triflex ProTect system drawings.

Surface waterproofing

Application is wet-on-wet.

1. **Triflex ProTect**
   Apply evenly with a Triflex Universal Roller.
   Consumption: at least 2.00 kg/m².
2. **Triflex Special Fleece/Triflex Special Fleece PF**
   Lay with no air bubble. Overlap the strips of fleece by at least 5 cm.
3. **Triflex ProTect**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

Total consumption of Triflex ProTect at least 3.00 kg/m².
Can be recoated after approx. 45 mins.

Finishing

The sealing of all vertical junctions, transitions and details must be carried out prior to the surface finishing with thixotropic Triflex Cryl Finish 205.
The product is thickened by the in-situ addition of 1 % by weight Triflex Liquid Thixo.

Surface "standard":

Triflex Cryl Finish 205
Cross-coat evenly using a Triflex universal roller.
Consumption: at least 0.50 kg/m².
Can be walked on after approx. 2 hrs.

Surface "maintenance paths / hazard areas".

Triflex Cryl SC 237
Apply evenly to the waterproofing using a Triflex universal roller.
Consumption: approx. 2.00 kg/m².
Can be walked on after approx. 2 hrs.

Surface protection

To protect from mechanical influences, we recommend laying a protective layer (e.g., plastic fleece, min. 300 g/m²) underneath other coverings (gravel, paving, etc.).

Work interruptions

If work is interrupted for more than 12 hrs, or if soiled by rain etc., the intersection must be activated with Triflex Cleaner.
Airing time: at least 20 mins.
Transitions to subsequent waterproofing must overlap (incl. Triflex Special Fleece) by a minimum of 10 cm. This also applies to junctions, transitions and detail solutions with Triflex ProDetail. The finish must be applied within 24 hrs. If this application is delayed for any reason, the surface to be finished must be pre-treated with Triflex Cleaner.

Product information

For information on applications, conditions for use and instructions for mixing, see product information (request if necessary):

Triflex Cleaner
Triflex Cryl Finish 205
Triflex Cryl Primer 222
Triflex Cryl Primer 276
Triflex Cryl SC 237
Triflex Glass Primer
Triflex Glass Cleaner
Triflex Liquid Thixo
Triflex Metal Primer
Triflex Pox R 100
Triflex Primer 610
Triflex ProDetail
Triflex ProFibre
Triflex ProTect
Triflex Special Fleece
Triflex Special Fleece PF

[1] if necessary, Triflex Special Fleece mouldings

Triflex ProTect®

System description

Quality standard

All Triflex products are manufactured in accordance with the standards defined in ISO 9001. To ensure quality of workmanship, Triflex products are only installed by fully trained and qualified specialist contractors.

Safety tips / Accident prevention

Read the safety data sheets before using the products.

Required consumptions / Waiting times

The specified consumptions (coverage) figures apply only to smooth, even surfaces. Special allowance must be made for unevenness, roughness and porosity. Specified flash times and waiting times apply to a substrate and ambient temperature of +20 °C.

General notes

The system descriptions, system drawings and product information sheets form the basis for using Triflex products, and it is essential to follow these when planning and carrying out your building project. Any deviation from the technical information provided by Triflex GmbH & Co. KG that is current at the time the work is carried out may invalidate the warranty.

Any project-related deviations require written approval from Triflex. All the information is based on general regulations, directives and other technical rules. The general regulations applicable in the particular country of use must be respected. Since the parameters can vary from case to case, the contractor is required to test the suitability, e.g. of the substrate. Non-Triflex products must not be used with Triflex systems. Information is subject to change based on the interests of technical advancement or enhancement of our products.

Tender texts

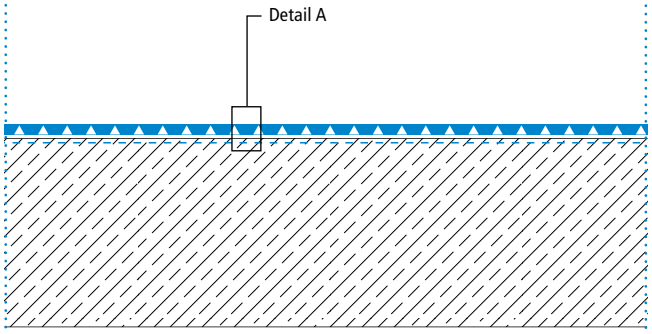
Please visit the Download section of the Triflex website at www.triflex.com to obtain the current standard specifications, which are available in a range of different file formats. Alternatively, visit the website www.ausschreiben.de or www.heinze.de.

CAD drawings

All CAD system drawings can be downloaded free of charge from the Download section of the Triflex website www.triflex.com. Contact us at technik@triflex.de to request further true-to-scale CAD drawings.

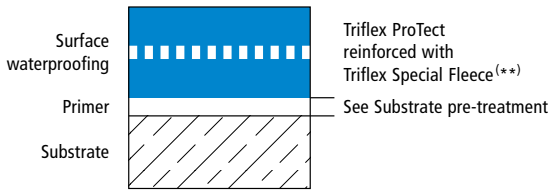
System drawings

Surface



Drawing no.: ProTect-3301

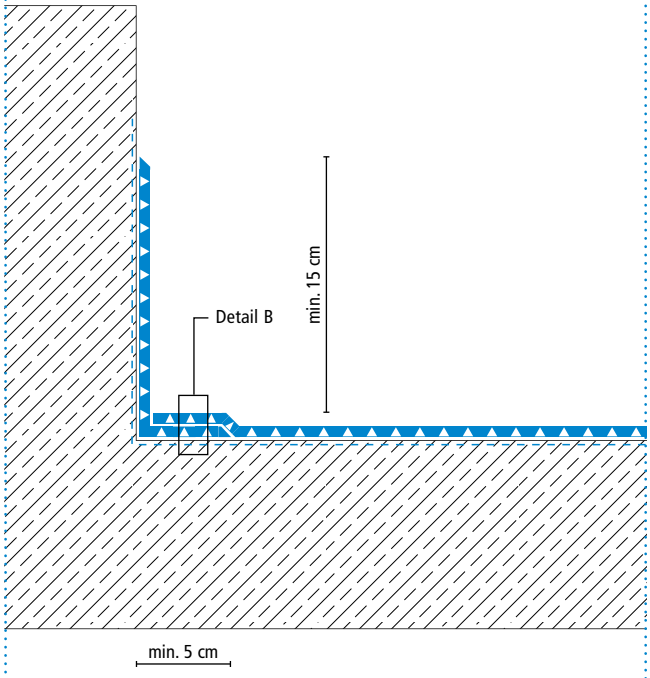
System build-up – Detail A



(**) Triflex Special Fleece or Triflex Special Fleece PF

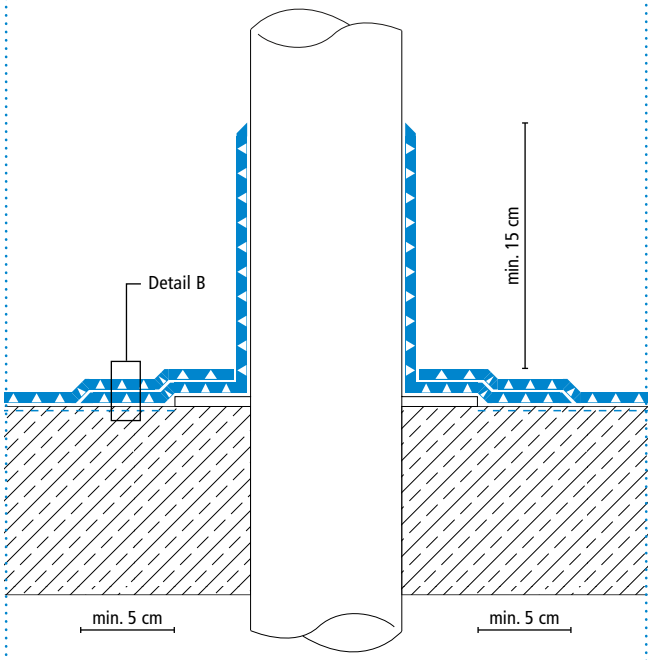
System drawings

Wall junction



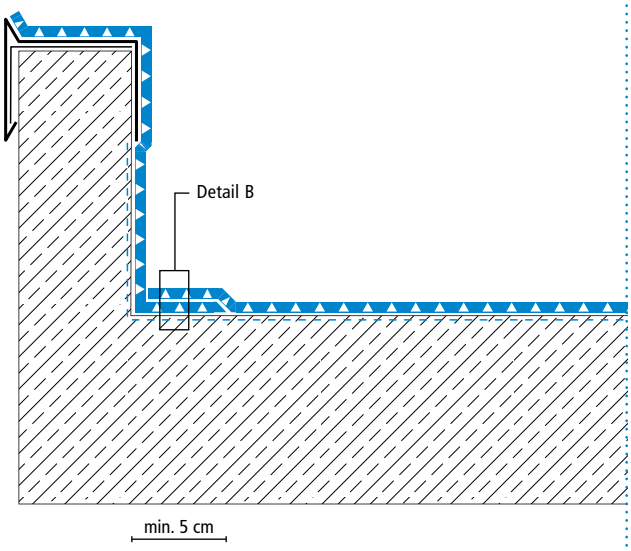
Drawing no.: ProTect-3302

Penetration



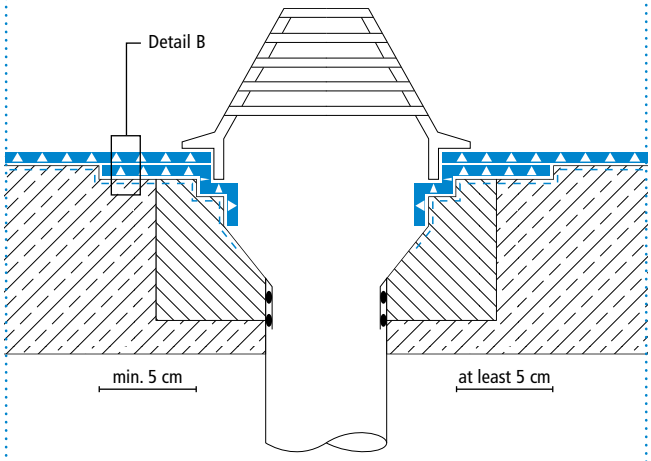
Drawing no.: ProTect-3303

Roof parapet edge finishing



Drawing no.: ProTect-3305

Gully

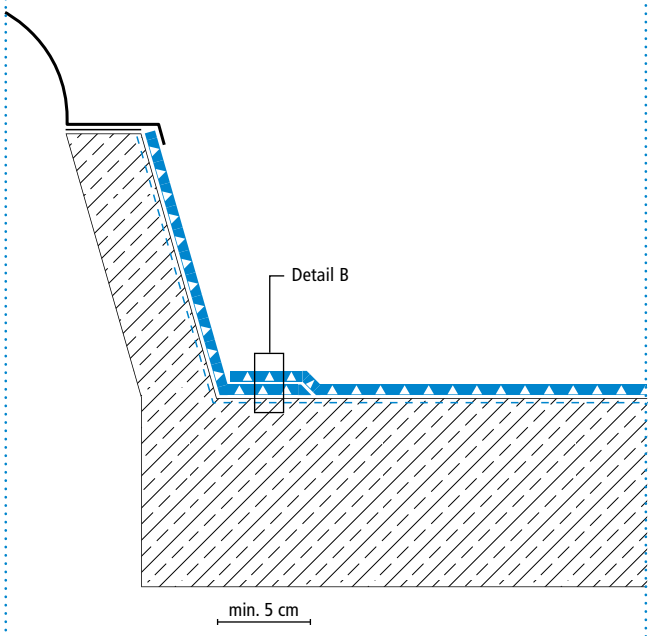


Drawing no.: ProTect-3306

Height differences where the fleece overlaps are exaggerated.

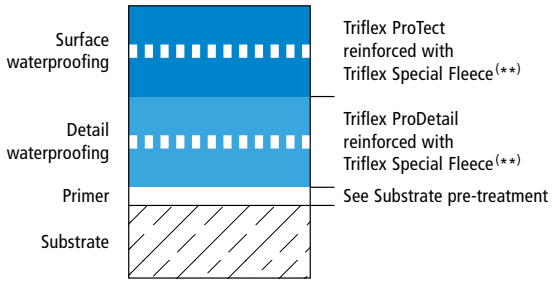
System drawings

Skylight dome

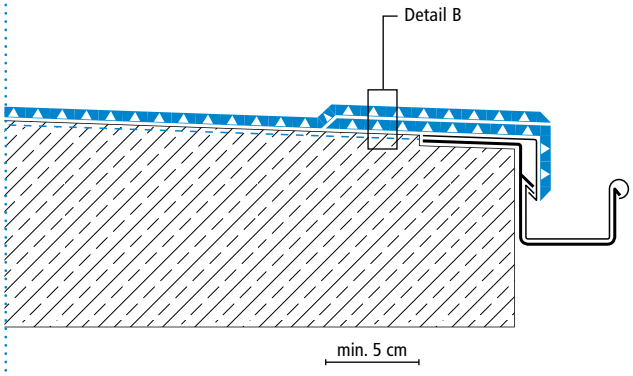


Drawing no.: ProTect-3304

System build-up – Detail B

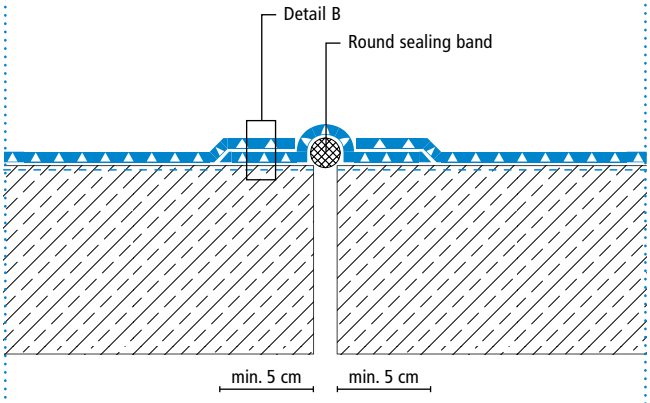


Edge finishing with bracket-mounted gutter



Drawing no.: ProTect-3307

Expansion joint



Drawing no.: ProTect-3308

Height differences where the fleece overlaps are exaggerated.

(**) Triflex Special Fleece or Triflex Special Fleece PF

Colours

Waterproofing – Triflex ProTect


7031 Blue grey


7032 Pebble grey

7035 Light grey

Finish – Triflex Cryl Finish 205


7030 Quartz 03 (Stone grey)

7035 Quartz 01 (Light grey)


7037 Slate 02 (Dusty grey)


7040 Slate 01 (Traffic grey)


7043 Slate 03 (Traffic grey B)


7073 Malachite 04


9010 Sand 01 (White)

Maintenance paths – Triflex Cryl SC 237


1023 Traffic yellow


3013 Tomato red


7043 Traffic grey B


9010 White

Please note:
Minor variations between the colour shown here and the actual colour are due to printing technology and the materials used.

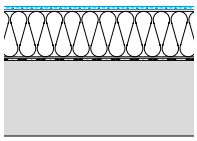
Triflex ProTect®

Different roof constructions

Waterproofing for roofs without thermal insulation

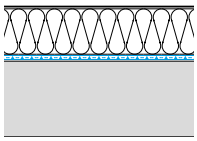
The full-surface fleece-reinforced Triflex waterproofing system provides seamless and jointless roof waterproofing, with no need for any additional surface protection.

Waterproofing for non-ventilated roofs



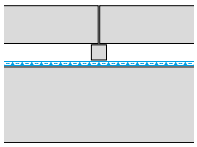
Over the thermal insulation (with support layer), the Triflex waterproofing system reliably waterproofs the building shell.

Waterproofing for inverted roofs



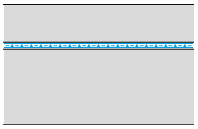
With inverted roofs, the Triflex waterproofing system forms the seamless waterproofing membrane underneath the thermal insulation.

Waterproofing under other coverings



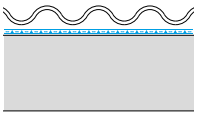
The Triflex waterproofing system provides long-lasting protection under loose coverings and their sub-structures.

Waterproofing under screed



Triflex waterproofing systems with a PMMA resin base are resistant to alkalis and hydrolysis. They can be used under concrete, screed and tiles without any problems.

Waterproofing under ponding water

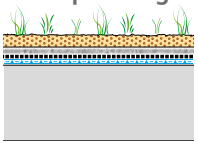


The waterproofing systems Triflex ProTect and Triflex ProDetail are suitable for waterproofing ornamental fountains, sprinkler systems and water tanks.

Waterproofing that can be walked on

For maintenance paths, there are non-slip Triflex waterproofing systems available. Waterproofing with a higher load resistance is also possible.

Waterproofing for green roofs



Triflex waterproofing systems are suitable for use under roof greening (root and rhizomeresistant).

Maintenance paths with Triflex Cryl SC 237

You can make flat roofs safer for maintenance personnel to walk on, by applying the non-slip coating Triflex SC 237 in signal colours. Dangerous areas around the perimeter can be marked, as can inspection and maintenance paths for technical equipment.

Specific details with Triflex ProFibre

Triflex ProFibre is a 2-component fibre-reinforced waterproofing product with a PMMA resin base, which needs no additional fleece reinforcement. The waterproofing resin is particularly suitable for details that are difficult to get to for structural reasons, making it impossible to use a fleece-reinforced waterproofing system.

Triflex

Delivering solutions together.

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