

# Triflex

Delivering solutions together.

Planning documents  
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 almost 40 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.

### Flexible 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/m<sup>2</sup>, 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 complex details, such as H-beams, can be easily and homogeneously waterproofed using liquid processing technology.

### Short reaction 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.

### Flexible 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. The full-surface bonding with the substrate means there is no underflow of rainwater. This means that any leakages are easy to locate and repair.

### Certified safety

Triflex ProTect has obtained European Technical Approval (ETA) and meets the requirements of the Construction Products Directive of the EU (CE marking). Its root resistance is also certified acc. to FLL standards (EN 13948). In addition, Triflex ProTect meets the requirements of DIN 18195 Parts 4 to 7 and DIN 18531 Parts 1 to 4.

# 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 lab-scale and application coordinated as a result of years of experience. This standard of quality ensures optimum results during both application and use.

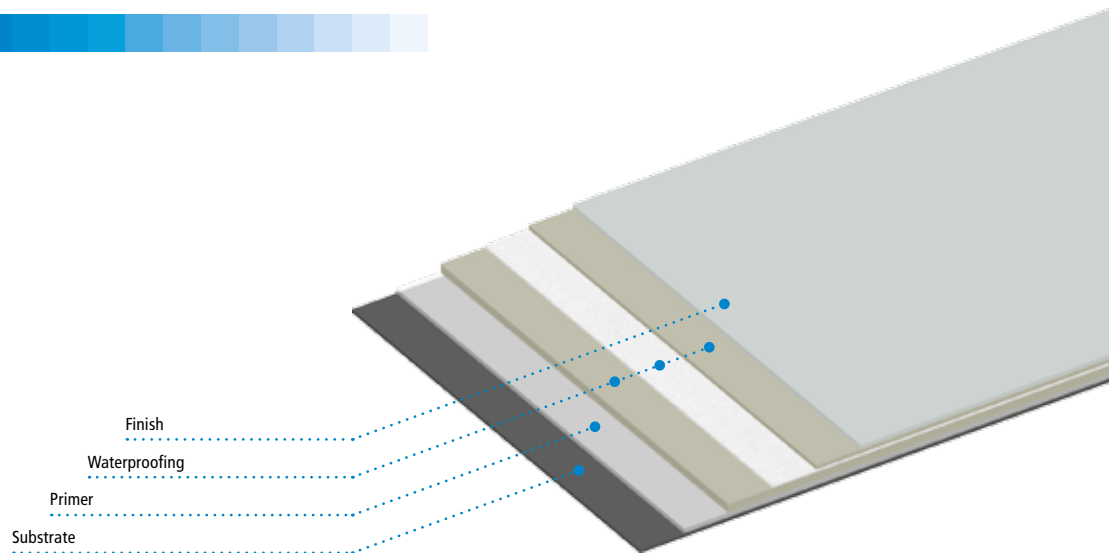


## System description

### 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.)
- 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)
- Complies with DIN 18531 (2010 version)
- Approved to DIN 18195 Parts 4 to 7

### System design



### System components

#### Primer

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

#### Waterproofing

Triflex ProTect waterproofing membrane, fully reinforced with a sturdy Triflex Special Fleece made of polyester.

#### Finish

Triflex Cryl Finish 205, wear-resistant system finish (if desired, to the optical design) and Triflex Cryl SC 237, for non-slip maintenance paths.

### Substrate

Substrate suitability should always be checked on a case by case basis. The substrate must be clean, dry and free of cement bloom, dust, oil, grease and other adhesion-reducing dirt.

**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 pre-treated test surfaces:

Concrete: in the centre, at least 1.5 N/mm<sup>2</sup>, individual value not less than 1.0 N/mm<sup>2</sup>.



## System description

### Substrate pre-treatment

Substrate	Pre-treatment	Primer
Acrylic glass	Abrade with Triflex Cleaner, roughen surface	No primer
Aluminium	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Asphalt	Grind	Triflex Cryl Primer 222
Cold bitumen coating	Adhesion test	Triflex Cryl Primer 222
Composite thermal insulation systems		Triflex Pox R 100
Concrete	Grind	Triflex Cryl Primer 276
Copper	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
FRP / Skylight frame	Abrade with Triflex Cleaner, roughen surface	No primer
Glass	Abrade with Triflex Glass Cleaner, adhesion test	Triflex Glass Primer
Hot bitumen coating	Adhesion test	Triflex Cryl Primer 222
Lightweight concrete		Triflex Cryl Primer 276
Mortar, resin-modified	Grind	Triflex Pox R 100
Paints	Completely grind off	See substrate
Plastic sheeting (PIB)	Roughen surface, adhesion test	On request <sup>(1)</sup>
Plastic sheeting (PVC-P, nB), EVA	Abrade with Triflex Cleaner	No primer
Plastic sheeting (TPO, FPO, EPDM)	Abrade with Triflex Cleaner, roughen surface, adhesion test compulsory	On request <sup>(1)</sup>
Plaster/masonry		Triflex Cryl Primer 276
Polymer bitumen sheeting (PY-P) mod. (APP)	Adhesion test	Triflex Cryl Primer 222
Polymer bitumen sheeting (PY-E) mod. (SBS)		No primer
PVC mouldings, rigid	Abrade with Triflex Cleaner, roughen surface	No primer
Screeds	Grind	Triflex Cryl Primer 276
Stainless steel	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Steel, galvanised	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Wood	Remove paints	Triflex Cryl Primer 276
Zinc	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>

<sup>(1)</sup> Depending on the type of sheeting, e.g., using Triflex Primer 610.

<sup>(2)</sup> Alternative to roughening: Abrade with Triflex Cleaner, prime with Triflex Metal Primer. Loose rust and blistering rust must first be removed. Information on other substrates is available on request (technik@triflex.de).

#### Important note:

Adhesion to the substrate must be checked on a case-by-case basis!

### Primer

#### Triflex Cryl Primer 222

Apply evenly with a Triflex universal roller.  
Volume: at least 0.40 kg/m<sup>2</sup>.  
Can be recoated after approx. 45 min.

#### Triflex Cryl Primer 276

Apply evenly with a Triflex universal roller.  
Volume: at least 0.40 kg/m<sup>2</sup>.  
Can be recoated after approx. 45 min.

#### Triflex Glass Primer

Wipe up evenly with a cleaning cloth GP.  
Volume: approx. 50 ml/m<sup>2</sup>.  
Can be recoated after approx. 15 min up to max. 3 hrs.

#### Triflex Metal Primer

Apply thinly with a short-pile roller or, alternatively, spray on thinly with a spray can.  
Volume: approx. 80 ml/m<sup>2</sup>.  
Can be recoated after approx. 30 to 60 min.

#### Triflex Pox R 100

Apply evenly using a Triflex universal roller and immediately sand down with plenty of quartz sand.  
Volume of Triflex Pox R 100: at least 0.30 kg/m<sup>2</sup>,  
Volume of quartz sand 0.2–0.6 mm: at least 2.00 kg/m<sup>2</sup>.  
Can be recoated after approx. 12 hrs.

#### Triflex Primer 610

Apply evenly with a brush or roller.  
Volume: approx. 40 to 80 g/m<sup>2</sup>.  
Can be recoated after approx. 20 min.



## System description

### Detail waterproofing

Triflex ProDetail must be applied to all junctions, transitions and other detail solutions before surface waterproofing.

Application is wet-in-wet.

#### 1 Triflex ProDetail

Apply evenly with a radiator roller.

Volume: at least 2.00 kg/m<sup>2</sup>.

#### 2 Triflex Special Fleece

Lay fleece strips, removing any air bubbles.

Overlap the fleece strips by at least 5 cm.

#### 3 Triflex ProDetail

Apply until the Triflex Special Fleece is fully saturated.

Volume: at least 1.00 kg/m<sup>2</sup>.

Total volume of Triflex ProDetail: at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 45 min.

For dimensions, see Triflex ProTect system drawings.

### Detail waterproofing for hard-to-reach areas:

#### Triflex ProFibre

Apply with a brush.

Volume: approx. 3.00 kg/m<sup>2</sup>.

Rainproof after approx. 30 min.

Can be recoated after approx. 45 min.

### Joint waterproofing

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

#### 1. PE round sealing band

Seal on top of the joint.

Points 2 to 4 are completed wet-in-wet.

#### 2. Triflex ProDetail

Apply at least 5 cm to both sides of the joint with a radiator roller.

Volume: at least 2,00 kg/m<sup>2</sup>.

#### 3. Triflex Special Fleece

Lay fleece strips, removing any air bubbles.

Overlap the ends of the fleece strips by at least 5 cm.

#### 4. Triflex ProDetail

Apply until the Triflex Special Fleece is fully saturated.

Volume: at least 1,00 kg/m<sup>2</sup>.

Total volume of Triflex ProDetail: at least 3,00 kg/m<sup>2</sup>.

Can be recoated after approx. 45 min.

For dimensions, see Triflex ProTect system drawings.

### Surface waterproofing

Application is wet-in-wet.

#### 1 Triflex ProTect

Apply evenly with a Triflex universal roller.

Volume: at least 2.00 kg/m<sup>2</sup>.

#### 2 Triflex Special Fleece

Lay fleece, removing any air bubbles.

Overlap the fleece by at least 5 cm.

#### 3 Triflex ProTect

Apply until the Triflex Special Fleece is fully saturated.

Volume: at least 1.00 kg/m<sup>2</sup>.

Total volume of Triflex ProTect: at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 45 min.

### 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 wt. % Triflex Liquid Thixo.

#### Surface "Standard":

##### Triflex Cryl Finish 205

Cross-coat evenly using a Triflex universal roller.

Volume: at least 0.50 kg/m<sup>2</sup>.

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.

Volume: approx. 2.00 kg/m<sup>2</sup>.

Can be walked on after approx. 2 hrs.

### Surface protection

To protect against mechanical influences, we recommend laying a protective layer (e.g., plastic fleece, min. 300 g/m<sup>2</sup>) underneath other coverings (gravel, paving, etc.).

### What to do if work is interrupted

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 min. 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.

### System components

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 Liquid Thixo

Triflex Metal Primer  
Triflex Pox R 100  
Triflex Primer 610  
Triflex ProDetail  
Triflex ProFibre  
Triflex ProTect  
Triflex Special Fleece

### Quality standard

All Triflex products are manufactured in accordance with the standards defined in ISO 9001. To ensure quality is not compromised, Triflex products are only installed by specialist, fully trained and qualified contractors.

# Roof Surface Waterproofing System Triflex ProTect®



## System description

### Safety tips / Accident prevention

Read the safety data sheets before using the products.

### Volumes required / Waiting times

The specified volumes apply only to smooth, even surfaces. Special allowances must be made for unevenness, roughness and porosity. Information regarding airing and waiting times applies to a substrate at an ambient temperature of +20 °C.

### General notes

The basis for the use of Triflex products can be found in the system descriptions, system drawings and product information sheets. It is essential to heed these when planning and carrying out the building project. Departures from the technical information of Triflex GmbH & Co. KG applicable at the time of work can compromise the guarantee. Any project-related departures are subject to the written authorisation of Triflex.

All data 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 user is required to test the suitability, e.g., of the substrate.

Non-system substances must not be added to Triflex products. Subject to change in the interests of technical advancement or enhancement of Triflex products.

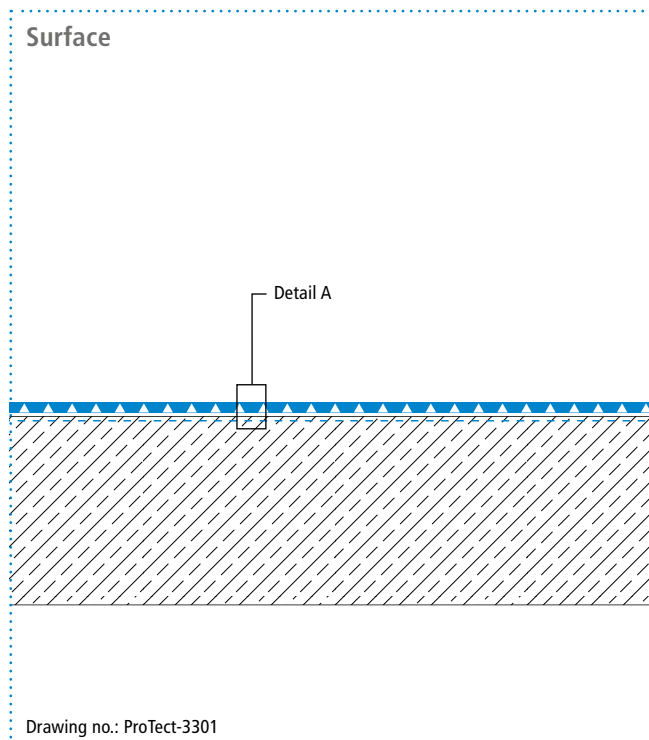
### Tender texts

Please visit the download section of the Triflex website at [www.triflex.com](http://www.triflex.com) to obtain the current standard specifications for tender, which are available in a range of different file formats.

### CAD drawings

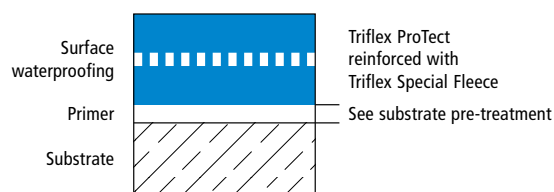
All CAD system drawings can be downloaded free of charge from the download section of the Triflex website [www.triflex.com](http://www.triflex.com).

## System drawings



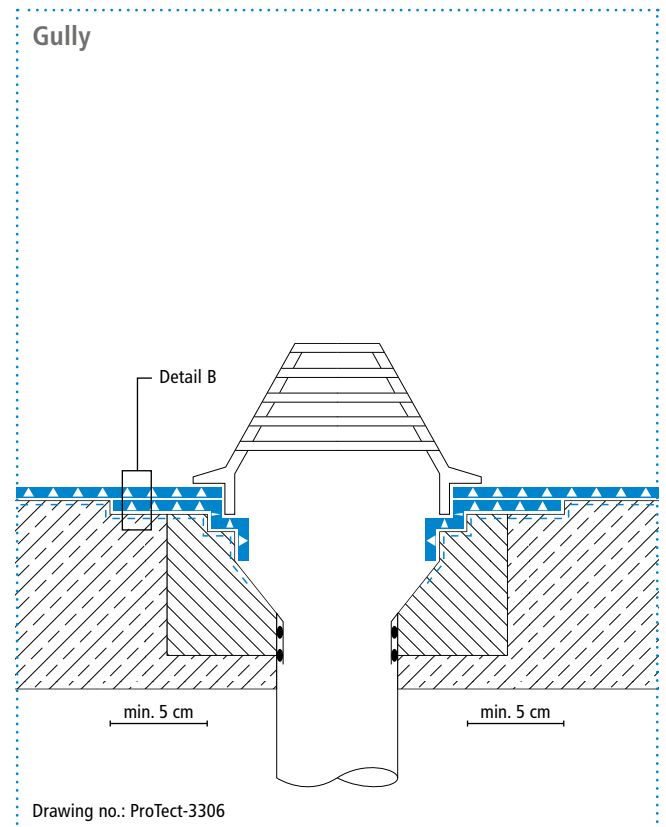
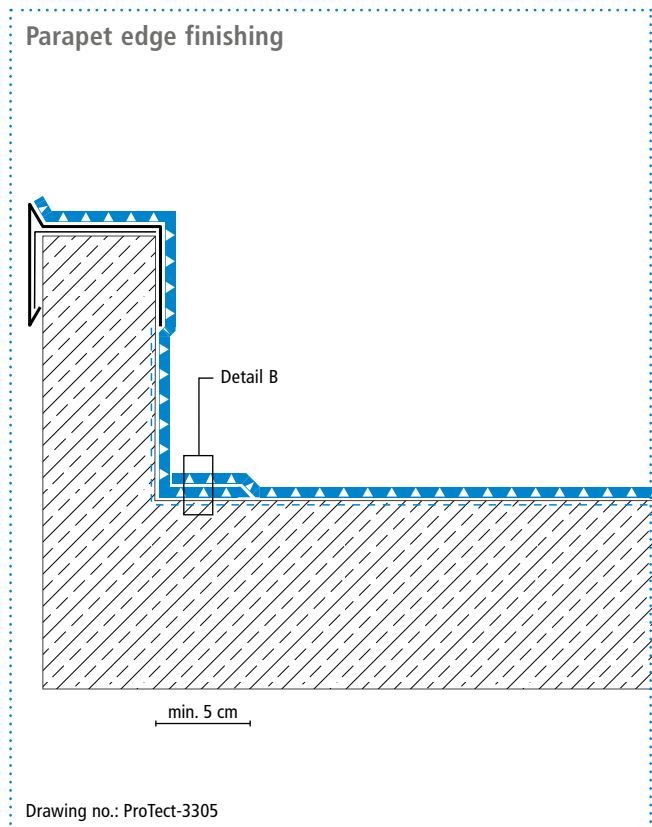
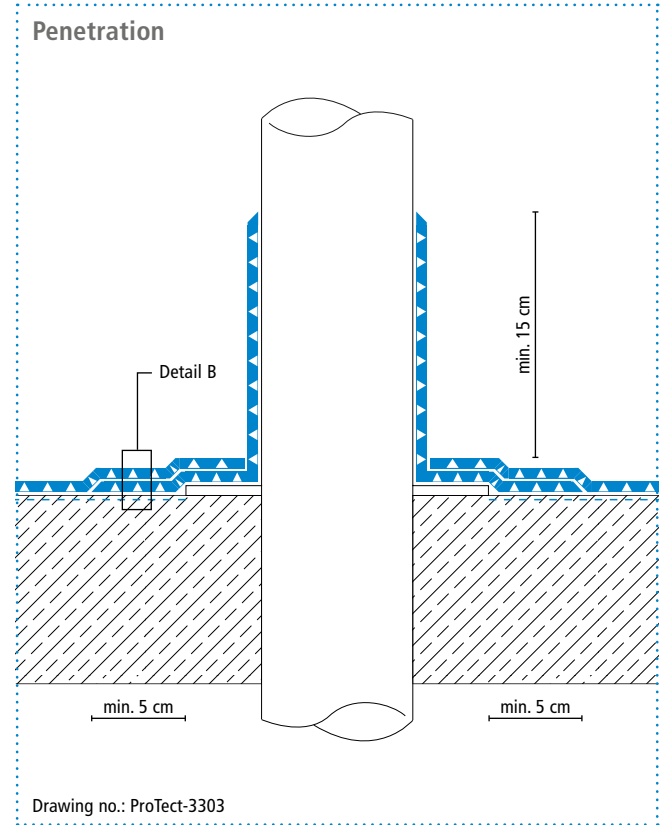
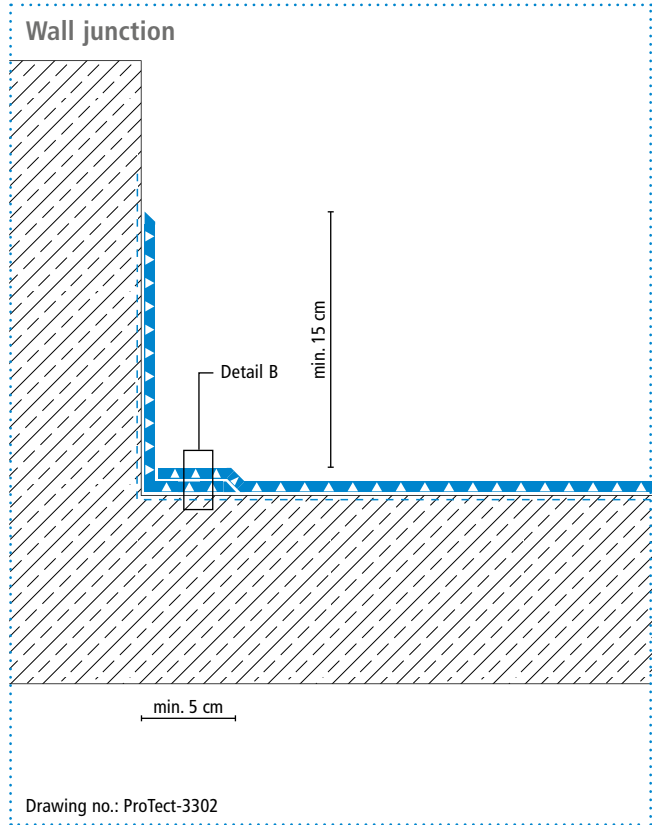
Drawing no.: ProTect-3301

### System design – Detail A





## System drawings



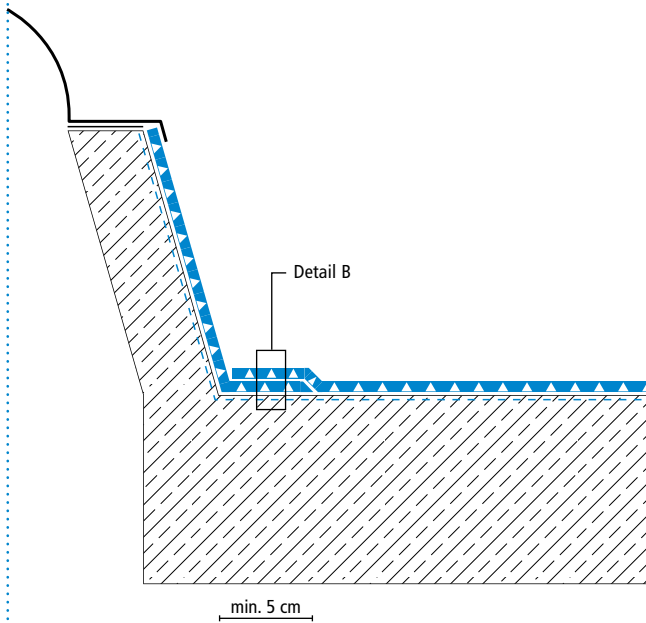
Height differences between fleece overlaps are exaggerated.





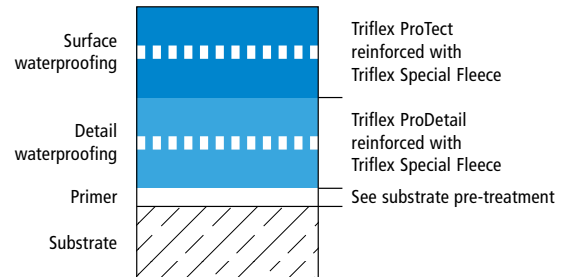
## System drawings

Rooflight

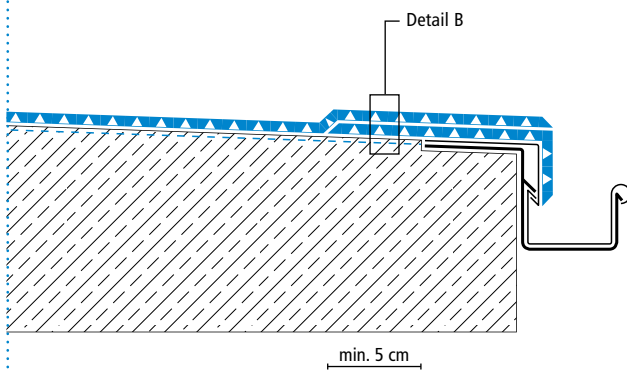


Drawing no.: ProTect-3304

System design – Detail B

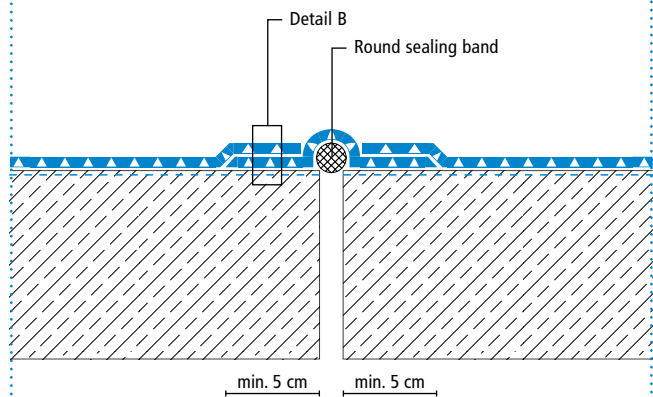


Edge finishing with bracket-mounted gutter



Drawing no.: ProTect-3307

Settlement joint



Drawing no.: ProTect-3308

Height differences between fleece overlaps are exaggerated.



## Colours

### Waterproofing – Triflex ProTect

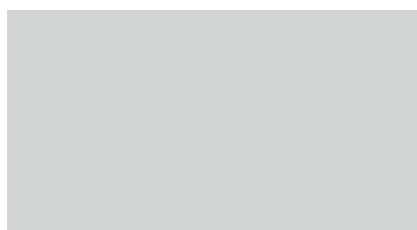


7032 Pebble grey

### Finish – Triflex Cryl Finish 205



7030 Quartz 03 (Stonegrey)



7035 Quartz 01 (Light grey)



7037 Slate 02 (Dusty grey)



7040 Slate 01 (Window grey)



7043 Slate 03 (Traffic grey)



7073 Malachite 04



9010 Sand 01 (White)

### Maintenance path – Triflex Cryl SC 237



1023 Traffic yellow



3013 Tomato red

**Please note:**

Minor variations between the colours shown here and the actual colours are due to printing technology and the materials used.



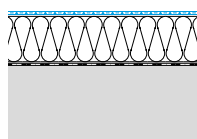
## Different roof constructions

### Waterproofing for roofs without thermal insulation



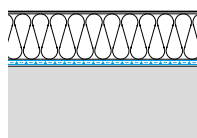
The full-surface fleece-reinforced Triflex waterproofing system provides seamless and jointless roof waterproofing, with no need for any additional surface protection.

### Waterproofing for non-ventilated roofs



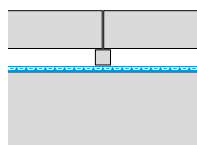
Over the thermal insulation (with support layer), the Triflex waterproofing system reliably waterproofs the building shell.

### Waterproofing for inverted roofs



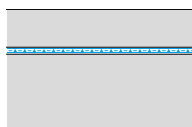
With inverted roofs, the Triflex waterproofing system forms the seamless waterproofing membrane underneath the thermal insulation.

### Waterproofing under other coverings



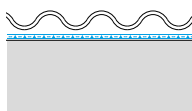
The Triflex waterproofing system provides long-lasting protection under loose coverings and their sub-structures.

### 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



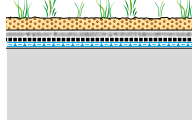
The waterproofing systems Triflex ProTect and Triflex ProDetail are suitable for waterproofing ornamental fountains, sprinkler systems and water tanks.

### 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 rhizome-resistant).

## 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.



#### International

Triflex GmbH & Co. KG  
Karlsruhe 59  
32423 Minden | Germany  
Fon +49 571 38780-0  
info@triflex.com  
www.triflex.com