

# Triflex

Delivering solutions together.

Planning documents  
Structure waterproofing system  
**Triflex SmartTec®**





## Applications



Waterproofing of the structure starts with the foundations being properly and professionally laid. The material used has to meet the challenges of a high water table and rainwater. Only reliable waterproofing of the foundation and base will ensure the durability of a building.

Triflex SmartTec is the universally applicable roof and building structure waterproofing solution. The innovative, liquid-applied waterproofing technology is particularly suitable for application on damp, mineral substrates. Ideal for the treatment of both complex details and full surface applications, this material moulds itself seamlessly to the substrate of the structure, thus ensuring a long-lasting and reliable solution.

Triflex has more than 45 years experience of using durable waterproofing and coating systems in the world of building refurbishment. **Triflex SmartTec** is a waterproofing system specially developed for mineral substrates that provides the building structure with lasting, reliable protection.

### Universally applicable

Thanks to its excellent characteristics, Triflex SmartTec is ideal for applications in areas subject to moisture and damp. The fleece-reinforced system provides reliable waterproofing for foundations, building bases and transitions to wooden frameworks. Even ornamental ponds and fountains can be waterproofed seamlessly with this material. The low-odour and solvent-free resin is also highly suitable for interiors, such as boiler rooms and sprinkler tanks.

### Easy to use

The single-component material adheres to concrete and other absorbent substrates without the need for a primer, thus saving time and effort. The Triflex SmartTec spray application allows you to master even large areas easily. The waterproofing resin, which is reinforced with a special fleece, is rainproof after just one hour.



## Advantages at a glance

### Waterproofing of damp mineral substrates

The special characteristics of the binder enable application on damp mineral substrates. A primer is not required in this case. This is a great time-saver when working on renovation projects. The vapour-permeable system, with an  $S_d$  value of approx. 2.0 m, means the substrate can subsequently dry out over time.

### Suitable for indoor and outdoor use

The fact that the material is virtually odourless makes it ideal for use in odour-sensitive areas, such as schools and hospitals. Triflex SmartTec is also the quick and easy solution for a wide range of other waterproofing applications, including boiler rooms, sprinkler tanks etc. Because Triflex SmartTec is isocyanate-free there is also no need for protective measures during application, such as protective masks or additional ventilation. External testing shows that Triflex SmartTec is a low-emission product which guarantees good construction ecology. The EMICODE® EC1<sup>PLUS</sup> quality seal certifies that the highest class is achieved.

### Quick and easy

The single-component technology makes application particularly straightforward. Mixing errors are ruled out. This makes for additional reliability. Large areas can also be quickly waterproofed mechanically with spray application. That way, your construction projects are completed more quickly.

### Waterproof down to the smallest detail

The liquid-applied waterproofing has a thixotropic formulation which allows the resin to be applied to vertical surfaces without slumping. It also fully bonds to the substrate preventing infiltration of rainwater.

### Certified safety

The Triflex SmartTec waterproofing solution has a General Building Supervisory Authority Test Certificate (AbP) for waterproofing of building structures set out in PG-FLK in accordance with VV TB No. C 3.28 and a General Building Supervisory Authority Test Certificate (AbP) for liquid-applied waterproofing used in combination with tiles and paving (AIV-F) for use as waterproofing of building structures in interior and exterior areas as per VV TB, No. C 3.27. Triflex SmartTec has an expected service life of 25 years in compliance with EAD 030350-00-0402.

# Structure waterproofing system Triflex SmartTec®



## And this is how it's done...



1. For better substrate adhesion, abrade and prepare the concrete.



2. Have the right quantity of the single-component resin standing by.



3. Waterproof all details first using Triflex SmartTec.



4. Apply resin evenly with a universal roller ...



5. ... the Triflex Special Fleece PF is laid, ensuring that there are no air bubbles, and smoothed out with a dry roller ...



6. ... and a second layer of Triflex SmartTec is applied.



7. Done! The structure is waterproof.

### Mechanical spray method:



1. With a hydraulic spray device ...



2. ... Triflex SmartTec Sp can be applied using a spray method.



## 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.

# Structure waterproofing system Triflex SmartTec®

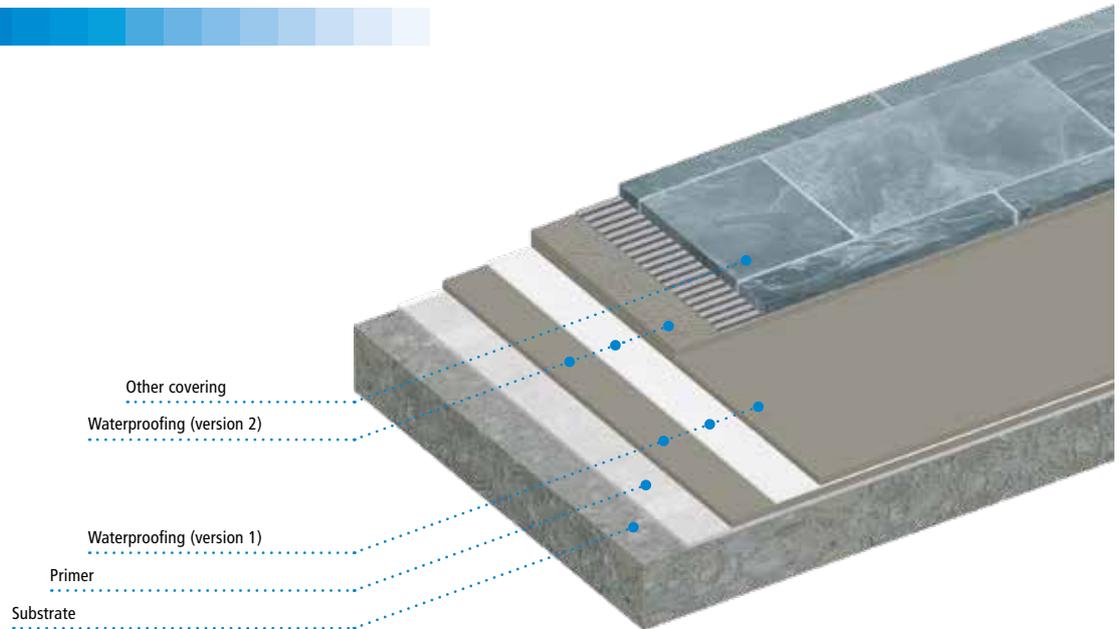


## System description

### Properties

- Full-surface, reinforced waterproofing system with a single-component polyurethane base
- Seamless
- Cold-applied
- Immediately fully functional
- Flexible in low temperatures
- Excellent adhesion properties on a multitude of substrates
- Can be used in substrate temperatures of +5 °C and above
- Extremely weather-resistant (UV, IR, etc.)
- Elastic and crack-bridging
- Can be applied mechanically
- Solvent-free
- Isocyanate-free
- EMICODE® EC1<sup>PLUS</sup> quality seal
- Universally applicable
- Vapour-permeable ( $S_d$  value = approx. 2.0 m)
- 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
- Fire classification as per DIN EN 13501-1: Class E
- General Building Supervisory Authority Test Certificate (AbP) for liquid-applied waterproofing in conjunction with tiles and paving (AIV-F) for use as waterproofing of building structures in interior and exterior areas as per VV TB, No. C 3.27

### 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 SmartTec waterproof membrane, fully reinforced with a robust polyester Triflex Special Fleece.

#### Surface covering

A dressing of quartz sand is used for loose and firmly bonded coverings and in the interest of substrate adhesion for thermal insulation.

### 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 surfacing work on mineral substrates, the substrate may be damp, however there must not be any standing water! 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>.

\*except for mineral substrates



## System description

### Substrate pre-treatment

| Substrate                                 | Pre-treatment                                | Primer                              |
|---|--|-------------------------------------|
| Aluminium                                 | Abrade with Triflex Cleaner                  | Triflex Metal Primer                |
| Anodised aluminium                        | Abrade with Triflex Cleaner                  | Triflex Metal Primer <sup>(1)</sup> |
| Asphalt                                   | Grinding                                     | Triflex Bitumen Blocker             |
| Cold bitumen coating                      | Adhesive strength test                       | Triflex Bitumen Blocker             |
| Composite thermal insulation systems      |  | No primer                           |
| Concrete                                  | Grinding                                     | No primer                           |
| Concrete, polymer-modified                | Grinding, milling or dust-free shot-blasting | No primer                           |
| Galvanised metal                          | Abrade with Triflex Cleaner                  | Triflex Metal Primer <sup>(1)</sup> |
| Glass                                     | Abrade with Triflex Cleaner, roughen surface | Triflex Glass Primer                |
| Hot bitumen coating                       | Adhesive strength test                       | Triflex Bitumen Blocker             |
| Lightweight concrete                      |  | No primer                           |
| Mortar, resin-modified                    | Grinding, milling or dust-free shot-blasting | No primer                           |
| Paints                                    | Completely grind off                         | See substrate                       |
| Plaster/masonry                           |  | No primer                           |
| Plastic sheeting (EPDM)                   | Abrade with Triflex Cleaner                  | Triflex Bitumen Blocker             |
| Plastic sheeting (EVA)                    | Abrade with Triflex Cleaner                  | Triflex Primer 791                  |
| Plastic sheeting (PIB)                    | Abrade with Triflex Cleaner, roughen surface | On request <sup>(2)</sup>           |
| Plastic sheeting (PVC-P, nB)              | Abrade with Triflex Cleaner, roughen surface | Triflex Than Primer 533             |
| Plastic sheeting (TPO, FPO)               | Abrade with Triflex Cleaner, roughen surface | Triflex Primer 610                  |
| Polymer bitumen sheeting (PYE) mod. (SBS) |  | Triflex Bitumen Blocker             |
| Polymer bitumen sheeting (PYP) mod. (APP) | Adhesive strength test                       | Triflex Bitumen Blocker             |
| Powder coated metals                      | Brushing off                                 | Triflex Metal Primer <sup>(1)</sup> |
| PVC mouldings, rigid                      | Abrade with Triflex Cleaner                  | Triflex Primer 791                  |
| Screeds                                   | Grinding                                     | No primer                           |
| Stainless steel                           | Abrade with Triflex Cleaner                  | Triflex Metal Primer                |
| Steel, galvanised                         | Abrade with Triflex Cleaner                  | Triflex Metal Primer                |
| Wood                                      | Remove paints                                | No primer                           |

<sup>(1)</sup> Alternatively, Triflex TecGrip 620.

<sup>(2)</sup> Depending on the type of sheeting, e.g. Triflex Primer 610.

Information on other substrates is available on request (technik@triflex.de).

#### Important notice:

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

### Primer

#### Triflex Bitumen Blocker

Apply evenly with a brush or roller.  
Consumption: approx. 0.40 kg/m<sup>2</sup>.  
Can be recoated after approx. 3 hrs.

#### Triflex Glass Primer

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

#### Triflex Metal Primer

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

#### Triflex Primer 610

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

#### Triflex Primer 791

Apply evenly with a brush or roller.  
Consumption: approx. 0.20 kg/m<sup>2</sup>.  
Can be recoated after approx. 40 min.

#### Triflex TecGrip 620

Apply evenly with a brush or roller.  
Consumption: approx. 0.10 l/m<sup>2</sup>.  
Can be recoated after approx. 25 min.

#### Triflex Than Primer 533

Apply evenly with a brush or roller.  
Consumption: approx. 0.10 l/m<sup>2</sup>.  
Can be recoated after approx. 20 min. to max. 12 hrs.



## System description

### Detail waterproofing

Triflex SmartTec must be applied to all connections and other detail solutions before surface waterproofing.

Application is wet-on-wet.

#### 1. Triflex SmartTec

Apply evenly with a universal roller.

Consumption: at least 1.50 kg/m<sup>2</sup>.

#### 2. Triflex Special Fleece PF\*

Lay strips, removing any air bubbles, smooth out with a dry roller.

Overlap the fleece strips by at least 5 cm.

#### 3. Triflex SmartTec

Apply until the Special Fleece is fully saturated.

Consumption: at least 1.50 kg/m<sup>2</sup>.

Total consumption of Triflex SmartTec: at least 3.00 kg/m<sup>2</sup>.

#### Important notice:

When working in a vertical area, it is recommendable to apply Triflex SmartTec with a maximum of 2–4 wt. % of Triflex Powder Thixo in order to make the finish thixotropic.

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

#### Triflex SmartTec Fibre

Apply with a brush.

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

Rainproof after approx. 60 min.

Can be recoated after approx. 8 hrs.

### Joint waterproofing

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

Total consumption of Triflex SmartTec: at least 1.00 kg/m for (e.g.) 33 cm width.

For joints in waterproof-concrete as per the German Directive on Watertight Concrete Structures (WU Directive), see separate planning documents

**Triflex SmartTec, WU Variation** – Waterproofing system for waterproof-concrete joints on Watertight Concrete Structures.

### Surface waterproofing, version 1

Application is wet-on-wet.

#### 1. Triflex SmartTec

Apply evenly with a universal roller.

Consumption: at least 1.50 kg/m<sup>2</sup>.

#### 2. Triflex Special Fleece PF\*

Lay smooth with a dry roller, removing any air bubbles.

Overlap the strips of fleece by at least 5 cm.

#### 3. Triflex SmartTec

Apply until the Special Fleece is fully saturated.

Consumption: at least 1.50 kg/m<sup>2</sup>.

Total consumption of Triflex SmartTec: at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 8 hrs.

For areas of 100 m<sup>2</sup> and above we recommend using SmartTec Sp for mechanical application in order to save time.

### Surface protection:

To protect against mechanical influences, we recommend laying a protective layer (e.g. protective fleece, 300 g/m<sup>2</sup> etc.).

### Surface waterproofing, version 2

Application is wet-on-wet.

#### 1. Triflex SmartTec

Apply evenly with a universal roller.

Consumption: at least 1.50 kg/m<sup>2</sup>.

#### 2. Triflex Special Fleece PF\*

Lay smooth with a dry roller, removing any air bubbles.

Overlap the strips of fleece by at least 5 cm.

#### 3. Triflex SmartTec

Apply until the Triflex Special Fleece is fully saturated.

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

#### 4. Quartz sand, size 0.7–1.2 mm

Dress the wet waterproofing in excess.

After it has cured, remove the excess.

Consumption: at least 7.00 kg/m<sup>2</sup>.

Total consumption of Triflex SmartTec: at least 3.50 kg/m<sup>2</sup>.

Total consumption of quartz sand: at least 7.00 kg/m<sup>2</sup>.

Can be recoated after approx. 7 days.

For areas of 100 m<sup>2</sup> and above we recommend using SmartTec Sp for mechanical application in order to save time.

### "Insulation" surface:

The insulation is then applied to the waterproofing with solvent-free insulation.

### "Paving and tiles" surface:

The following tile adhesives can be used as an adhesive for a subsequent covering (e.g. paving or tiles):

ARDEX X78 – Microtec Flexible Standard Set Semi-Pourable Floor Tile Adhesive  
PCI Flexible Mortar S2

It is applied in accordance with the specifications of the manufacturer.

Consumption: approx. 1.20 kg/m<sup>2</sup>.

### "Loose covering" surface:

If the subsequent covering is loosely applied (e.g. wooden decking, paving on paving supports, etc.), no further waiting times are required. To provide protection from mechanical influences, we recommend laying a protective layer (e.g. plastic fleece, min. 300 g/m<sup>2</sup>).

\* Alternatively Triflex Special Fleece



## System description

### What to do if work is interrupted

If work is interrupted for more than 24 hrs., or if soiled by rain etc., the transition must be cleaned with Triflex Cleaner. Airing time: at least 20 min. Then apply Triflex TecGrip 620 and leave to dry for approx. 30 min.

If a break in work is planned, the fresh resin can alternatively be dressed quartz sand. If the cured surface is free from loose components, you can proceed immediately with Triflex SmartTec.

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 SmartTec.

### System components

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

**Triflex Bitumen Blocker**  
**Triflex Cleaner**  
**Triflex Glass Primer**  
**Triflex Metal Primer**  
**Triflex Powder Thixo**  
**Triflex Primer 610**  
**Triflex Primer 791**

**Triflex SmartTec**  
**Triflex SmartTec Fibre**  
**Triflex SmartTec Sp**  
**Triflex Special Fleece**  
**Triflex Special Fleece PF**  
**Triflex TecGrip 620**  
**Triflex Than Primer 533**

### 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.

### Gradient / Evenness

Before commencing any work and during the work itself, it is essential to ensure the correct gradient and evenness of the substrate. Any corrections required must be taken into account during this work.

### Dimensional tolerances

When carrying out the work, always ensure compliance with the permissible tolerances for building construction (DIN 18202, Table 3, line 4).

### Safety tips / Accident prevention

Read the safety data sheets before using the products.

### Required consumptions / Waiting times

The specified consumptions 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 information

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. Deviations from the technical information of Triflex GmbH & Co. KG applicable at the time of work can compromise the guarantee. Any project-related deviations 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-Triflex products must not be used with Triflex systems. Subject to change in the interests of technical advancement or enhancement of Triflex products.

### Tender texts

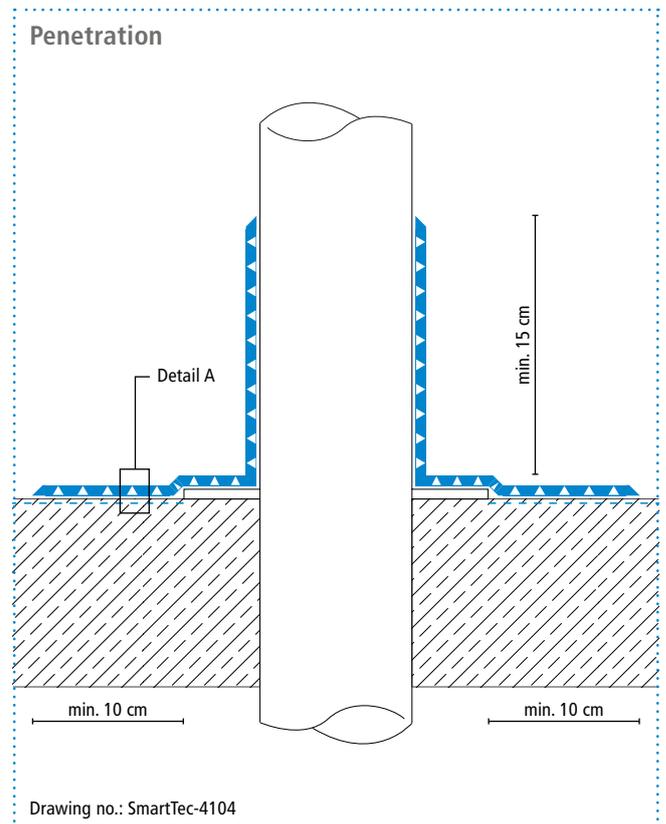
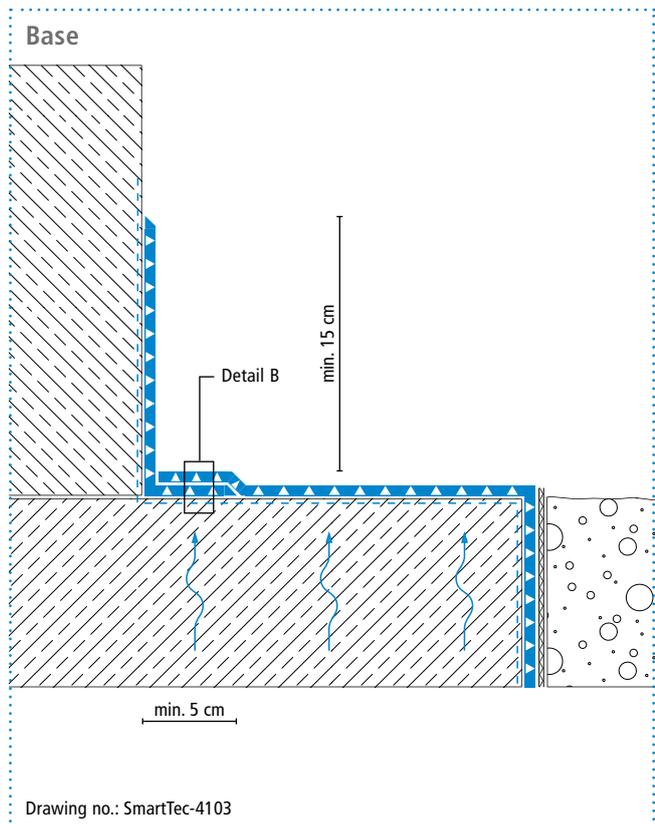
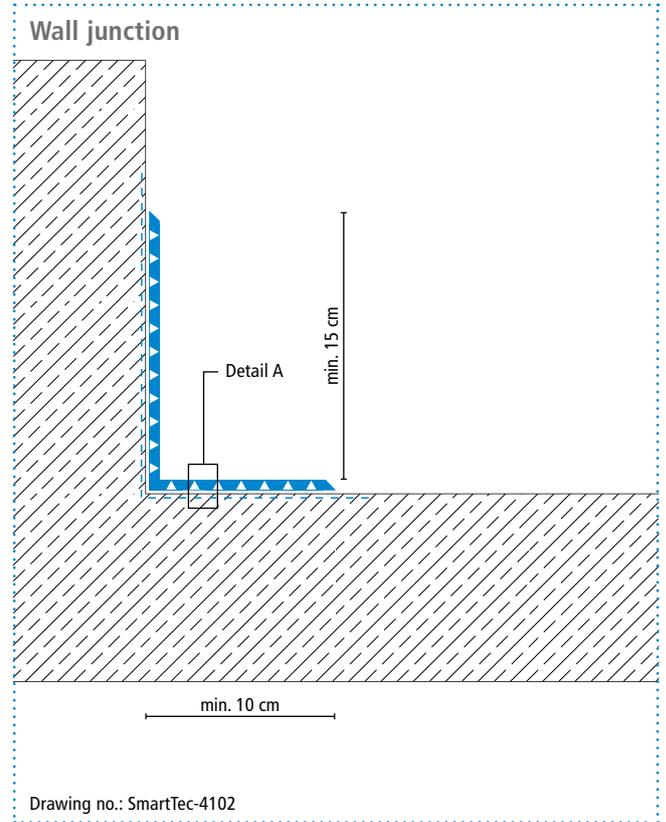
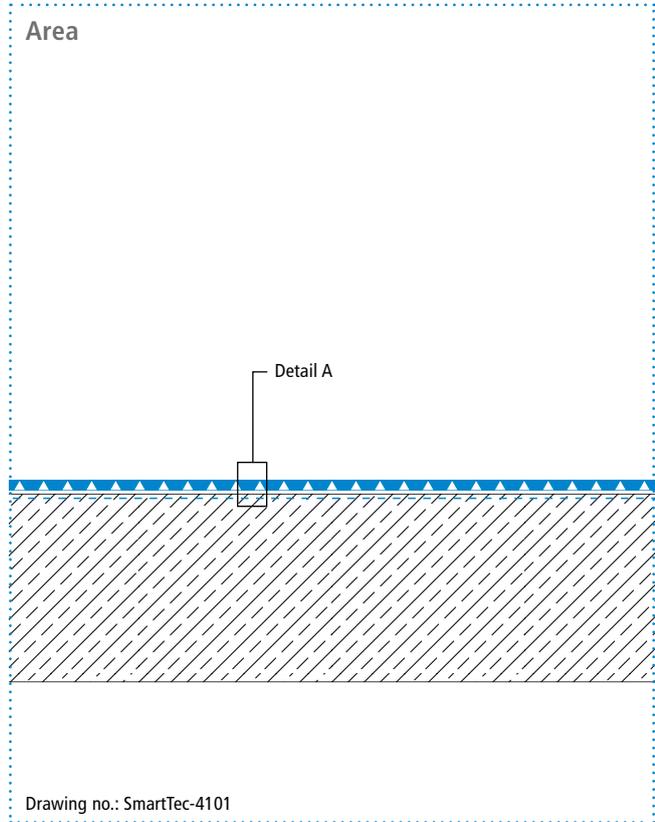
Please visit the Download section of the Triflex website at [www.triflex.com](http://www.triflex.com) to obtain the current standard specifications, which are available in a range of different file formats. Alternatively, visit the website [www.ausschreiben.de](http://www.ausschreiben.de) or [www.heinze.de](http://www.heinze.de).

### CAD drawings

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



## System drawings



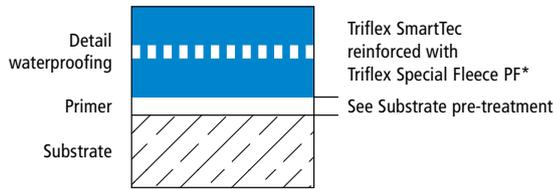
Height differences between fleece overlaps are exaggerated.

# Structure waterproofing system Triflex SmartTec®

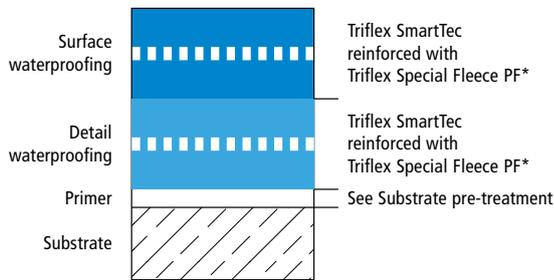


## System drawings

### System set-up – Detail A



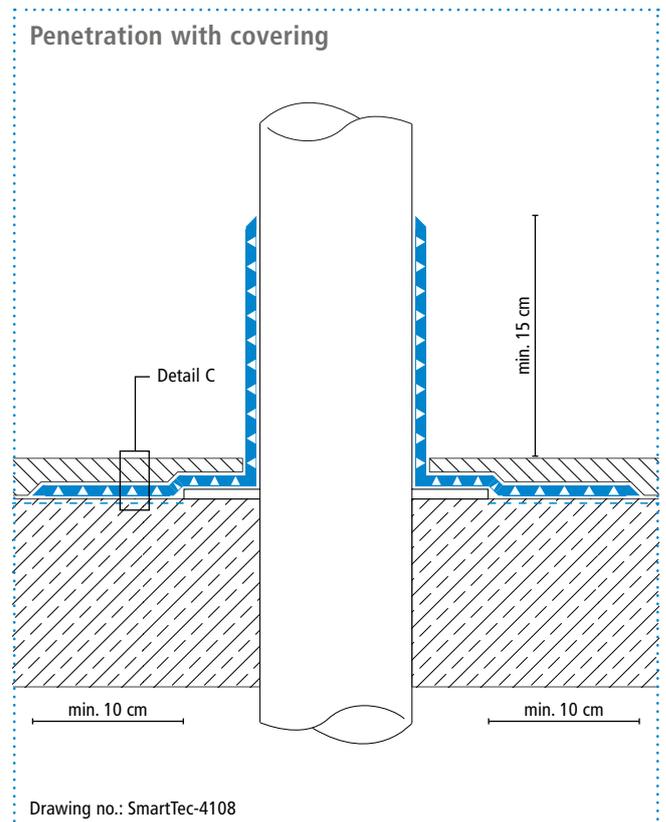
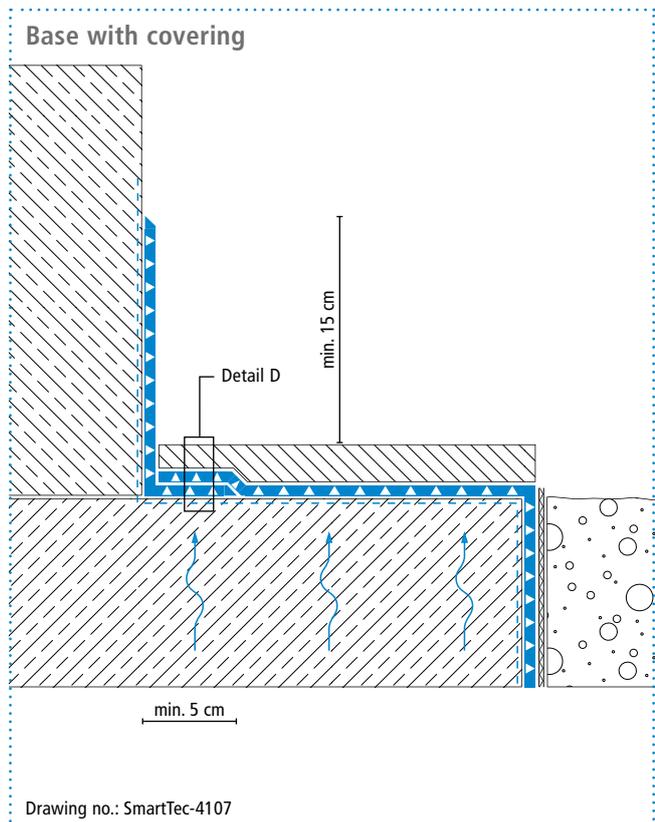
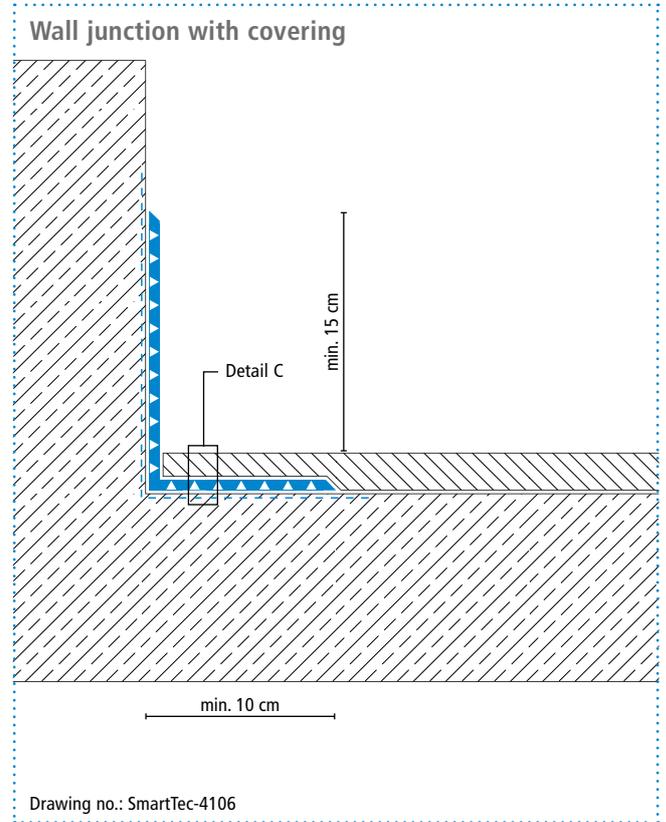
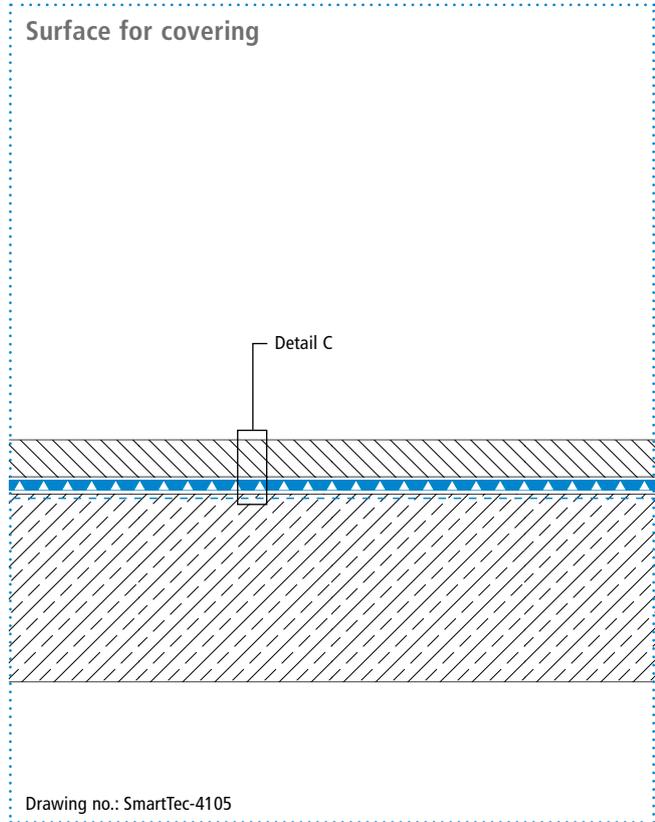
### System set-up – Detail B



\*Alternatively Triflex Special Fleece



## System drawings

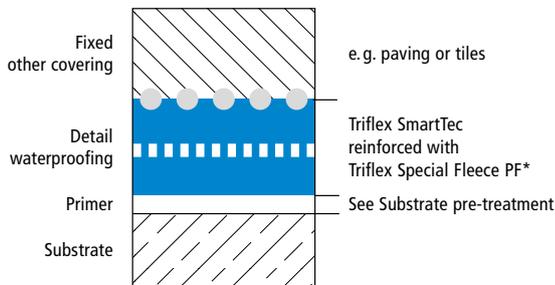


Height differences between fleece overlaps are exaggerated.

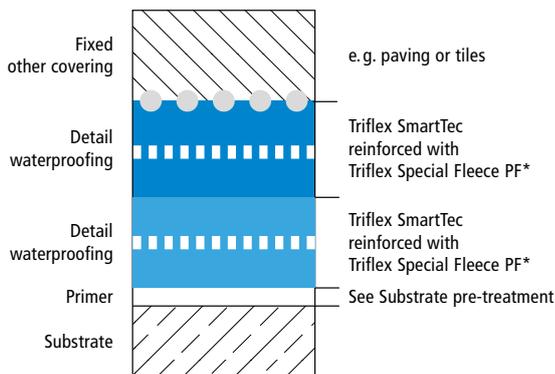


## System drawings

### System set-up – Detail C



### System set-up – Detail D



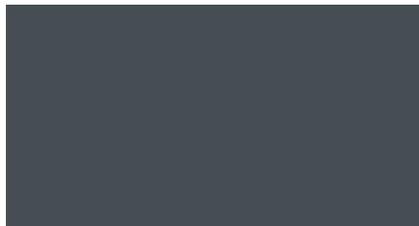
\*Alternatively Triflex Special Fleece

## Colours

### Waterproofing – Triflex SmartTec / Triflex SmartTec Sp



7030 Stone grey



7043 Traffic grey B

**Note:**

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