

Planning documents  
Underground car park coating system (OS 8)

## Triflex CPS-C+





Underground car park coating system (OS 8)

# Triflex CPS-C+

## Applications



**Triflex CPS-C+** is a waterproof thin-layer system with an epoxy resin (EP) base. This system has been specially developed for intermediate decks and underground car parks, and offers an enhanced non-slip finish. Flashing, joints and details are carried out as fleece reinforced waterproofing.



### Tailored solution

Triflex CPS-C+ offers cost-effective protection for car park operators. The thin-layer system provides increased slip resistance and, at the same, makes surfaces easier to clean.



## Advantages at a glance

### Easy to clean

All surfaces can be kept clean quickly and easily using conventional methods.

### System-integrated detail solutions

The system design is specially designed with fleece-reinforced detail solutions, in order to guarantee protection down to the smallest detail.

### Colours

Triflex CPS-C+ is available in a range of colours to meet your exact requirements. This facilitates recognition and orientation among car park users and improves traffic safety.

### Certified safety

The system build up meets the requirements of Class OS 8 under DIN V 18026 and the Repair Guideline (Rili SIB) 2001, supplementary sheet 2005, fire classification B<sub>fl</sub>-s1.

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# Triflex CPS-C+



And this is how it's done ...



1. Prime joints and the surface where necessary.



2. The flashings, details and ...



3. ... joints are waterproofed with Triflex Than R 557 thix.



4. The quartz sand-filled Triflex Pox Primer 116+ filling primer is applied ...



5. ... and dressed in excess with quartz sand while still wet.



6. The surface is then finished with Triflex Pox Finish 173+.



## 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.

# Triflex CPS-C+



## System description

### Properties

- Waterproof thin coating made of epoxy resin (EP)
- For intermediate decks and underground car parks
- Mechanically strong
- Solvent-free
- Specially designed for indoor use
- Cold-applied
- Chemical-resistant
- Surface design to specification
- Meets the requirements of Class OS 8 under DIN V 18026 and the Repair Guideline (Rili SIB) 2001, supplementary sheet 2005
- Fire classification B<sub>fl</sub>-s1 in compliance with DIN EN 13501-1

### System versions and system design

#### Triflex CPS-C+, version 1

thin coating with  
layer thickness  $\geq 1.5$  mm\*  
in accordance with DIN EN 13813

#### Triflex CPS-C+, version 2

thin coating with  
layer thickness  $\geq 2.5$  mm\*  
in accordance with  
DIN EN 1504-2 / DIN V 18026

Finish

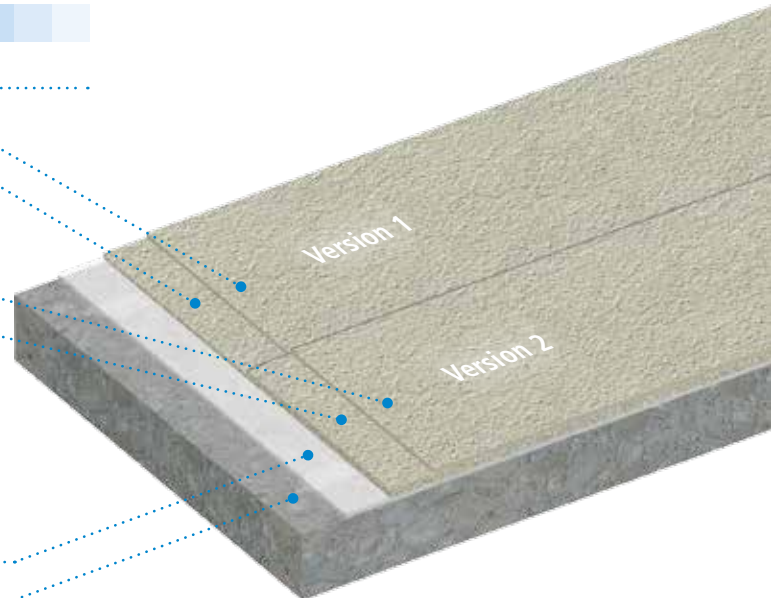
Filling primer

Finish

Filling primer

Primer (optional)

Substrate



### System components

#### Primer

Triflex Pox Primer 116+ for sealing the substrate and ensuring substrate adhesion (if necessary, see table substrate pre-treatment).

#### Filling primer, version 1

Layer thickness  $\geq 1.5$  mm\* in accordance with DIN EN 13813.  
Triflex Pox Primer 116+ filled with quartz sand 0.1–0.4 mm and dressed with quartz sand 0.3–0.8 mm.

#### Filling primer, version 2

Layer thickness  $\geq 2.5$  mm\* in accordance with DIN EN 1504-2 / DIN V 18026.  
Triflex Pox Primer 116+ filled with quartz sand 0.1–0.4 mm and dressed with quartz sand 0.3–0.8 mm.

#### Finish

Triflex Pox Finish 173+ as a surface finish.

### 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. The substrate must be pre-treated as per the specifications in the Repair Guideline (Rili SIB). The following volume specifications relate to a roughness depth of  $R_f = 0.5$  mm.

**Moisture:** When carrying out coating work, the substrate moisture must not exceed 4 % 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 minimum tensile adhesion strengths must be met on pre-treated test areas:

Concrete: in the centre, at least 2.0 N/mm<sup>2</sup>, individual value not less than 1.5 N/mm<sup>2</sup>.

\* The layer thicknesses apply to the overall design of the system.

# Triflex CPS-C+



## System description

### Substrate pre-treatment

Substrate	Pre-treatment	Primer
Aluminium <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Asphalt		Not possible
Composite thermal insulation systems <sup>(1)</sup>		Triflex Pox Primer 116+
Concrete	Grinding, milling or dust-free shot-blasting	No primer
Concrete, below-ground	Grinding, milling or dust-free shot-blasting	Triflex Pox Primer 116+
Copper <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Epoxy resin coating	Roughen surface, adhesion and compatibility test	No primer
Glass <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface, adhesion test	No primer
Lightweight concrete <sup>(1)</sup>		Triflex Pox Primer 116+
Mortar, resin-modified	Grinding, milling or dust-free shot-blasting; adhesion and compatibility test	Triflex Pox Primer 116+
Paints	Grinding or milling, completely remove	See substrate
Plaster/masonry <sup>(1)</sup>		Triflex Pox Primer 116+
PU coating	Roughen surface, adhesion and compatibility test	No primer
PVC moulded components, hard <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer
Screeds	Grinding, milling or dust-free shot-blasting	Triflex Pox Primer 116+
Stainless steel <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Steel, galvanised <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>
Tiles	Mechanically remove glaze	Triflex Pox Primer 116+
Wood <sup>(1)</sup>	Remove paints	Triflex Pox Primer 116+
Zinc <sup>(1)</sup>	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(2)</sup>

<sup>(1)</sup> Only in areas not subject to high mechanical stress, e.g., details and flashing.

<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

#### Details and junctions:

#### Important note:

Additional priming is required on highly absorbent substrates and with substrate moistures of between 4 to 6 % by weight.

#### Triflex Pox Primer 116+

Apply evenly with a Triflex universal roller.

Volume at least 0.50 kg/m<sup>2</sup> (unfilled / non-dressed)

#### 1. Triflex Pox Primer 116+

Apply evenly with a Triflex universal roller.

Volume: at least 0.30 kg/m<sup>2</sup>.

#### 2. Quartz sand, size 0.3–0.8 mm

Dress the freshly primed finish – not in excess.

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

Can be recoated after approx. 12 hrs up to max. 24 hrs.

#### Triflex Metal Primer

Apply a thin coat with a short-pile roller, or alternatively, spray on a thin coat with a spray can.

Volume: approx. 80 ml/m<sup>2</sup>.

Can be recoated after approx. 30 to 60 min.

#### Surfaces:

#### Important note:

Additional priming is required on highly absorbent substrates and with substrate moistures of between 4 to 6 % by weight:

#### Triflex Pox Primer 116+

Pour on thickly and spread evenly using a cellular

rubber spreader. Then recoat using a Triflex universal roller.

Do not allow puddles to form.

Volume at least 0.50 kg/m<sup>2</sup> (unfilled, non-dressed)

Can be recoated after approx. 12 hrs up to max. 24 hrs.

# Triflex CPS-C+



## System description

### Repairing

The mixing ratio specifications apply for a temperature range of around 20 °C. Depending on the application temperature and if using different grain shapes, we recommend carrying out preliminary tests in order to determine the mixing ratio.

#### Scratch coat:

Roughness depth levelling R<sub>f</sub> 0.5 to 1.5 mm.

##### Triflex Pox Primer 116+

1.00 kg of Triflex Pox Primer 116+ is mixed with 0.50 kg of quartz sand 0.1–0.4 mm.

Volume: at least 2.20 kg/m<sup>2</sup> per mm layer thickness.

Can be recoated after approx. 12 hrs up to max. 24 hrs.

#### Levelling coat:

Roughness depth levelling R<sub>f</sub> 2.0 to 3.0 mm.

##### Triflex Pox Primer 116+

1.00 kg of Triflex Pox Primer 116+ is mixed with 0.70 kg of quartz sand 0.1–0.4 mm and 0.30 kg of quartz sand 0.3–0.8 mm.

Volume: at least 2.20 kg/m<sup>2</sup> per mm layer thickness.

Can be recoated after approx. 12 hrs up to max. 24 hrs.

#### Mortar:

For levelling large areas of damage.

##### Triflex Pox Mortar

See product information for mixing ratio and grading curve.

Volume: at least 2.20 kg/m<sup>2</sup> per mm layer thickness.

Can be recoated after approx. 12 hrs up to max. 24 hrs.

### Detail waterproofing

#### Important note:

To prevent the possibility of water infiltration or detachment around the details, a stop must be cut at the transition of the surface coating to the detail waterproofing (see system drawings).

The stop must be at least 15 mm deep and 5 mm wide. The cut must be made before beginning waterproofing/coating work.

#### Sequence of steps:

1. Cut stop
2. Prime surface
3. Waterproof details, fill stop
4. Tape off stop
5. Waterproof surface

All junctions and transitions and other detail solutions must be completed with Triflex Than R 557 thix prior to coating the surface.

#### Detail waterproofing:

Application is wet-on-wet.

##### 1. Triflex Than R 557 thix

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 Than R 557 thix

Apply until the Triflex Special Fleece is fully saturated.

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

Total volume of Triflex Than R 557 thix at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 7 hrs. up to max. 1 day.

#### Stop:

##### Triflex Than R 557 thix

Seal the stop so it is flush with the surface.

The edges may need to be taped off in order to create a clean line.

Volume: approx. 2.20 kg/m<sup>2</sup> per mm layer thickness.

Ready for pedestrian and vehicle traffic after approx. 3 days.

For dimensions, see Triflex CPS-C+ system drawings.



## System description

### Joint waterproofing

#### Important note:

To prevent the possibility of water infiltration or detachment around the joints, a stop must be cut at the transition of the filling primer to the joint waterproofing (see system drawings). The stop must be at least 15 mm deep and 5 mm wide, both to the left and right of the joint. The cuts must be made before beginning waterproofing/coating work.

#### Sequence of steps:

1. Cut stop
2. Prime surface
3. Waterproof joints, fill stop
4. Tape off stop
5. Waterproof surface

All joints must be completed with Triflex Than R 557 thix prior to coating the surface. To prevent abutting edges, joints should always be embedded in the substrate. See system drawings.

#### Construction joint:

Points 1 to 3 are completed wet-on-wet.

##### 1. Triflex Than R 557 thix

Apply a width of 16 cm with a radiator roller.  
Volume at least 0.30 kg/m.

##### 2. Triflex Special Fleece

Lay a 15 cm wide fleece strip, removing any air bubbles.  
Overlap the ends of the fleece strip by at least 5 cm.

##### 3. Triflex Than R 557 thix

Apply until the Triflex Special Fleece is fully saturated.  
Volume at least 0.30 kg/m.

Can be recoated after approx. 7 hrs up to max. 1 day.

Total volume Triflex Than R 557 thix at least 0.60 kg/m.

After application of the filling primer and the finish.

##### 4. Triflex Than R 557 thix

Remove the omission of the approx. 2.5 cm wide joint so that it is flush.  
Volume: approx. 2.20 kg/m<sup>2</sup> per mm layer thickness.

Ready for pedestrian and vehicle traffic after approx. 3 days.

For dimensions, see Triflex CPS-C+ system drawings.

#### Important note:

The centre of the construction joint is taped off with 2.5 cm wide adhesive tape for the subsequent layers so that the joint remains omitted. All further layers are only taken to the edge of the joint.

Prior to curing the layer, the adhesive tape must be removed and new tape applied for each further layer.

#### Settlement joint:

Joints subject to normal mechanical stress.

##### 1. Triflex Cryl Paste

Apply a width of approx. 4 cm to both sides of the joint to bond the Triflex Support Strip.

##### 2. Triflex Support Strip

Insert in the joint as a loop.

Can be recoated after approx. 1 hr.

Points 3 to 7 are completed wet-on-wet.

##### 3. Triflex Than R 557 thix

Apply to both sides of the joint and the Triflex support strip using a radiator roller.  
Volume at least 0.70 kg/m.

##### 4. Triflex Special Fleece

Insert a 35 cm wide fleece strip as the first loop, making sure there are no air bubbles.  
Overlap the ends of the fleece by at least 5 cm.

##### 5. Triflex Than R 557 thix

Apply to completely saturate the Triflex Special Fleece and as a preliminary layer for the next fleece loop.  
Volume at least 0.70 kg/m.

##### 6. Triflex Special Fleece

Insert a 35 cm wide strip as the second loop, making sure there are no air bubbles.  
Overlap the ends of the fleece strip by at least 5 cm.

##### 7. Triflex Than R 557 thix

Apply until the Triflex Special Fleece is fully saturated.  
Volume at least 0.70 kg/m.

Can be recoated after approx. 7 hrs up to max. 1 day.

Total volume Triflex Than R 557 thix at least 2.10 kg/m.

After application of the filling primer and the finish.

##### 8. PE round sealing band

Place in the joint.

##### 9. Triflex FlexFiller

Fill the joint so it is flush with the surface.

Volume approx. 2.20 kg/m<sup>2</sup> per mm layer thickness.

Ready for pedestrian and vehicle traffic after approx. 24 hrs.

For dimensions, see Triflex CPS-C+ system drawings.

#### Important note:

1. The settlement joint is taped off with adhesive tape for the subsequent layers so that the joint remains permanently omitted. All further layers are only taken to the edge of the joint.

Prior to curing the layer, the adhesive tape must be removed and new tape applied for each further layer.

2. The settlement joints are all maintenance joints. For visual reasons, it may be necessary to renew the joint ingress protection after structural movement.

#### Stop:

##### Triflex Than R 557 thix

Seal the stop so it is flush with the surface.

The edges may need to be taped off in order to create a clean line.

Volume: approx. 2.20 kg/m<sup>2</sup> per mm layer thickness.

Ready for pedestrian and vehicle traffic after approx. 3 days.

For dimensions, see Triflex CPS-C+ system drawings.

For joints subject to high mechanical stress, see

**Triflex ProJoint** – Waterproofing system for expansion joints.

# Triflex CPS-C+



## System description

### Filling primer, version 1

#### 1. Triflex Pox Primer 116+

Mix with quartz sand 0.1–0.4 mm in the ratio 1 : 0.5 (by weight) and apply using a cellular rubber spreader (red), a metal blade or a smoothing trowel.  
Volume of Triflex Pox Primer 116+ at least 0.50 kg/m<sup>2</sup>,  
volume of quartz sand 0.1–0.4 mm at least 0.25 kg/m<sup>2</sup>.

#### 2. Quartz sand, size 0.3–0.8 mm

Dress the fresh filling primer in excess.  
Volume: approx. 4.00 kg/m<sup>2</sup>.

Can be recoated after approx. 12 up to max. 24 hrs.

#### Important note:

The filling primer is omitted in the area of the construction and settlement joints.

### Filling primer, version 2

#### 1. Triflex Pox Primer 116+

Mix with quartz sand 0.1–0.4 mm in the ratio 1 : 0.5 (by weight) and apply using a cellular rubber spreader (red), a metal blade or a smoothing trowel.  
Volume of Triflex Pox Primer 116+ at least 0.80 kg/m<sup>2</sup>,  
volume of quartz sand 0.1–0.4 mm at least 0.40 kg/m<sup>2</sup>.

#### 2. Quartz sand, size 0.3–0.8 mm

Dress into the fresh filling primer in excess.  
Volume approx. 5.00 kg/m<sup>2</sup>

Can be recoated after approx. 12 up to max. 24 hrs.

#### Important note:

The filling primer is omitted in the area of the construction and settlement joints.

### Finish

The sealing of all vertical junctions, transitions and details must be carried out prior to the surface finishing with thixotropic Triflex Pox Finish 173+. The product is thickened by the in-situ addition of 2.5 wt.-% Triflex Powder Thixo.

#### Triflex Pox Finish 173+

Pour on thickly and spread evenly using a cellular rubber spreader. Then cross-coat using a Triflex universal roller.

Do not allow puddles to form.

Volume: at least 0.60 kg/m<sup>2</sup>.

Ready for pedestrian traffic after approx. 20 hrs, ready for vehicle traffic after approx. 5 days.

#### Important note:

The finish is omitted in the area of the construction and settlement joints.

### Collision protection

To protect against mechanical damage, the waterproofing should be protected in risk areas (e.g., kerbs, thresholds and joints) by stainless steel cover plates.

#### 1. Triflex Cleaner

Degrease plates and roughen the underside.\*

#### 2. Triflex Cryl Paste

Cover the entire underside of the plate with Triflex Cryl Paste.

#### 3. Cover plate

Stick into place and remove surplus paste with a trowel, secure mechanically if necessary.

Volume of Triflex Cryl Paste: at least 0.50 kg/m<sup>2</sup>.

Can be subject to loads after approx. 45 min.

\* Alternative to roughening: Remove loose rust and rust scale, prime with Triflex Metal Primer.



# Triflex CPS-C+



## System description

### Work interruptions

If work is interrupted for longer than the indicated time, or soiled by rain etc., the surface must be abraded to ensure intermediate adhesion. Transitions to subsequent waterproofing must overlap (incl. Triflex Special Fleece) by a minimum of 10 cm. This also applies to junctions and detail solutions.

### System components

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

- Triflex Cleaner
- Triflex Cryl Paste
- Triflex FlexFiller
- Triflex Metal Primer
- Triflex Powder Thixo
- Triflex Pox Finish 173+
- Triflex Pox Mortar
- Triflex Pox R 116+
- Triflex Special Fleece
- Triflex Than R 557 thix

### Quality standard

All Triflex products are manufactured in accordance with the standards defined in ISO 9001. To ensure that 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 volumes / Waiting times

The specified volumes apply only to smooth, even substrates with a maximum roughness depth of  $R_a = 0.5$  mm. 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  $+20^\circ\text{C}$ .

# Triflex CPS-C+



## System description

### Application notes

The temperature at which components are mixed should be between +15 and +25 °C. If the mixing temperature is below +15 °C, product viscosity increases. This can result in the use of a greater volume of finish and have a negative effect on the non-slip class. The substrate temperature is also crucial.

In low temperatures, the chemical reaction slows down; i.e. application and recoating times are increased, and there is a longer wait before the finish is ready for pedestrian and vehicular traffic. In high temperatures the reverse applies.

The mixing specifications apply to guide formulations at 20 °C. We recommend carrying out preliminary tests depending on the application temperature.

Furthermore, the applied EP material (primer/filling primer/finish) must be protected against direct water contact for approx. 24 hrs at +20 °C. Within the first 24 hrs, water in the surface may cause the material to foam up.

In the case of EP finishes, water in the surface during the first 36 hrs at +15 °C may cause stickiness and/or carbamate formation (white discolouration), which can severely compromise the properties of the finish. The system may have to be removed and redone.

The max. relative humidity is 80 %.

Driving lane coatings are subject to constant loads and stresses in accordance with the level of use. The effects of UV light and weather as well as organic dyes (e.g., foliage) and various chemicals (e.g., disinfectants, acids, etc.) can cause discolouration, yellowing and chalking effects in finishes. Abrasion can scratch the surface. This does not affect the mechanical properties of the cured coating.

### 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 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 for tender, which are available in a range of different file formats.

### CAD drawings

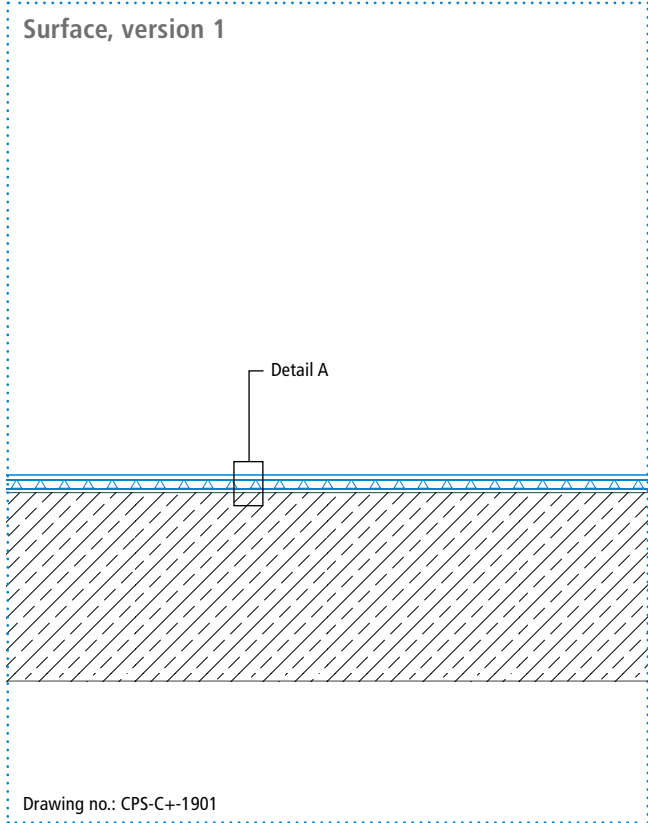
All CAD system drawings can be downloaded free of charge from the download section of the Triflex website at [www.triflex.com](http://www.triflex.com).

# Triflex CPS-C+



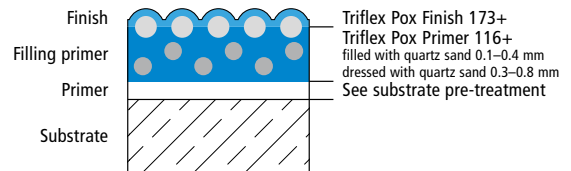
## System drawings

Surface, version 1

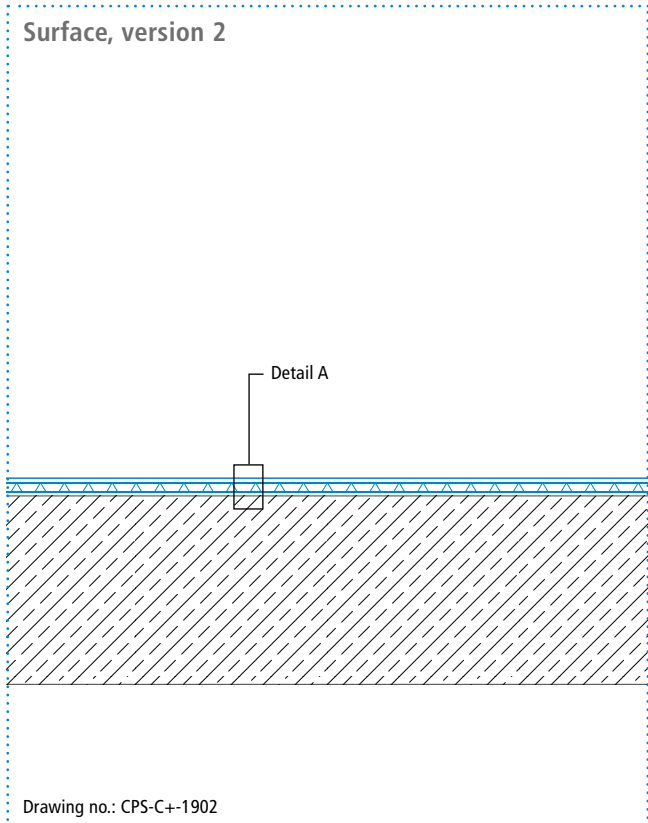


Drawing no.: CPS-C+-1901

System design, version 1 – Detail A

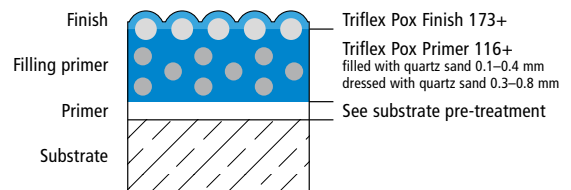


Surface, version 2



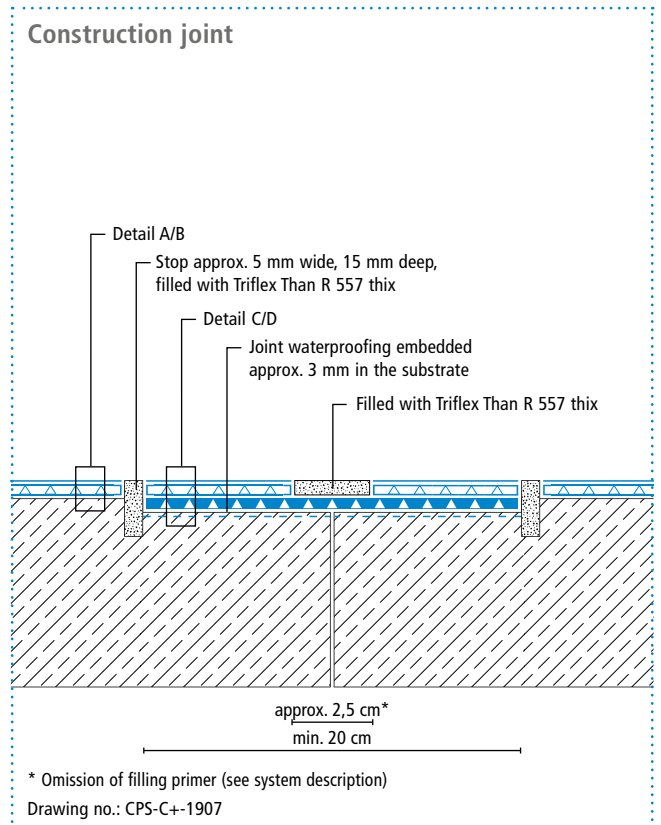
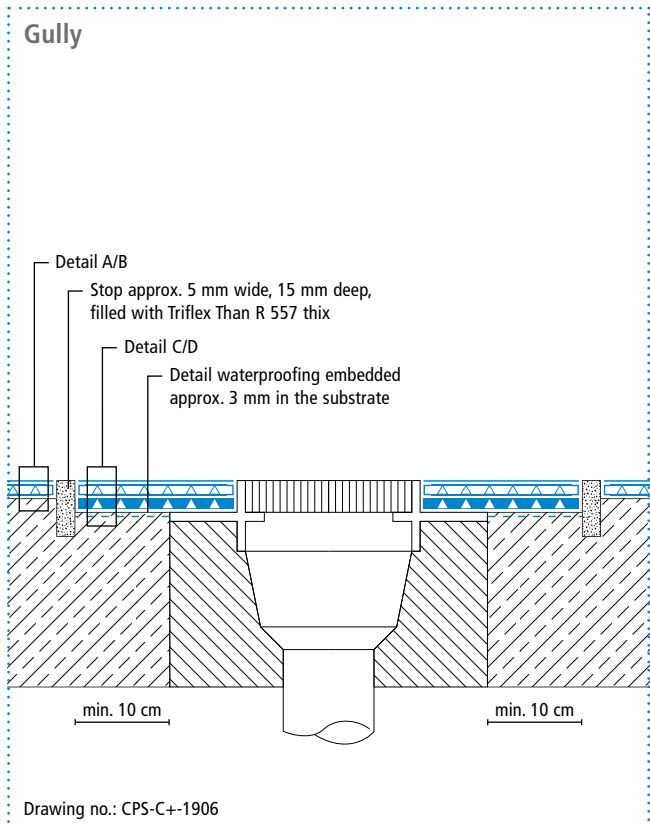
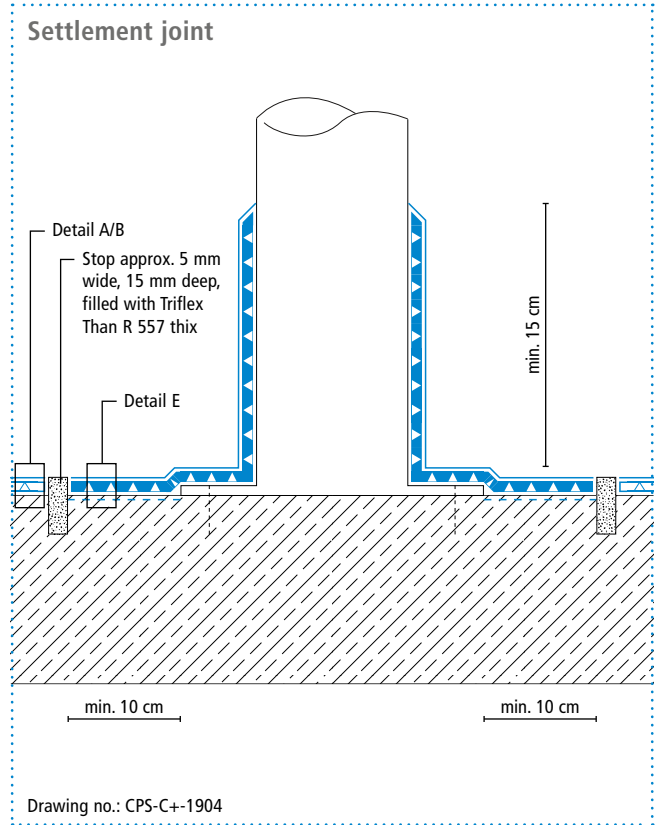
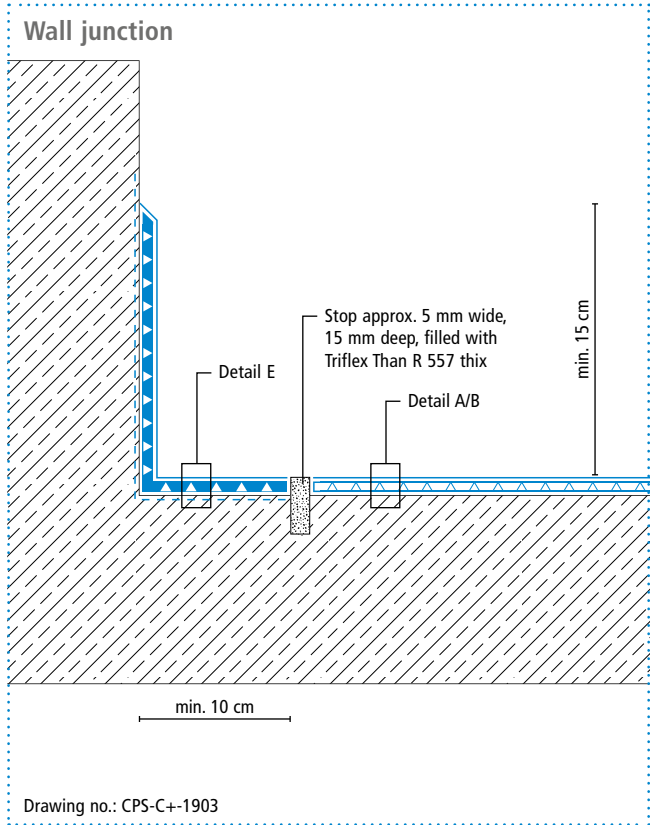
Drawing no.: CPS-C+-1902

System design, version 2 – Detail B



# Triflex CPS-C+

## System drawings

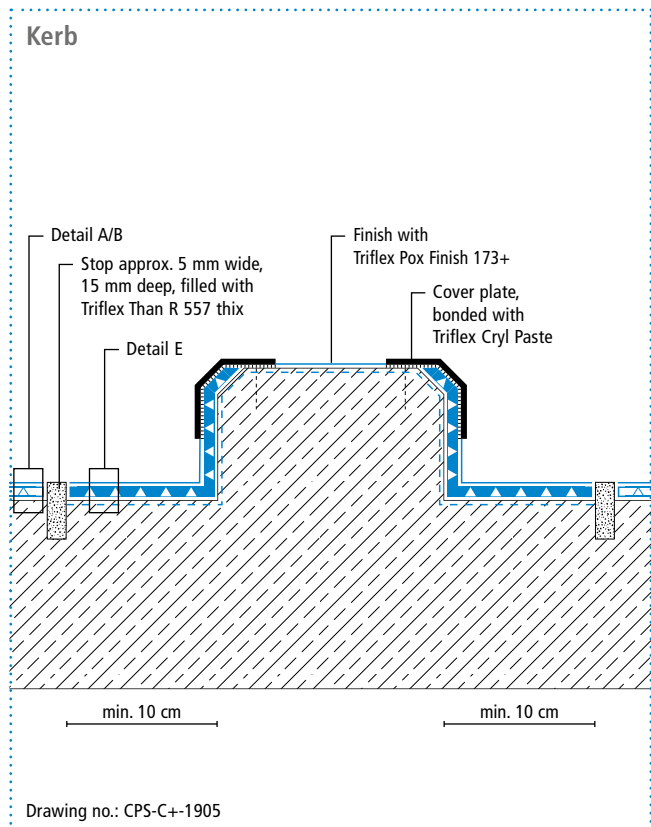


Height differences between fleece overlaps are exaggerated.

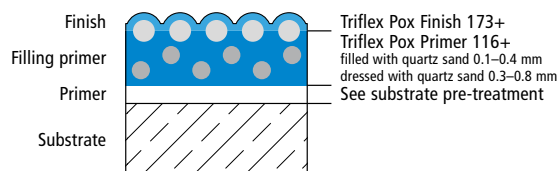
# Triflex CPS-C+



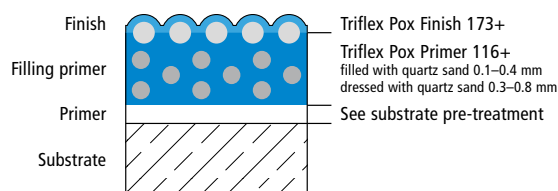
## System drawings



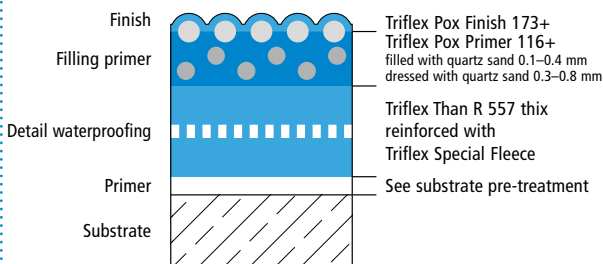
### System design, version 1 – Detail A



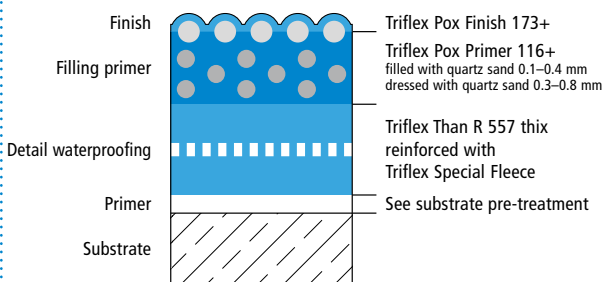
### System design, version 2 – Detail B



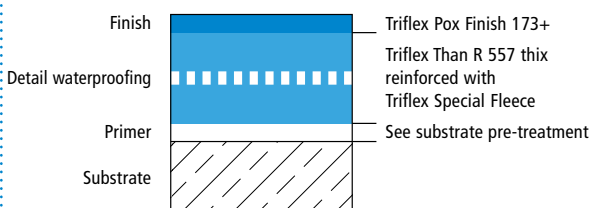
### System design, version 1 – Detail C



### System design, version 2 – Detail D



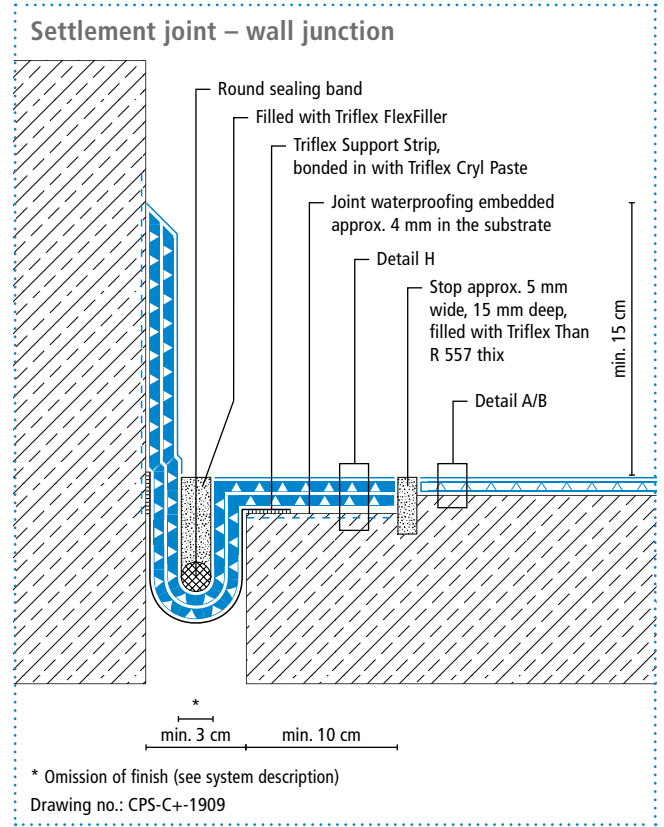
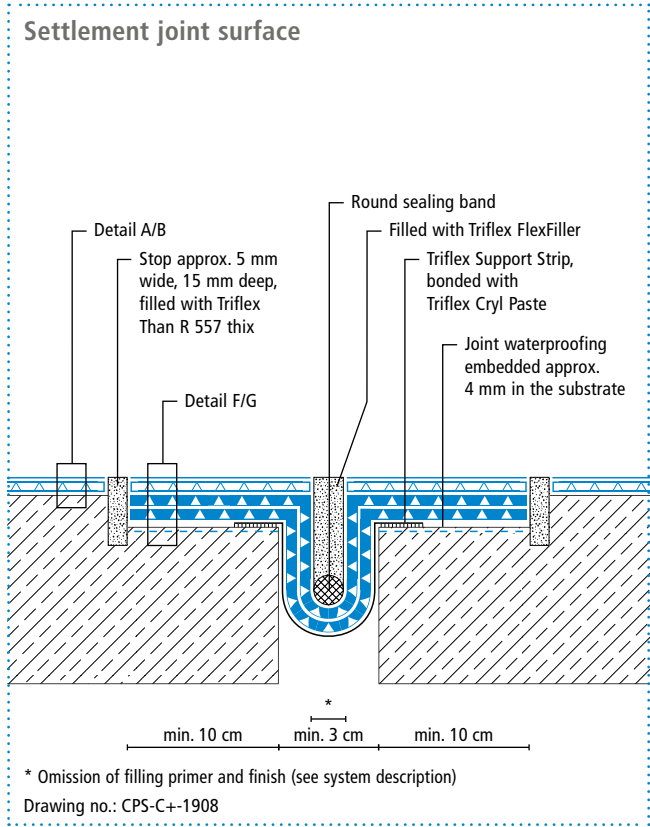
### System design – Detail E



# Triflex CPS-C+



## System drawings

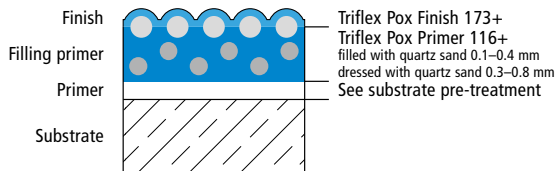


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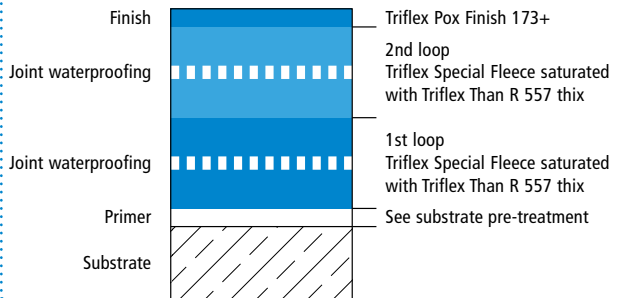


## System drawings

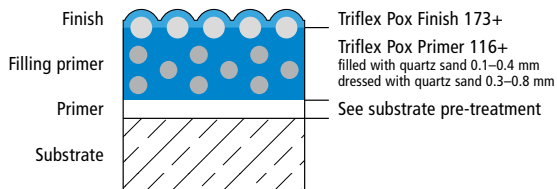
System design, version 1 – Detail A



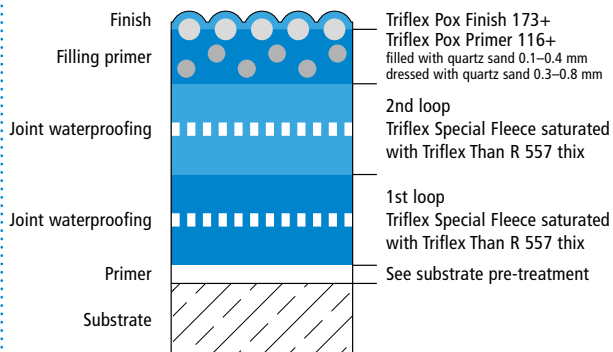
System design – Detail H



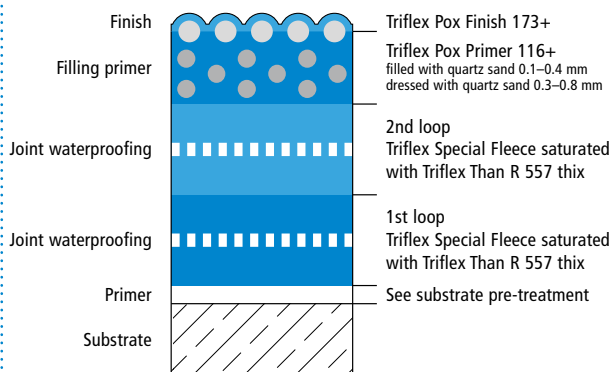
System design, version 2 – Detail B



System design, version 1 – Detail F



Systemaufbau, Variante 2 – Detail G



## Triflex CPS-C+ surface finishes



7032 Pebble grey (Triflex Pox Finish 173+)

**Please note:**

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



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