Triflex

Delivering solutions together.

Planning documents

Parking deck flooring system (OS 11a/b)

Triflex ProDeck

PARKING DECKS | UNDERGROUND CAR PARKS

Parking deck flooring system (OS 11a/b)

Triflex ProDeck

Applications

Triflex ProDeck is a reinforced coating system with dynamic crack-bridging and has OS 11a approval for top decks and OS 11b approval for intermediate decks, underground car parks, ramps and spiral ramps on the basis of Rili SIB. The system is able to withstand high mechanical loads and has been specially designed for heavily used parking decks. The Triflex ProDeck system set-up has been tested in compliance with OS 11a/b surface protection systems for surfaces for pedestrian and vehicular traffic subject to heavy mechanical loads with dynamic crack-bridging capabilities in compliance with DIN 18532, Part 6 surface protection systems for concrete from products meeting DIN EN 1504-2.

The innovative Triflex ProMesh special reinforcement minimises movements of the substrate through force redistribution, significantly reducing the abrasion, particularly at bends and in acceleration and braking zones.

A strong hold for long life

Triflex ProDeck is designed for surfaces subject to high mechanical loads. As a result of the innovative, special reinforcement, shearing forces, which arise in particular at tight curves and ramp approaches, are distributed across the surface. As a result of using only high-quality PMMA resins throughout the whole of the system structure, a consistent chemical bond is achieved which, moreover, keys into the full surface of the substrate. This effectively prevents cracks and wide-area detachment from the substrate.

The system scarcely wears at all, even under continuous vehicle traffic, and can accept high mechanical loads. This is ensured by a particularly wear-resistant dressing. In spite of its high grip and highly non-slip finish, Triflex ProDeck is easy to look after.

Advantages at a glance

Long-lasting
Triflex ProDeck is a reinforced, crack-bridging thick-layer system. The wearing layer can withstand even high mechanical stress and extends refurbishment intervals considerably.

System-integrated detail solutions
The cured resin forms a seamless and joint-free surface. Complex details and joints are always waterproofed and fleece-reinforced.

Ideal for refurbishments
The system, which has a surface weight of less than 10 kg/m², is suitable for application on concrete and asphalt substrates without negatively affecting stability. This saves removal costs and time.

Short closure periods
Triflex ProDeck offers considerably faster curing times than systems made of EP or PUR resins. Parking decks can also be coated in stages. This reduces closure times and disruptions to traffic. The parking deck surfaces are ready for full use again after only 3 hours.

Colours
Triflex ProDeck can be finished in a range of colours. This facilitates recognition and orientation among car park users and improves traffic safety.

Certified safety
The system set-up meets the requirements of Class OS 11a/b in compliance with DIN 18532, Part 6 and DIN V 18026 and the German Committee on Reinforced Concrete's guidelines for the protection and repair of concrete components (Repair Guideline).
Fire classification in compliance with DIN EN 13501-1, class B_{fl}-s1 (version 1) respectively C_{fl}-s1 (version 2).

Parking deck flooring system (OS 11a/b)

Triflex ProDeck

And this is how it's done…

1. Prepare substrate, e.g. by shot-blasting.

2. Prime joints and surfaces with Primer.

3. Waterproof joints and details with fleece-reinforced Triflex ProDetail.

4. The Triflex ProMesh reinforcement is laid on the surface starting at the side …

5. … edge-to-edge, one strip after another.

6. The reinforcement is soaked with Triflex Cryl Primer 287 and pressed on with the roller, ensuring that no bubbles remain.

7. The coating with Triflex ProDeck then follows.

8. Quartz sand or fine hard grain is then scattered onto the fresh coating.

9. Any surplus is removed once the coating has cured.

10. The surface is then finished with Triflex Cryl Finish 209.

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.

Parking deck flooring system (OS 11a/b)

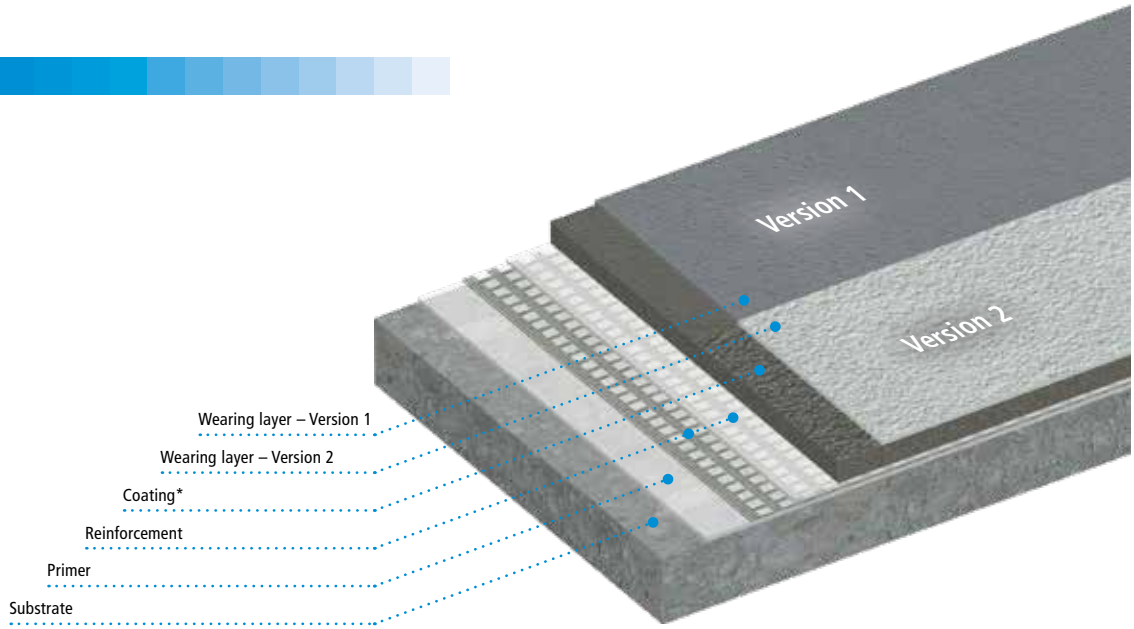
Triflex ProDeck

System description

Properties

- Waterproof thick coating based entirely on polymethyl methacrylate (PMMA)
- Cracks are avoided through force redistribution
- Triflex ProDeck (OS 11a) for freely exposed top decks
  Triflex ProDeck (OS 11b) for intermediate decks, underground car parks, ramps and spiral ramps
- Withstands high mechanical loads
- Shear-resistant design (does not delaminate)
- Seamless
- System-integrated detail solutions
- Full-surface adhesion and impermeable
- Dynamic crack-bridging properties
- Cold-applied
- Fully reinforced with special fabric
- Fast-curing
- Ready for vehicle traffic after approx. 3 hrs
- Chemical-resistant
- Weather-resistant (UV, IR, etc.)
- Non-slip
- Variety of colours available
- Meets the requirements of Class OS 11a/b in compliance with DIN 18532, Part 6 and the German Committee on Reinforced Concrete's guidelines "Protection and repair of concrete components"

System set-up



System components

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

Reinforcement
Triflex ProMesh (special reinforcement).

Coating*
Triflex ProDeck as surface protection system of the classification OS 11a or OS 11b.

Wearing layer – Version 1
Quartz sand infill 0.7–1.2 mm,
Triflex Cryl Finish 209 as surface finish.

Wearing layer – Version 2
Fine hard grain infill,
Triflex Cryl Finish 209 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 in accordance with the specifications in the Repair Guideline (Rili SIB). The following volume specifications relate to a roughness depth of R_T = 0.5 mm.

Moisture: When carrying out the 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 minimum tensile adhesion strengths must be met on pre-treated test areas:
Concrete: in the centre, at least 1.5 N/mm², individual value not less than 1.0 N/mm².

* Please note: term in compliance with "German Committee on Reinforced Concrete (DAfStb) – Guidelines for the protection and repair of concrete components" = primarily effective surface protection layer

Triflex ProDeck

System description

Substrate pre-treatment

Substrate	Pre-treatment	Primer
Aluminium [1]	Abrade with Triflex Cleaner, roughen surface	No primer [2]
Asphalt	Grinding, milling or dust-free shot-blasting executed transversely	Triflex Cryl Primer 222
Composite thermal insulation systems [1]		Triflex Pox Primer 116+
Concrete	Grinding, milling or dust-free shot-blasting executed transversely	Triflex Cryl Primer 287
Copper [1]	Abrade with Triflex Cleaner, roughen surface	No primer [2]
Epoxy resin coating	Roughen surface, adhesive strength and compatibility test	No primer
Glass [1]	Abrade with Triflex Cleaner, roughen surface, adhesive strength test	Triflex Glass Primer
Lightweight concrete [1]		Triflex Cryl Primer 287
Mortar, resin-modified	Grinding, milling or dust-free shot-blasting executed transversely; adhesive strength and compatibility test	Triflex Pox Primer 116+
Paints	Grinding or milling, completely remove	See substrate
Plaster/masonry [1]		Triflex Cryl Primer 287
PU coating	Roughen surface, adhesive strength and compatibility test	No primer
PVC mouldings, hard [1]	Abrade with Triflex Cleaner, roughen surface	No primer
Screeds	Grinding, milling or dust-free shot-blasting executed transversely	Triflex Cryl Primer 287
Stainless steel [1]	Abrade with Triflex Cleaner, roughen surface	No primer [2]
Steel, galvanised [1]	Abrade with Triflex Cleaner, roughen surface	No primer [2]
Tiles	Mechanically remove glaze	Triflex Cryl Primer 287
Wood [1]	Remove paints	Triflex Cryl Primer 287
Zinc [1]	Abrade with Triflex Cleaner, roughen surface	No primer [2]

[1] Only in areas not subject to high mechanical stress, e.g. details and flashing.
[2] 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/m².
Can be recoated after approx. 45 min.

Triflex Cryl Primer 287
Pour on thickly and spread evenly using a cellular rubber spreader.
Then cross-coat using a Triflex Universal Roller.
Volume: at least 0.35 kg/m².
Can be recoated after approx. 45 min.

Triflex Glass Primer
Wipe on GP evenly with a cleaning cloth.
Volume approx. 50 ml/m².
Can be recoated after approx. 15 min. up 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/m².
Can be recoated after approx. 30 to 60 min.

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.
Dress with not too much of the fresh primer.
Volume of Triflex Pox Primer 116+: at least 0.30 kg/m².
Volume of quartz sand 0.3-0.8 mm: at least 0.70 kg/m².
Can be recoated after approx. 12 hrs. to max. 24 hrs.

Triflex ProDeck

System description

Repairing

In the case of roughness depths R_T 0.5 to 1 mm:

Scratch coat for repairing mineral or bituminous substrates with the addition of up to 10 kg quartz sand 0.2–0.6 mm* per 33 kg of Triflex ProDeck.
Volume: at least 2.00 kg/m² per mm layer thickness.
Can be recoated after approx. 1 hr.

In the case of roughness depths R_T 1 to 10 mm:

Levelling coat for repairing mineral or bituminous substrates with the addition of up to 20 kg quartz sand 0.7–1.2 mm* per 33 kg of Triflex ProDeck.
Volume: at least 2.00 kg/m² per mm layer thickness.
Can be recoated after approx. 1 hr.

In the case of roughness depths R_T >10 mm:

Triflex Cryl RS 240
Mortar for repairing mineral substrates.
Volume: at least 2.20 kg/m² per mm layer thickness.
Can be recoated after approx. 45 min.

Triflex Cryl RS 242
Mortar for repairing bituminous substrates.
Volume: at least 2.20 kg/m² per mm layer thickness.
Can be recoated after approx. 1 hr.

Detail waterproofing

All junctions, transitions and other detail solutions must be completed before the surface coating is applied.
Points 1 to 3 are completed wet-on-wet.

1. **Triflex ProDetail**
   Apply evenly with a radiator roller.
   Volume: at least 2.00 kg/m².
2. **Triflex Special Fleece**
   Lay 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/m².

Total volume of Triflex ProDetail: at least 3.00 kg/m².
Can be recoated after approx. 45 min.

4. **Triflex Cryl Finish 209**
   Cross-coat evenly using a Triflex Universal Roller.
   Volume: at least 0.50 kg/m².

Can be recoated after approx. 1 hr.
For dimensions, see Triflex ProDeck system drawings.

Joint waterproofing

All joints must be waterproofed before the surfaces are coated. To prevent abutting edges, joints should always be embedded in the substrate (see system drawings).

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**
   Lay in the joint as a loop.

Can be recoated after approx. 1 hr.
Points 3 to 7 are completed wet-on-wet.

3. **Triflex ProDetail**
   Apply to both sides of the joint and on the support strip using a radiator roller.
   Volume: at least 0.70 kg/m.
4. **Triflex Special Fleece**
   Lay a 35 cm wide 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 ProDetail**
   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**
   Lay a 35 cm wide strip as the second loop, making sure that there are no air bubbles.
   Overlap the ends of the fleece by at least 5 cm.
7. **Triflex ProDetail**
   Apply until the Triflex Special Fleece is fully saturated.
   Volume: at least 0.70 kg/m.
   Total volume of Triflex ProDetail: at least 2.10 kg/m.

Can be recoated after approx. 1 hr.
After application of the surface coating and the wearing layer.

8. **PE round sealing band**
   Place in the joint.
9. **Triflex FlexFiller**
   Seal the joint so it is flush with the surface.
   Volume: approx. 1.40 kg/m per mm layer thickness.

Ready for pedestrian and vehicle traffic after approx. 3 hrs.
For dimensions, see Triflex ProDeck 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 (Triflex FlexFiller) after structural movement.**

Settlement joints subject to high mechanical stress on request.

* The quartz sand grading curve must be adjusted on site, if necessary.

Parking deck flooring system (OS 11a/b)

Triflex ProDeck

System description

Reinforcement

Triflex ProMesh
The special Triflex ProMesh reinforcement is laid edge-to-edge on the substrate, transversely to the movement to be expected from the construction.

Triflex ProMesh is fixed with another layer of surface primer and pressed down with the Triflex Universal Roller saturated with primer.
The choice of material for the additional primer layer depends on the surface primer used.

Surface primer consists Triflex Cryl Primer 222:

Triflex Cryl Primer 222
Fix the Triflex ProMesh reinforcement with a Triflex Universal Roller.
Volume: at least 0.40 kg/m².
Can be recoated after approx. 1 hr.

Surface primer consists Triflex Cryl Primer 287:

Triflex Cryl Primer 287
Fix the Triflex ProMesh reinforcement with a Triflex Universal Roller.
Volume: at least 0.40 kg/m².
Can be recoated after approx. 1 hr.

Surface primer consists of Triflex Pox Primer 116+:

Triflex Cryl Primer 287
Fix the Triflex ProMesh reinforcement with a Triflex Universal Roller.
Volume: at least 0.80 kg/m².
Can be recoated after approx. 1 hr.

Surface coating

Top decks as per OS 11a:

Triflex ProDeck
Apply evenly with a smoothing trowel and cross-coat.
Volume: at least 5.00 kg/m².

Interior decks, underground car parks and ramps as per OS 11b:

Triflex ProDeck
Apply evenly with a smoothing trowel and cross-coat.
Volume: at least 4.50 kg/m².

Important note:
1. The system is then built up while the surface coating is still wet.
2. The surface coating is omitted in the area of the settlement joint.
3. In the area of ramps and spiral ramps, the Triflex ProDeck requires a thixotropic formulation, depending on the inclination. The product is thickened by the in-situ addition of approx. 3 % by weight Triflex Powder Thixo.

Wearing layer – Version 1

The product is applied to the wet surface coating:
1. **Quartz sand grain size 0.7–1.2 mm**
   Dress the wet coating in excess.
   Once the coating is cured, remove any surplus.
   Volume: at least 7.00 kg/m².

Can be recoated after approx. 2 hr.
2. **Triflex Cryl Finish 209**
   Apply transversely to the direction of travel using a hard rubber spreader and cross-coat evenly using a Triflex Universal Roller.
   Volume: at least 0.70 kg/m².

Ready for vehicle traffic after approx. 2 hrs.

Important note:
1. The wearing layer is omitted in the area of the settlement joints.
2. The sealing of all vertical junctions, transitions and details must be carried out prior to the surface finishing with thixotropic Triflex Cryl Finish 209. The product is thickened by the in-situ addition of approx. 1 % by weight Triflex Liquid Thixo.

Wearing layer – Version 2

The product is applied to the wet surface coating:
1. **Fine hard grain**
   Dress the wet layer in excess.
   Once the coating is cured, remove any surplus.
   Volume: at least 7.00 kg/m².

Can be recoated after approx. 2 hr.
2. **Triflex Cryl Finish 209**
   Apply transversely to the direction of travel using a hard rubber spreader and cross-coat evenly using a Triflex Universal Roller.
   Volume: at least 0.70 kg/m².

Ready for vehicle traffic after approx. 2 hrs.

Important note:
1. The wearing layer is omitted in the area of the settlement joints.
2. The sealing of all vertical junctions, transitions and details must be carried out prior to the surface finishing with thixotropic Triflex Cryl Finish 209. The product is thickened by the in-situ addition of approx. 1 % by weight Triflex Liquid Thixo.

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/m².
Can be subject to loads after approx. 45 min.

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

Triflex ProDeck

System description

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 (including 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 209
Triflex Cryl Primer 222
Triflex Cryl Primer 287
Triflex Cryl RS 240
Triflex Cryl RS 242
Triflex Cryl Paste
Triflex FlexFiller
Triflex Glass Primer
Triflex Liquid Thixo
Triflex Metal Primer
Triflex Pox Primer 116+
Triflex Powder Thixo
Triflex ProDeck
Triflex ProDetail
Triflex ProMesh
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.

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.

Volumes required and waiting times

The specified volumes apply only to smooth, even substrates with a maximum roughness depth of $R_T = 0.5$ 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 °C.

Application notes

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. detergents, acids, etc.) may cause discolouration, yellowing and chalking effects in finishes.
Abrasion can scratch the surface.

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-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 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.

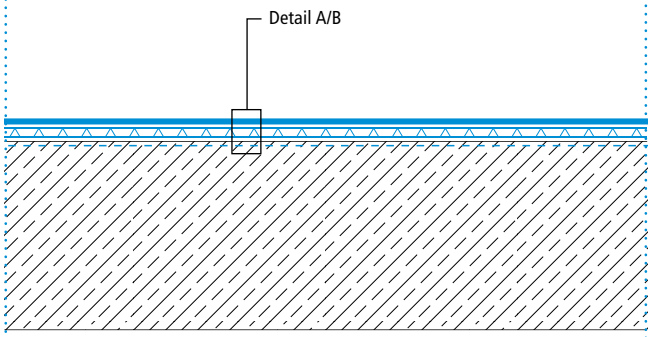
CAD drawings

All CAD system drawings can be downloaded free of charge from the Download section of the Triflex website at www.triflex.com.

Triflex ProDeck

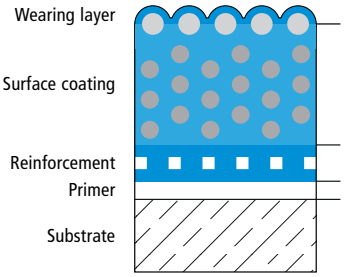
System drawings

Area

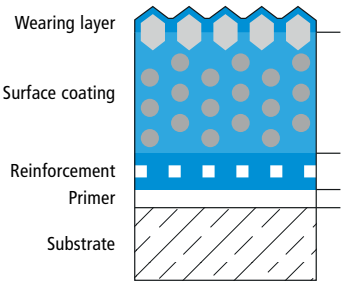


Drawing no.: ProDeck-1101

System set-up – Detail A



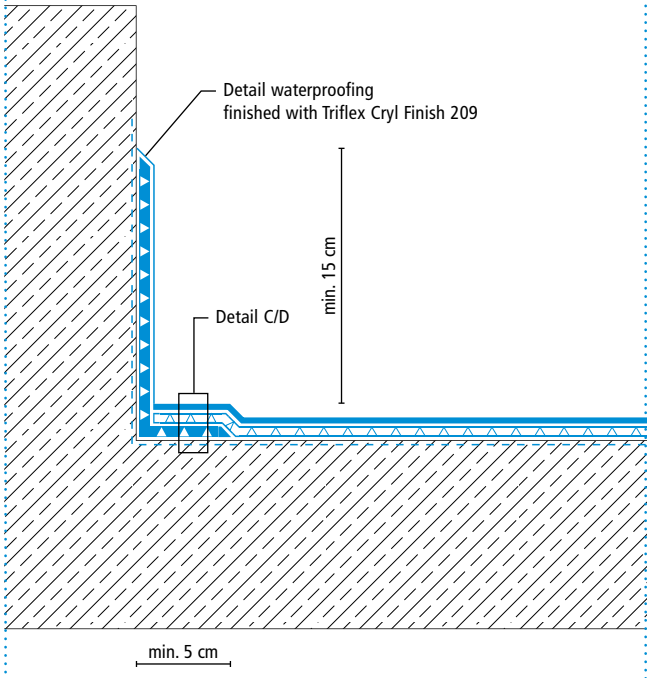
System set-up – Detail B



Triflex ProDeck

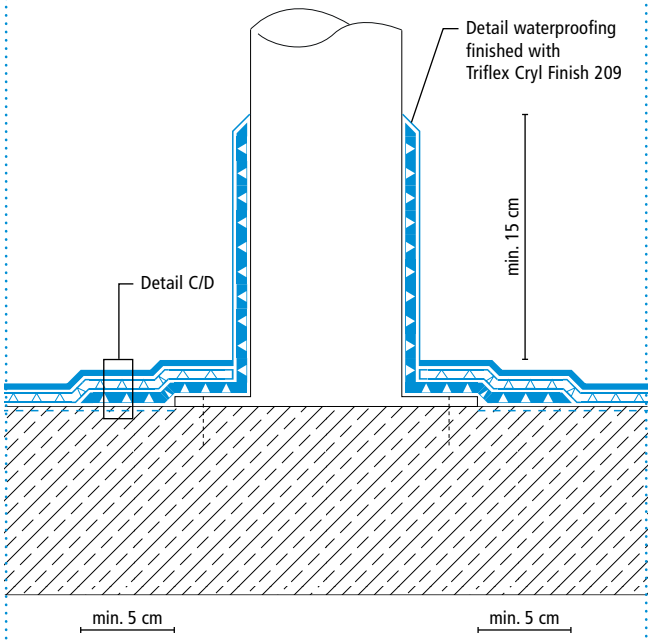
System drawings

Wall junction



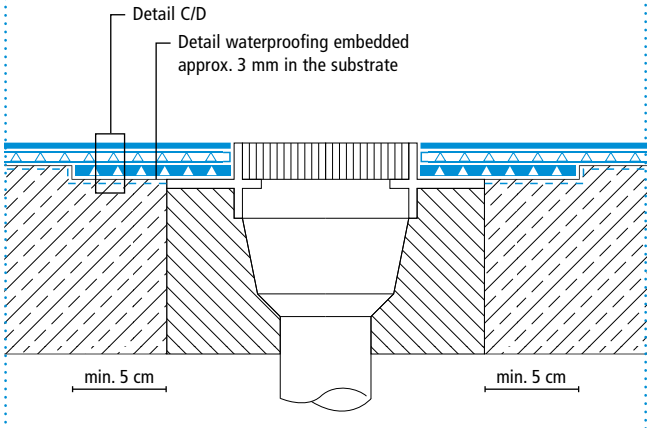
Drawing no.: ProDeck-1102

Prop connector/penetration



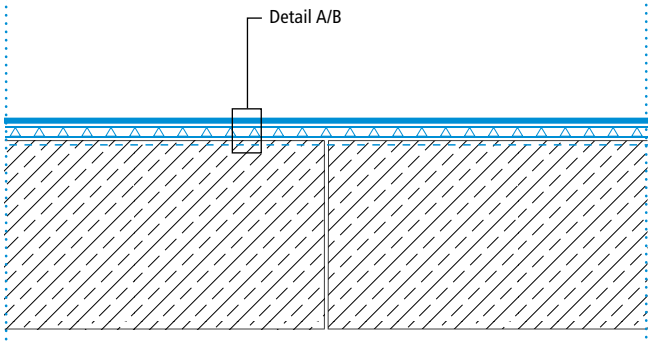
Drawing no.: ProDeck-1103

Gully/Gutter



Drawing no.: ProDeck-1105

Construction joint



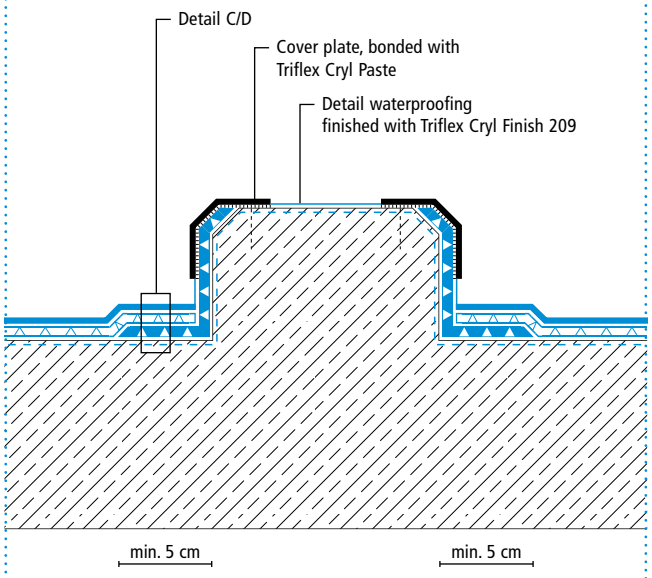
Drawing no.: ProDeck-1106

Height differences between fleece overlaps are exaggerated.

Triflex ProDeck

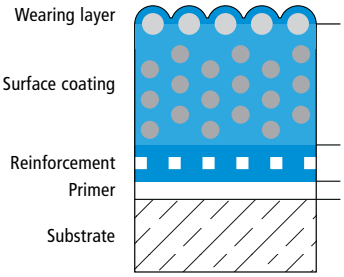
System drawings

Kerb

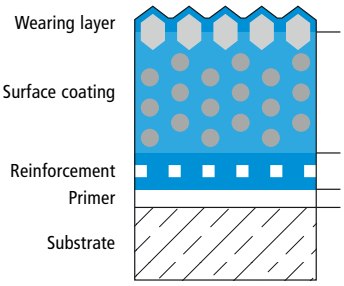


Drawing no.: ProDeck-1104

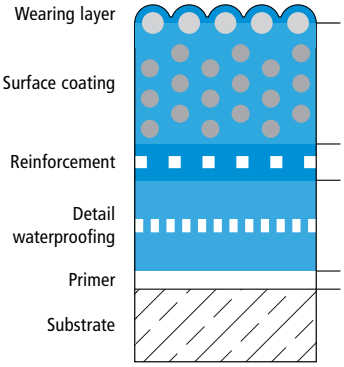
System set-up – Detail A



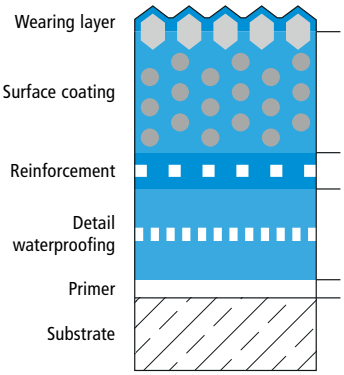
System set-up – Detail B



System set-up – Detail C



System set-up – Detail D

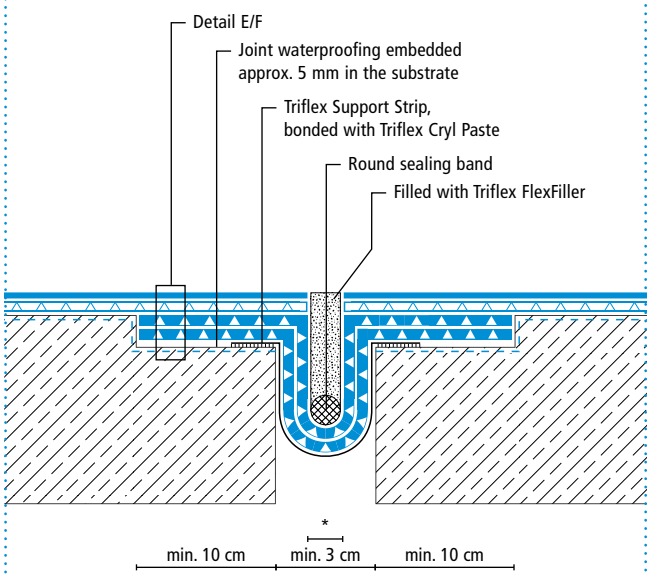


Height differences between fleece overlaps are exaggerated.

Triflex ProDeck

System drawings

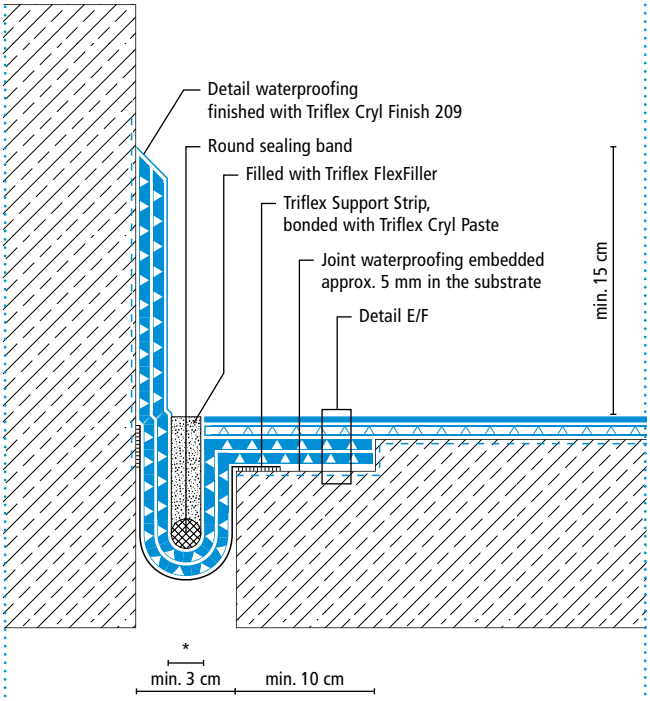
Settlement joint surface



* Omission of surface coating and wearing layer (see system description)

Drawing no.: ProDeck-1107

Settlement joint – wall junction



* Omission of surface coating and wearing layer (see system description)

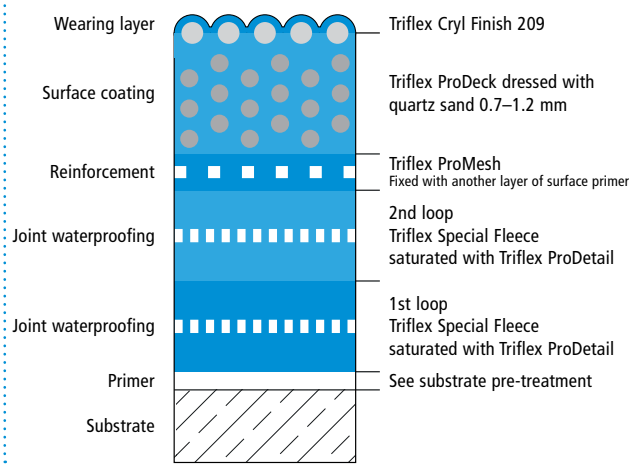
Drawing no.: ProDeck-1108

Height differences between fleece overlaps are exaggerated.

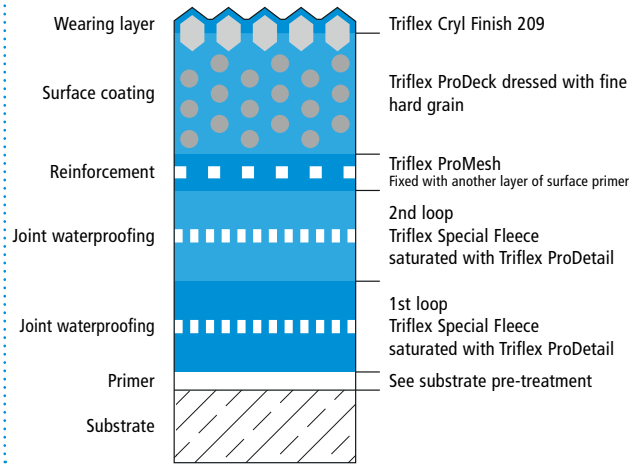
Triflex ProDeck

System drawings

System set-up – Detail E



System build-up – Detail F



Triflex ProDeck

Triflex ProDeck surface

Version 1 – dress with quartz sand 0.7–1.2 mm and finish with Triflex Cryl Finish 209


7030 Stone grey


7031 Blue grey


7032 Pebble grey


7035 Light grey


7037 Dusty grey


7040 Window grey


1023 Traffic yellow


2009 Traffic orange


3020 Traffic red


4006 Traffic purple


5017 Traffic blue


6024 Traffic green

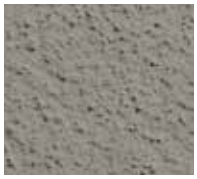

7043 Traffic grey


9010 White

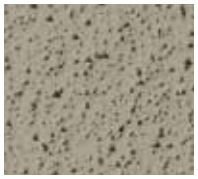
Triflex ProDeck

Triflex ProDeck surface

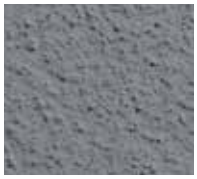
Version 2 – dress with fine hard grain and finish with Triflex Cryl Finish 209

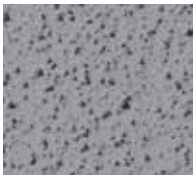

7030 Stone grey


7031 Blue grey


7032 Pebble grey


7035 Light grey


7037 Dusty grey


7040 Window grey


1023 Traffic yellow

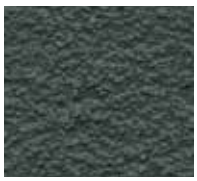

2009 Traffic orange


3020 Traffic red


4006 Traffic purple


5017 Traffic blue


6024 Traffic green


7043 Traffic grey


9010 White

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

Triflex

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