Triflex

Delivering solutions together.

Planning documents

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

PARKING DECKS | UNDERGROUND CAR PARKS

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

Applications

The **Triflex Crack Dressing** is a fleece-reinforced waterproofing system for the repair of parking decks, to be used as a local measure for the waterproofing of moving separation cracks, areas at risk of cracks and construction joints. The system is made of fast-curing polymethylmethacrylate resins (PMMA) and has been specially designed for multi-storey car park traffic. It can be used as a permanent waterproofing system that withstands high mechanical loads but also as a quick temporary solution in order to reliably protect the structure from penetrating moisture. The partial waterproofing system **Triflex Crack Dressing** has obtained a general building supervisory authority test certificate (abP) and is classified to OS 10 and OS 11a/b.

Quick partial refurbishment for low budgets

In addition to mechanical loads as a result of multi-storey car park traffic, thermal and dynamic movements also place heavy demands on multi-storey car park structures. The OS 8 surface protection that is mostly used for cost reasons often fails to meet these demands on a long-term basis. This results in the formation of cracks. The ingress of moisture and de-icing salts can then lead to corrosion, which can endanger the structural stability of the building over the long-term.
The **Triflex Crack Dressing** system is a cost-effective alternative to the full-surface refurbishment of damaged foundation slabs. The crack dressing can be applied as a long-lasting solution with surface-level mounting and filled stop cuts, or alternatively as a surface construction, in both cases with an abrasion-resistant wearing layer. The fleece-reinforced waterproofing system is also suitable for use as a temporary solution for the quick repair of the structure. Refurbished surfaces can be driven on again after just a few hours.

Advantages at a glance

Dynamic crack-bridging properties
The system is full-surface fleece-reinforced. This gives the material a level of flexibility that leaves it unaffected by any movement of the foundation.

Long-lasting protection
The Triflex Crack Dressing system withstands high mechanical loads, which extends refurbishment intervals by years. The surfacing solution Triflex Cryl M 264 meets the strictest requirements of the German Federal Highway Research Institute (BASt) – Traffic Class P 7 according to DIN EN 13197. This classification is based on a wear test of 8 million cycles.

Short closure periods
Triflex Crack Dressing offers much faster curing times than systems made of PUR resins. Refurbishments in traffic-sensitive areas such as entrances and exits can be performed in just a few hours thanks to the optimised application time. This safeguards income and reduces closure times and disruptions to traffic. Parking spaces are soon ready for use again.

Long-lasting and robust
The shear-resistant chemical bond in all layers helps to prevent delamination. The low-maintenance system is suitable for a range of different substrates. Triflex Crack Dressing is a weather-proof system that is resistant to de-icing salt, and protects against the ingress of harmful substances.

Ideal for refurbishments
The partial waterproofing of damaged areas can be performed quickly and cost-effectively. The non-slip surfacing solution is available in a range of colours so can be selected to match old coatings. This helps to limit the cost of refurbishment.

Certified reliability
The system build-up of the Triflex Crack Dressing is applied in variations 1 and 2 after the structures of the Triflex ProPark system which has a general building supervisory authority test certificate (abP) class OS 10 as per VV TB, Part C, No. C 3.12 and a certificate of suitability for OS 11a/b as per VV TB, Part A, No. A 1.2.3.2 as per TR maintenance. The system build-up also meets the requirements as per DIN 18532, Part 6 of the German Committee on Reinforced Concrete's (DAfStb) guideline "Protection and Repair of Concrete Structural Components". Fire classification B_{fl}-s1 in compliance with DIN EN 13501-1.

Triflex Crack Dressing

And this is how it's done…

1. Mill out and grind the surface

2. Cut stops 10 cm to the left and right of the crack

3. The surface is primed and stops and cracks are sealed

4. Apply waterproofing resin Triflex ProPark and lay Triflex Special Fleece...

5. … then apply a coating of Triflex ProPark wet-on-wet

6. Then apply the Triflex Cryl M 264 wearing layer so it is flush with the surface

7. Done! The surface is suitable for vehicle traffic again after 3 hours

Compatible system components

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

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

System description

Properties

- Full-surface reinforced waterproofing system based entirely on polymethyl methacrylate (PMMA)
- Withstands high mechanical loads
- Shear-resistant construction
- Seamless
- Full-surface adhesion and impermeable
- Elastic
- Enhanced dynamic crack-bridging, Class B 4.2 (-20 °C)
- Cold-applied
- Fast-curing
- Ready for vehicle traffic after approx. 3 hours
- Chemical-resistant, resistant to de-icing salt.
- Weather-resistant (UV, IR etc.)
- Fire classification B_{fl}-s1 in compliance with with DIN EN 13501-1
- Non-slip
- Variety of colours available
- General building supervisory authority test certificate (abP) class OS 10 as per VV TB, Part C, No. C 3.12 and a certificate of suitability for OS 11a/b as per VV TB, Part A, No. A 1.2.3.2 in accordance with TR maintenance and the requirements as per DIN 18532-6 for the system build-up in the same way as the Triflex ProPark system.

System variations and system build-up

Triflex Crack Dressing, variation 1

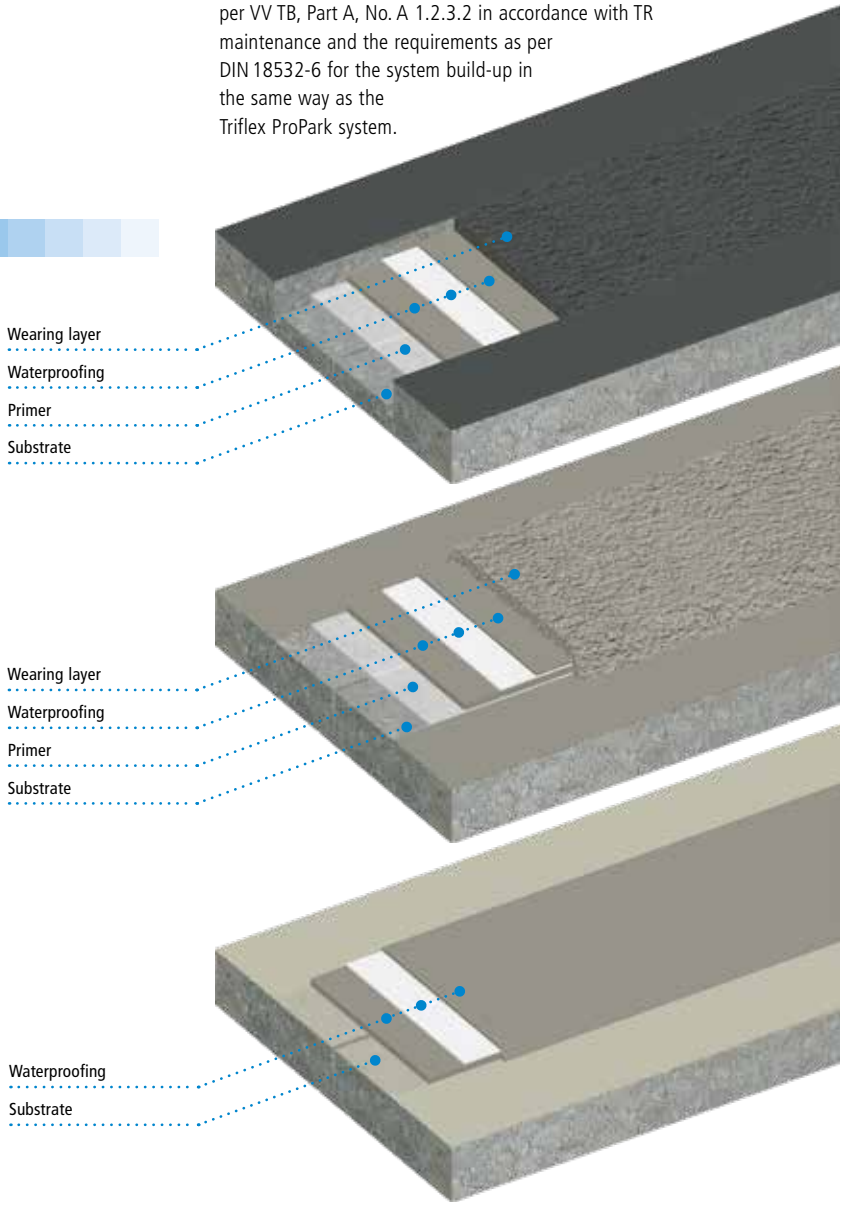
Flush installation.
Crack dressing as per as per DBV leaflet "Multi-storey and underground car parks" with OS 10 or OS 11a/b test certificate for system build-up after Triflex ProPark.

Triflex Crack Dressing, variation 2

Construction with non-slip wearing layer.
Crack dressing without collision protection with OS 10 or OS 11a/b test certificate for system build-up after Triflex ProPark.

Triflex Crack Dressing, variation 3

Construction without wearing layer.
Crack dressing without collision protection as a building waterproofing with Building Supervisory Authority Test Certificate [abP].



System components

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

Waterproofing[1]
Triflex ProPark reinforced with Triflex Special Fleece

Wearing layer
Triflex Cryl M 264 or Triflex Cryl M 269

[1] Designation as per DBV leaflet "Multi-storey and underground car parks" and TR repair = sealing layer (hwO) (OS 10); Elastic surface protective layer (hwO) (OS 11a/b)

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

System description

Substrate

The suitability of the specific substrate should always be tested on a case-by-case basis. The substrate must be clean, dry and free of cement bloom, dust, oil, grease and other adhesion-inhibiting substances. The substrate must be pretreated in accordance with the specifications in the Repair Guideline (RL SIB). The consumptions specified below assume a surface roughness 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 allowed to fully harden for at least 28 days.

Adhesion: The following minimum tensile adhesion strengths must be met on pretreated test areas:
Concrete: at least 1.5 N/mm² on average, and no single value below 1.0 N/mm².

Substrate pre-treatment

Substrate	Pre-treatment	Primer
Aluminium [A]	Abrade with Triflex Cleaner	Triflex Metal Primer [B]
Asphalt	Grinding, milling or dust-free shot-blasting in criss-cross pattern	Triflex Cryl Primer 222
Concrete	Grinding, milling or dust-free shot-blasting in criss-cross pattern	Triflex Cryl Primer 287
Copper [A]	Abrade with Triflex Cleaner	Triflex Metal Primer [B]
Epoxy resin coating	Roughen, expose granular structure, adhesive strength and compatibility test	No primer
Mortar, resin-modified	Grinding, milling or dust-free shot-blasting executed transversely; adhesive strength and compatibility test	Triflex Pox Primer 116+
Paint	Grinding or milling to remove completely	See substrate
Plaster/render/masonry [A]	Remove any loose material	Triflex Cryl Primer 287
PU coating	Roughen, expose granular structure, adhesive strength and compatibility test	No primer
Screeds	Grinding, milling or dust-free shot-blasting in criss-cross pattern	Triflex Cryl Primer 287
Stainless steel [A]	Abrade with Triflex Cleaner	Triflex Metal Primer [B]
Steel, galvanised [A]	Abrade with Triflex Cleaner	Triflex Metal Primer [B]
Tiles	Mechanically remove glaze	Triflex Cryl Primer 287
Zinc [A]	Abrade with Triflex Cleaner	Triflex Metal Primer [B]

[A] Only in areas not subject to mechanical stress, e.g. details and flashing.
[B] Alternative to priming: Abrade with Triflex Cleaner, roughen surface.
Information on other substrates is available on request (technik@triflex.de).

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

Priming

Triflex Cryl Primer 222
Apply evenly and cross-coat using a Triflex Universal Roller.
Consumption: at least 0.40 kg/m².
Can be recoated after approx. 45 mins.

Triflex Cryl Primer 287
Pour on thickly and spread evenly using a Triflex cellular rubber spreader.
Then spread crosswise using a Triflex universal roller.
Consumption: at least 0.35 kg/m².
Can be recoated after approx. 45 mins.

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

Triflex Pox Primer 116+
Pour on thickly and spread evenly using a Triflex cellular rubber spreader.
Then spread crosswise using a Triflex universal roller.
Do not allow puddles to form.
Dress the fresh primer – not to excess.
Consumption of Triflex Pox Primer 116+: at least 0.30 kg/m².
Consumption of quartz sand 0.3 to 0.8 mm: at least 0.70 kg/m².
Can be recoated after approx. 12 hrs. to 24 hrs. max.

For highly absorbent substrates and substrate moisture levels of 4 to 6 wt%, an additional layer of primer has to be applied to the surface. Only the second layer is dressed with quartz sand.
Consumption of Triflex Pox Primer 116+: at least 0.30 kg/m².

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

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 10.00 kg quartz sand 0.2–0.6 mm[(2)] per 33.00 kg of Triflex DeckFloor.
Consumption: 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 20.00 kg of quartz sand 0.7–1.2 mm[(2)] per 33.00 kg of Triflex DeckFloor.
Consumption: at least 2.00 kg/m² per mm layer thickness.
Can be recoated after approx. 1 hr.

In the case of roughness R_t >10 mm:

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

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

Crack Dressing, variation 1

Preparatory work:

Mill out the surface for the crack dressing to a depth of approx. 5 mm and then level by grinding. In order to prevent the possibility of water infiltration, a stop is cut in the junction between the old coating and the drack dressing (see system drawings). This must have a depth of 5 mm underneath the embedded area on both sides. The stop must be cut before starting waterproofing work. Once the surface has been cleaned, the primer is applied and the crack and stop are filled. Any defects should be treated as repairs.

Sequence of steps:
1. Mark the surface for the crack dressing centrally above the crack
2. Mill out and grind the surface
3. Cut stop
4. Prime the surface, sealing the stop and the crack
5. Apply the waterproofing
6. Apply the wearing layer

Waterproofing:

Application is wet-on-wet.
1. **Triflex ProPark**
   Apply evenly with a Triflex universal roller.
   Consumption: at least 2.00 kg/m².
2. **Triflex Special Fleece/Special Fleece PF**
   Embed with no air bubbles. Overlap the strips of fleece by at least 5 cm.
3. **Triflex ProPark**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

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

Important:
The area adjacent to the crack dressing is taped off with adhesive tape in order to create a clean joint. The adhesive tape must be removed before curing the waterproofing, and new tape applied for the wearing layer.

Wearing layer (OS 10, OS 11b):

Triflex Cryl M 264
Apply with a stainless steel trowel and spread over the grain tips or apply from a standing position with a Triflex trowel (offset) and, if necessary, remove surplus to improve the appearance with a Triflex cellular rubber spreader whilst still fresh.
Consumption: at least 4.00 kg/m².
Can be walked on after approx. 1 hr.
Suitable for vehicle traffic after approx. 3 hrs.

Wearing layer (OS 11a):

Triflex Cryl M 269
Apply with a stainless steel trowel and spread over the grain tips or apply from a standing position with a Triflex trowel (offset) and, if necessary, remove surplus to improve the appearance with a Triflex cellular rubber spreader whilst still fresh.
Consumption: at least 6.00 kg/m².
Can be walked on after approx. 1 hr.
Ready for vehicle traffic after approx. 3 hrs.

Important:
The system build-up "Triflex ProPark, variation 2" has a general building supervisory authority test certificate (abP) class OS 10 as per VV TB, Part C, No. C 3.12 and a certificate of suitability for OS 11a/b as per VV TB, Part A, No. A 1.2.3.2 as per TR maintenance, depending on the variant type. Fire classification B_{fl}-s1 in compliance with DIN EN 13501-1.
The crack dressing is designed based on the specifications in the DBV leaflet "Multi-storey and underground car parks", 2018 edition.

[(2)] The quartz sand grading curve must be adjusted on site, if necessary.

Triflex Crack Dressing

System description

Crack Dressing, variation 2

Preparatory work:

A 20-cm-wide strip is marked centrally to the crack. The surface for the crack dressing is pre-treated by grinding and exposing the granular structure. Sufficient intermediate adhesion must be ensured.

Sequence of steps:
1. Mark the surface for the crack dressing centrally above the crack
2. Grind the surface
3. Prime the surface (if necessary)
4. Apply the waterproofing
5. Apply the wearing layer

Waterproofing:

Application is wet-on-wet.

1. **Triflex ProPark**
   Apply evenly with a Triflex universal roller.
   Consumption: at least 2.00 kg/m².
2. **Triflex Special Fleece/Special Fleece PF**
   Embed with no air bubbles. Overlap the strips of fleece by at least 5 cm.
3. **Triflex ProPark**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

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

Important:
The surface adjacent to the crack dressing is taped off with adhesive tape in order to create a clean joint. The adhesive tape must be removed before curing the waterproofing, and new tape applied for the wearing layer.

Wearing layer (OS 10, OS 11b):

Triflex Cryl M 264
Apply with a stainless steel trowel and spread over the grain tips or apply from a standing position with a Triflex trowel (offset) and, if necessary, remove surplus to improve the appearance with a Triflex cellular rubber spreader whilst still fresh.
Consumption: at least 4.00 kg/m².
Can be walked on after approx. 1 hr.
Ready for vehicle traffic after approx. 3 hrs.

Wearing layer (OS 11a):

Triflex Cryl M 269
Apply with a stainless steel trowel and spread over the grain tips or apply from a standing position with a Triflex trowel (offset) and, if necessary, remove surplus to improve the appearance with a Triflex cellular rubber spreader whilst still fresh.
Consumption: at least 6.00 kg/m².
Can be walked on after approx. 1 hr.
Ready for vehicle traffic after approx. 3 hrs.

Important:
The system build-up "Triflex ProPark, variation 2" has a general building supervisory authority test certificate (abP) class OS 10 as per VV TB, Part C, No. C 3.12 and a certificate of suitability for OS 11a/b as per VV TB, Part A, No. A 1.2.3.2 as per TR maintenance, depending on the variant type. Fire classification B_{fl}-s1 in compliance with DIN EN 13501-1.
In this variation, the crack dressing has no collision protection and no permeation protection. If these properties are required, the crack dressing variation 1 should be used.

Crack Dressing, variation 3

Preparatory work:

A 20-cm-wide strip is marked centrally to the crack. The surface for the crack dressing is pre-treated by grinding and exposing the granular structure. Sufficient intermediate adhesion must be ensured.

Sequence of steps:
1. Mark the surface for the crack dressing centrally above the crack.
2. Grind the surface
3. Prime the surface (if necessary)
4. Apply the waterproofing

Waterproofing:

Application is wet-on-wet.

1. **Triflex ProPark**
   Apply evenly with a Triflex universal roller.
   Consumption: at least 2.00 kg/m².
2. **Triflex Special Fleece/Special Fleece PF**
   Embed with no air bubbles. Overlap the strips of fleece by at least 5 cm.
3. **Triflex ProPark**
   Apply until the Triflex Special Fleece is fully saturated.
   Consumption: at least 1.00 kg/m².

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

Important:
The surface adjacent to the crack dressing is taped off with adhesive tape in order to create a clean joint. The adhesive tape must be removed before curing the waterproofing.

Important:
This waterproofing has a general building supervisory authority test certificate (abP) as per VV TB, Part C, No. C 3.28 for liquid-applied waterproofing of building structures.
The variation 3 crack dressing is intended as a short-term solution in order to prevent the ingress of chloride into the structure. It is applied as a "plaster" without any collision protection or permeation protection and without a non-slip wearing layer above the waterproofing. If these properties are required, the crack dressing variation 1 should be used.

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

System description

Marking

For traffic markings with cold plastic, coloured finish or high-solid paint, see **Triflex DMS** – parking deck marking system.

Work interruptions

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

Product information

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

Triflex Cleaner
Triflex Cryl M 264
Triflex Cryl Primer 222
Triflex Cryl Primer 287
Triflex Cryl RS 240
Triflex Cryl RS 242
Triflex Cryl Paste
Triflex DeckFloor
Triflex Liquid Thixo
Triflex Metal Primer
Triflex Pox Primer 116+
Triflex ProPark
Triflex Special Fleece
Triflex Special Fleece PF

Quality standard

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

Gradient / Evenness

Before applying the pattern or decoration, and during application, always ensure the correct gradient and evenness of the substrate. Any corrections required must be taken into account during this work.

Pinholes

Air pockets in concrete or screed go on to cause "pinholes". The mechanical substrate pre-treatment causes the air pockets to open on the surface. The subsequent coating closes the access to the air spaces. The warming of the air inside the pockets as a result of the reaction and ambient temperature causes the volume to expand and the pressure to increase. The air then rises up through the coating to the surface. This is a purely physical process and is not triggered by the coating material itself. In order to prevent the formation of pinholes in the coating, it is recommended that processing be performed when temperatures are falling.

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, flat substrates with a maximum roughness of $R_t = 0.5$ mm. Special allowance must be made for unevenness, roughness and porosity.
Specified flash times and waiting times apply to a substrate and ambient temperature of +20 °C.

Information about tools

The Triflex tools mentioned in the system description are a guideline for correct application of the individual functional layers with the respective volumes of product. The use of Triflex tools is not mandatory as long as correct application of the Triflex products is assured.

Remarks on use

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.) may cause discolouration, yellowing and chalking effects in finishes. Abrasion can scratch the surface. This does not affect the mechanical properties of the cured coating.

Partial waterproofing system (OS 10, OS 11a/b)

Triflex Crack Dressing

System description

General notes

The system descriptions, system drawings and product information sheets form the basis for using Triflex products, and it is essential to follow these when planning and carrying out your building project. Any deviation from the technical information provided by Triflex GmbH & Co. KG that is current at the time the work is carried out may invalidate the warranty. Any project-related deviations require written approval from Triflex.
All the information is based on general regulations, directives and other technical rules. The general regulations applicable in the particular country of use must be respected.
Since the parameters can vary from case to case, the contractor is required to test the suitability, e.g. of the substrate.
Non-Triflex products must not be used in combination with Triflex systems.
Triflex reserves the right to make modifications in the interest of technical enhancement or optimisation of Triflex products.

Tender texts

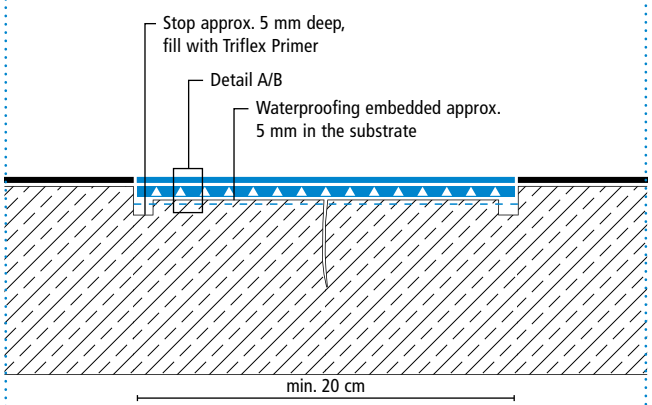
Please visit the Download section of the Triflex website at www.triflex.com to obtain the current standard specifications, which are available in a range of different file formats. Alternatively, visit the website www.ausschreiben.de or www.heinze.de.

CAD drawings

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

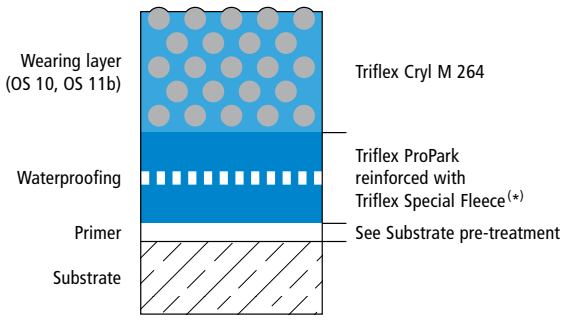
System drawings

Crack Dressing, variation 1

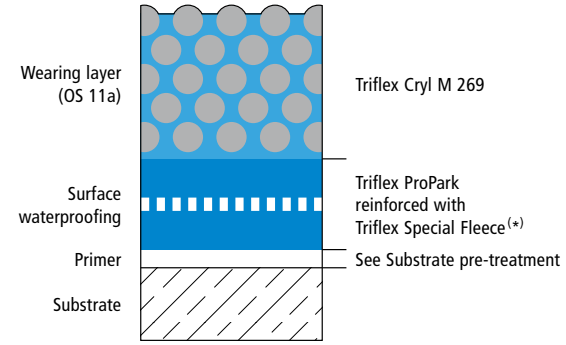


Drawing no.: Crack Dressing-1001

System build-up, variation 1 – Detail A



System build-up, variation 1 – Detail B

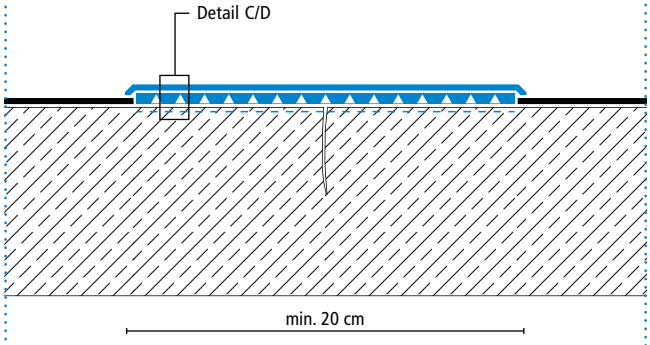


(*) Triflex Special Fleece or Triflex Special Fleece PF

Triflex Crack Dressing

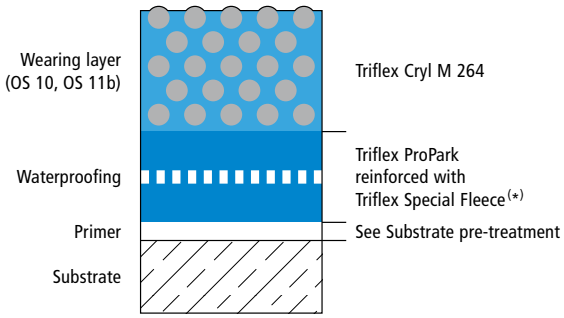
System drawings

Crack Dressing, variation 2

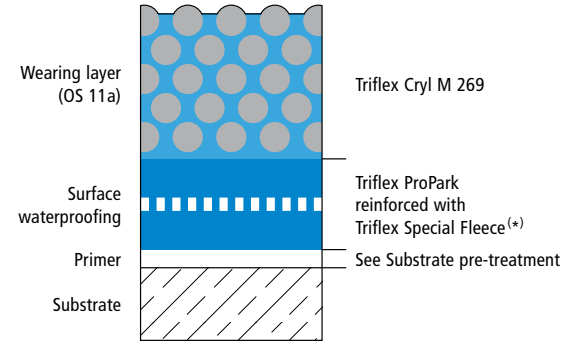


Drawing no.: Crack Dressing-1002

System build-up, variation 2 – Detail C



System build-up, variation 2 – Detail D



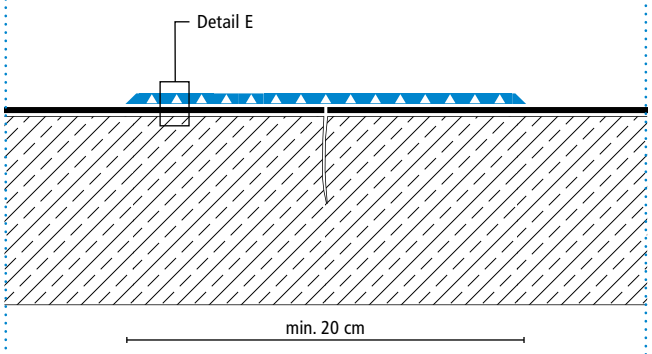
Height differences where the fleece overlaps are exaggerated.

(*) Triflex Special Fleece or Triflex Special Fleece PF

Triflex Crack Dressing

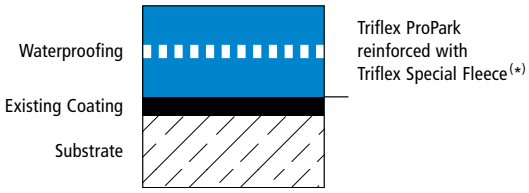
System drawings

Crack Dressing, variation 3



Drawing no.: Crack Dressing-1003

System build-up, variation 3 – Detail E



Height differences where the fleece overlaps are exaggerated.

(*) Triflex Special Fleece or Triflex Special Fleece PF

Triflex
Delivering solutions together.

Triflex Crack Dressing surfaces

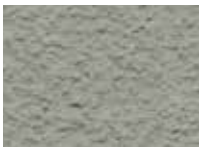
Wearing layer with Triflex Cryl M 264/Triflex Cryl M 269*


7030 Stone grey*


7032 Pebble grey*


7037 Dusty grey


7040 Window grey


7042 Traffic grey A*


7043 Traffic grey B*

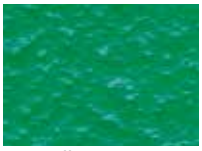

1023 Traffic yellow


2009 Traffic orange


3020 Traffic red


4006 Traffic purple


5017 Traffic blue


6024 Traffic green


9010 White

Triflex ProPark waterproofing


7030 Stone grey


7043 Traffic grey B

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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