

Planning documents

Stair coating system

Triflex TSS





Stair coating system Triflex TSS

Applications



Triflex TSS is a thick coating specially developed for use on stairs. The self-levelling mortar permanently withstands high mechanical loads on stairs. Triflex has more than 45 years experience of using durable waterproofing and coating systems in the world of building refurbishment.

The stairs in the exterior areas are subject to extremely high mechanical loads. The projecting edges of the stairs in particular suffer greatly from the influence of wind and weather. This often leads to particles flaking off as a result of moisture-induced damage. A thick coating acts like a protective shield warding off external attack.

Solutions for details

This liquid-applied coating ensures seamless integration of all details for any stair construction. Even balustrade posts can be reliably framed. The self-levelling mortar makes it easy to level out any uneven areas, and the stair edges on the individual steps can be reinforced with a metal bar, which extends the service life and ensures extra safety for users.



Advantages at a glance

Durable

Triflex TSS is a thick-layer system for stairs, and has a layer thickness of approx. 4 mm. The coating is abrasion-resistant and permanently withstands high mechanical loads.

Flat, safe surfaces

The self-levelling mortar levels out minor unevennesses in the substrate and creates non-slip surfaces up to non-slip class R 12.

Short closure periods

Triflex TSS has short curing times. Stairs are ready for full use again after only 2 hours after the final step. There are virtually no closure times for users.

Can also be applied in low temperatures

The coating system can be applied in substrate temperatures of down to 0 °C. This means that stairs can be refurbished even in the cold winter months.

Colours and surfaces

Surfaces can be creatively designed and finished in a range of colours using Triflex Chips Design, Triflex Colour Design and Triflex Creative Design. Non-slip surfaces can be produced with quartz sand dressings in Class R 12.

Easy-care

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

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And this is how it's done ...



1. Prime junctions and surface.



2. Prepare Triflex Special Fleece cut-outs.



3. First, the details are waterproofed using Triflex ProDetail.



4. Triflex Special Fleece is applied across the entire surface ensuring there are no air bubbles.



5. A second layer of Triflex ProDetail is applied.



6. The details are completely waterproofed.



7. Spread the Triflex ProFloor coating using a notched trowel, level out ...



8. ... and dress generously with quartz sand.



9. Apply the Triflex Cryl Finish 205 finish, blow in the Triflex Micro Chips, and you're done!



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.



Stair coating system

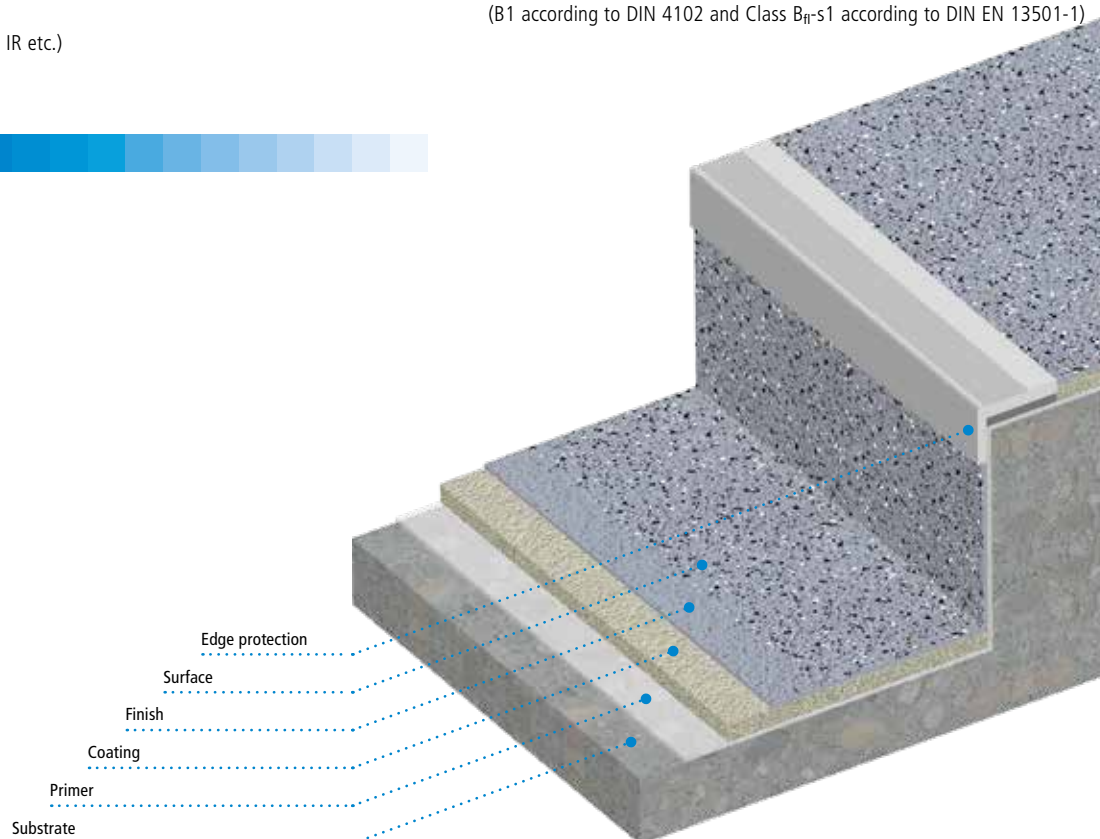
Triflex TSS

System description

Properties

- Thick-coating system made of polymethyl methacrylate (PMMA) resin
- Withstands high mechanical loads
- Seamless
- Fully bonded
- Cold-applied
- Fast-curing
- Chemical-resistant
- Weather-resistant (UV, IR etc.)
- Non-slip (R 12)
- Highly abrasion-resistant
- Self-levelling
- Can be decorated
- Coating tested acc. to EN 1504
- Complies with DIN 18531-5, Annex A (OS 8)
- The Triflex TSS S1 variant is flame-retardant (B1 according to DIN 4102 and Class B_{fl}-s1 according to DIN EN 13501-1)

System build-up



System components

Primer

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

Coating

Triflex ProFloor⁽¹⁾/Triflex ProFloor S1⁽²⁾, self-levelling and watertight thick coating.

Finish

Standard surface with Triflex Chips Design, non-slip system finish with quartz sand dressing.

Edge protection

Aluminium bracket as optional mechanical protection and as a non-slip element.

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.

Moisture: When carrying out coating 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 min. 3 °C above the dew point temperature. Below this temperature, a separating film of moisture can form on the surface.

Hardness: Mineral substrates should usually have reached the required standard strength in relation to the building project after 28 days.

Adhesion: The following tensile strengths must be verified on pretreated test surfaces:

Concrete: on average, min. 1.5 N/mm², individual value not less than 1.0 N/mm².

Screed: on average, min. 1.0 N/mm², individual value not less than 0.7 N/mm².

⁽¹⁾ Triflex ProFloor (3K) or Triflex ProFloor RS 2K

⁽²⁾ for the Triflex TSS S1 variant (flame-retardant)



System description

Substrate pre-treatment

Substrate pre-treatment for the PMMA waterproofing: Triflex ProDetail and Triflex ProFloor

Substrate	Pre-treatment	Primer
Aluminium	Abrade with Triflex Cleaner	Triflex Metal Primer ^(A)
Asphalt	Grinding	Triflex Cryl Primer 222
Composite thermal insulation systems	Remove any loose material	Triflex Pox R 100
Concrete	Grinding	Triflex Cryl Primer 276
Copper	Abrade with Triflex Cleaner	Triflex Metal Primer ^(A)
Epoxy resin coating	Roughen surface and test adhesive strength and compatibility	No primer
Glass	Abrade with Triflex Glass Cleaner, adhesive strength test	Triflex Glass Primer
Lightweight concrete	Remove any loose material	Triflex Cryl Primer 276
Mortar, resin-modified	Grind, adhesive strength and compatibility test	Triflex Pox R 100
Mortar, Triflex CeFix Screed 631	Abrade (only necessary in case of unevenness)	Triflex Cryl Primer 276
Paint	Completely grind off	See substrate
Plaster/masonry	Remove any loose material	Triflex Cryl Primer 276
PU coating	Roughen surface and test adhesive strength and compatibility	No primer
PVC mouldings, rigid	Abrade with Triflex Cleaner, roughen surface	No primer
Stainless steel	Abrade with Triflex Cleaner	Triflex Metal Primer ^(A)
Screeds	Grinding	Triflex Cryl Primer 276
Steel, galvanised	Abrade with Triflex Cleaner	Triflex Metal Primer ^(A)
Tiles	Mechanically remove glaze	Triflex Cryl Primer 276
Wood	Remove any paint	Triflex Cryl Primer 276
Zinc	Abrade with Triflex Cleaner	Triflex Metal Primer ^(A)

^(A) Alternative to priming: Abrade with Triflex Cleaner and roughen surface.
Information on other substrates is available on request (technik@triflex.de).

Important:

1. The Triflex TSS S1 (flame-retardant) can only be used in the surface on the following substrates: concrete, screed and lightweight concrete. Additional gradients must also be created using purely mineral-based materials.
2. Adhesion must always be tested on the specific substrate!

Substrate pre-treatment for mineral gradient screed in combination: Triflex CeFix Screed 631

Substrate	Pre-treatment	Primer
Concrete	Grinding	Triflex CeFix Primer 795
Screeds	Grinding	Triflex CeFix Primer 795

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: min. 0.40 kg/m².
Can be recoated after approx. 45 mins.

Triflex Cryl Primer 276

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

Triflex Glass Primer

Wipe on GP evenly with a cleaning cloth.
Consumption: approx. 0.05 l/m²
Can be recoated after approx. 15 mins. to max. 3 hrs.

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 R 100

Apply evenly and cross-coat using a Triflex Universal Roller.
Dress the fresh primer with a surplus of quartz sand.
Consumption of Triflex Pox R 100: min. 0.30 kg/m²,
Consumption of quartz sand 0.2–0.6 mm: min. 2.00 kg/m².
Can be recoated after approx. 12 hrs.



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Repairing

Triflex Cryl Paste

Paste for filling in shrinkage cracks, smaller areas of damage and for levelling out uneven areas and fleece overlaps.

Consumption: approx. 1.40 kg/m² per mm layer thickness.

Can be recoated after approx. 1 hr.

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

Triflex ProFloor

Scratch coat for repairing mineral substrates with the addition of up to 10.00 kg of quartz sand, 0.2–0.6 mm⁽³⁾ per 33.00 kg of Triflex ProFloor (3K) or 4.50 kg of quartz sand, 0.2–0.6 mm⁽³⁾ per 15.00 kg of Triflex ProFloor RS 2K.

Consumption: min. 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:

Triflex ProFloor

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⁽³⁾ per 33.00 kg of Triflex ProFloor (3K) or 9.00 kg of quartz sand, 0.7–1.2 mm⁽³⁾ per 15.00 kg of Triflex ProFloor RS 2K.

Consumption: min. 2.00 kg/m² per mm layer thickness.

Can be recoated after approx. 1 hr.

For roughness depths R_t > 10 mm:

Triflex Cryl RS 240

Mortar for repairing mineral substrates.

Consumption: min. 2.20 kg/m² per mm layer thickness.

Can be recoated after approx. 45 mins.

Gradient screed, mineral:

Mineral screed for making sloping screeds with layer thicknesses of 20 mm to 100 mm.

1. Triflex CeFix Primer 795

When applied in a combination, apply with Triflex Universal Roller or a broad brush.

Consumption: approx. 0.30 kg/m².

2. Triflex CeFix Screed 631

Compact with smoothing trowel and remove with straightedge.

Then smooth evenly with a float.

Volume with a minimum layer thickness of 20 mm: approx. 44 kg/m².

Can be recoated after approx. 2 hrs. (abrade)

Can be recoated after approx. 3 hrs. (priming with Triflex Cryl Primer 276), see section "Priming".

Joints resulting from work interruptions or from division into work areas are to be designed as construction joints.

Gradient screed, PMMA-based:

Triflex Cryl Level 215+

PMMA mortar for making sloping screeds with layer thicknesses of 5 mm to 50 mm.

Volume with a minimum layer thickness of 5 mm: approx. 11 kg/m².

Can be recoated after approx. 45 mins.

Joints resulting from work interruptions or from division into work areas are to be designed as construction joints.

Important:

Substrate pre-treatment is carried out for the PMMA waterproofing.

Detail waterproofing

Triflex ProDetail must be applied to all junctions, transitions and other detail solutions before surface waterproofing. Application is wet-on-wet.

1. Triflex ProDetail

Apply evenly with a radiator roller.

Consumption: min. 2.00 kg/m².

2. Triflex Special Fleece / Triflex Special Fleece PF

Embed cut-outs with no air bubbles.

Overlap the fleece strips by min. 5 cm.

3. Triflex ProDetail

Apply until the Triflex Special Fleece is fully saturated.

Consumption: min. 1.00 kg/m².

Total volume of Triflex ProDetail: min. 3.00 kg/m².

Can be recoated after approx. 45 mins.

For dimensions, see Triflex TSS system drawings.

Important:

Special Fleece mouldings can be used instead of Special Fleece cut-outs for inner and outer corners and for pipe penetrations.



System description

Edge protection profile

Before coating the stairs, the TSS profile or a comparable aluminium or stainless steel bracket with a non-slip surface is attached.

1. Triflex Cleaner

Degrease the edge protector profile and roughen the underside with sandpaper, or prime with Triflex Metal Primer.

2. Triflex Cryl Paste

Apply to the edge of the step to bond the edge protector profile.

3. Apply Triflex TSS Profile

or similar edge protector profile and secure mechanically if necessary.

Coating of stairs

Standard:

Triflex ProFloor⁽¹⁾

Apply and level with Triflex notched trowel (7 x 2 x 7 mm) or squeegee.
Consumption: min. 4.00 kg/m².
Can be recoated after approx. 1 hr.

Triflex TSS S1 variant (flame-retardant):

Triflex ProFloor S1

Apply and level with Triflex notched trowel (7 x 2 x 7 mm) or squeegee.
Consumption: min. 4.00 kg/m².
Can be recoated after approx. 1 hr.

Finishing

The sealing of all vertical junctions, transitions and details must be carried out prior to the surface finishing with thixotropic Triflex Cryl Finish 205. The product is thickened by the in-situ addition of 1 % by weight Triflex Liquid Thixo.

Standard "Dressing, coarse" (R 12) surface:

1. Quartz sand, grain size 0.7–1.2 mm

The wet coating is dressed generously in areas with increased risk of slipping.

Once the coating is cured, remove any surplus.

Consumption: min. 7.00 kg/m².

Can be recoated after approx. 1 hr.

2. Triflex Cryl Finish 205 / Triflex Cryl Finish S1⁽²⁾

Apply evenly and cross-coat using a Triflex Finish Roller.

Consumption: min. 0.70 kg/m².

3. Triflex Micro Chips

Use a funnel spray gun to apply to the fresh finish.

Consumption: min. 0.05 kg/m².

Can be walked on after approx. 2 hr.

Important:

Due to its non-slip properties (R 12), the "Dressing, coarse" surface must be implemented as standard. Other surface variants are only permitted following consultation with the client.

"Dressing, fine" (R 11) surface:

1. Triflex Cryl Finish 205 / Triflex Cryl Finish S1⁽²⁾

Apply evenly and cross-coat using a Triflex Finish Roller.

Consumption: min. 0.50 kg/m².

2. Quartz sand, grain size 0.2–0.6 mm

Dress the fresh finish generously.

Once the finish is cured, remove any surplus.

Consumption: min. 3.00 kg/m².

Can be recoated after approx. 1 hr.

3. Triflex Cryl Finish 205/Triflex Cryl Finish S1⁽²⁾

Apply evenly and cross-coat using a Triflex Finish Roller.

Consumption: min. 0.70 kg/m².

4. Triflex Micro Chips

Use a funnel spray gun to apply to the fresh finish.

Consumption: min. 0.05 kg/m².

Total volume Triflex Cryl Finish 205 / Triflex Cryl Finish S1⁽²⁾ min. 1.20 kg/m².

Can be walked on after approx. 2 hrs.

⁽¹⁾ Triflex ProFloor (3K) or Triflex ProFloor RS 2K

⁽²⁾ for the Triflex TSS S1 variant (flame-retardant)



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"Chips Design" (R 9) surface:

1. **Triflex Cryl Finish 205 / Triflex Cryl Finish S1⁽²⁾**
Apply evenly and cross-coat using a Triflex Finish Roller.
Consumption: min. 0.50 kg/m².
2. **Triflex Micro Chips**
Use a funnel spray gun to apply to the fresh finish.
Consumption: min. 0.05 kg/m².
Can be walked on after approx. 2 hrs.

Surface: "Colour Design" (R 10):

Not suitable for the Triflex BFS S1 variant (flame-retardant).

1. **Triflex Cryl Finish 205**
Apply evenly and cross-coat using a Triflex Finish Roller.
Consumption: min. 0.50 kg/m².
2. **Triflex Colour Mix**
Use a funnel spray gun with special attachment to apply generously and evenly to the fresh finish.
Once the finish is cured (approx. 2 hrs at 20 °C), carefully brush off any surplus and wait for another hour.
Volume min. 0.80 to 1.00 kg/m².
3. **Triflex Cryl Finish Satin**
Apply evenly to the dressed surface using a Triflex Finish Roller and cross-coat to smooth out.
Consumption: min. 0.35 kg/m².
Can be walked on after approx. 2 hr.

1. Once Triflex Cryl Finish 205 and Triflex Colour Mix have been applied, it is essential to ensure that the surface is kept free of contaminants (e.g. from dirty footwear, tools).
2. Protect the surface from all types of precipitation during the entire procedure. If weather conditions are unpredictable, the surface should be adequately covered.
3. Any load on the surfaces by objects (e.g. flower pots, parasol bases, doormats etc.) must be avoided for min. 7 days following completion.

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: min. 20 mins. Transitions to subsequent waterproofing must overlap (incl. Triflex Special Fleece) by a minimum of 10 cm. This also applies to junctions, transitions and detail solutions with Triflex ProDetail. The finishing 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 for use and instructions for mixing, see product information (request if necessary):

[Triflex CeFix Primer 795](#)
[Triflex CeFix Screed 631](#)
[Triflex Cleaner](#)
[Triflex Colour Mix](#)
[Triflex Cryl Finish S1](#)
[Triflex Cryl Finish 205](#)
[Triflex Cryl Finish Satin](#)
[Triflex Cryl Level 215+](#)
[Triflex Cryl Paste](#)
[Triflex Cryl Primer 222](#)
[Triflex Cryl Primer 276](#)
[Triflex Cryl RS 240](#)
[Triflex Glass Primer](#)
[Triflex Liquid Thixo](#)
[Triflex Metal Primer](#)
[Triflex Micro Chips](#)
[Triflex Pox R 100](#)
[Triflex ProDetail](#)
[Triflex ProFloor S1](#)
[Triflex ProFloor^{\(1\)}](#)
[Triflex Special Fleece](#)
[Triflex Special Fleece PF](#)
[Triflex TSS Profile](#)

⁽¹⁾ Triflex ProFloor (3K) or Triflex ProFloor RS 2K

⁽²⁾ for the Triflex TSS S1 variant (flame-retardant)



System description

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. In order to ensure the drainage of rainwater and to avoid puddles, we recommend a gradient of min. 1.5 % on balconies in accordance with DIN 18531-5 and of min. 2.0 % on used roof areas in accordance with DIN 18531-1 and the technical rules for waterproofing systems. 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 volumes required apply only to smooth, even 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.

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 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 www.triflex.com.

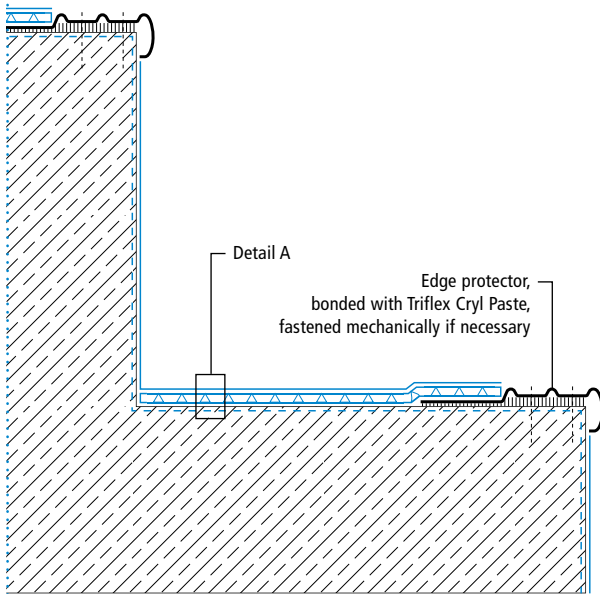
Contact us at technik@triflex.de to request further true-to-scale CAD drawings.

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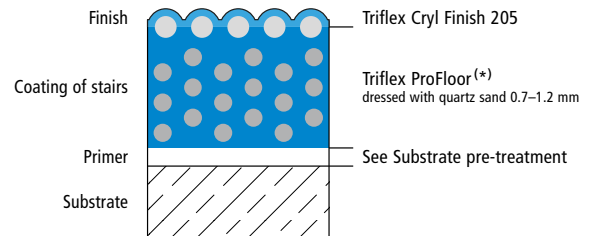
System drawings

Stairs – standard

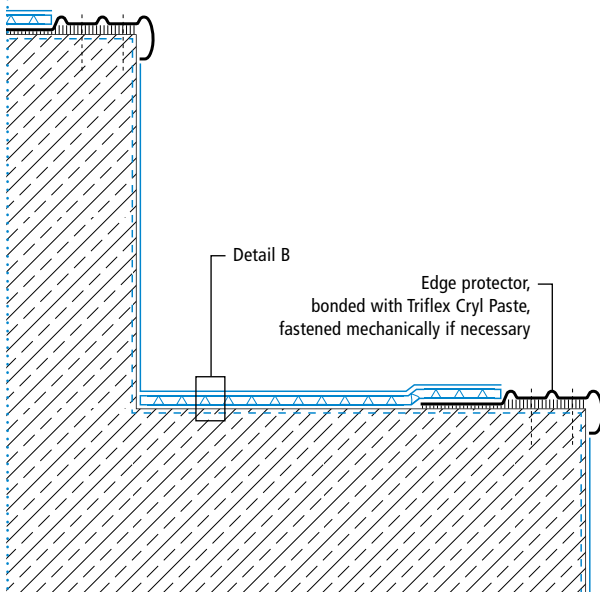


Drawing no.: TSS-2601

System build-up – Detail A

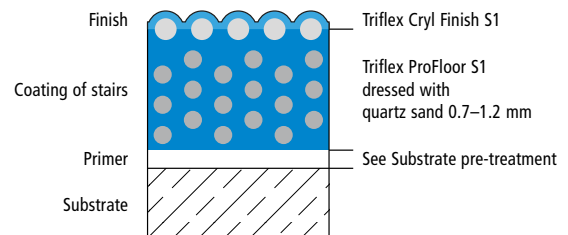


Stairs – S1 variant (flame-retardant)



Drawing no.: TSS-2602

System build-up, S1 variant – Detail B



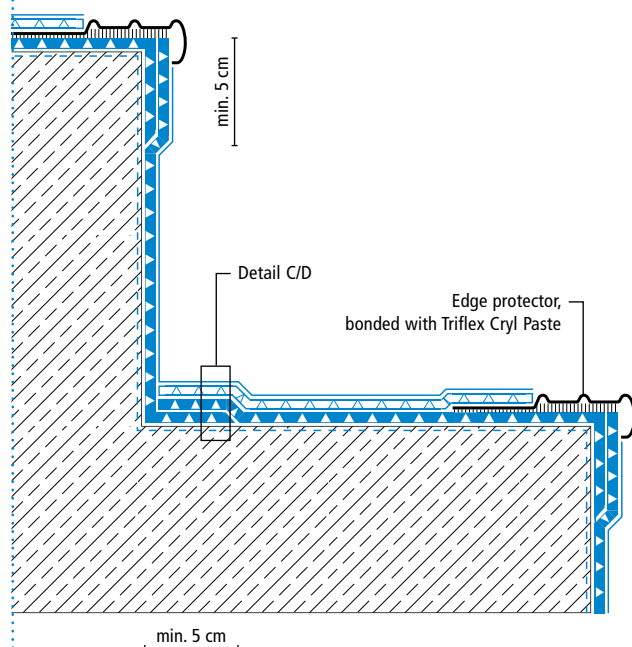
Height differences where the fleece overlaps are exaggerated.

(*) Triflex ProFloor (3K) or Triflex ProFloor RS 2K

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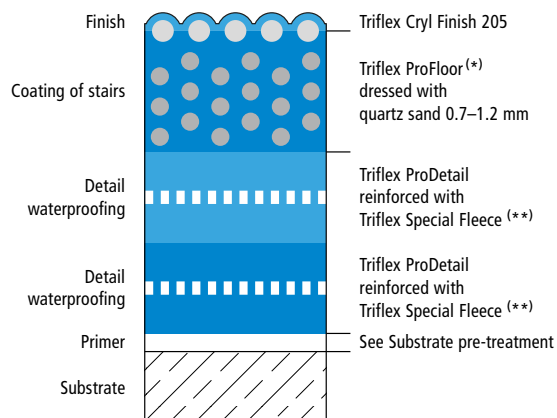
System drawings

Stair – detail waterproofing

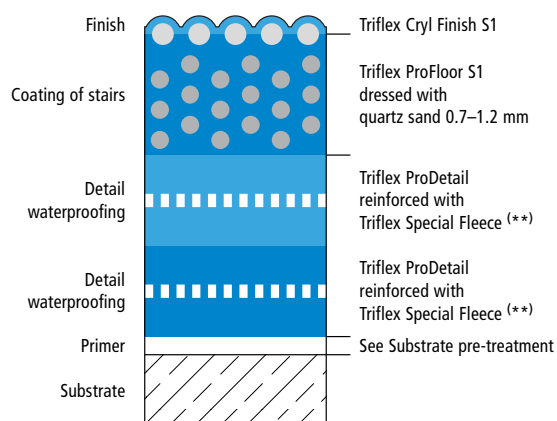


Drawing no.: TSS-2603

System build-up – Detail C



System build-up, S1 variant – Detail D





Stair coating system

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Range of colours

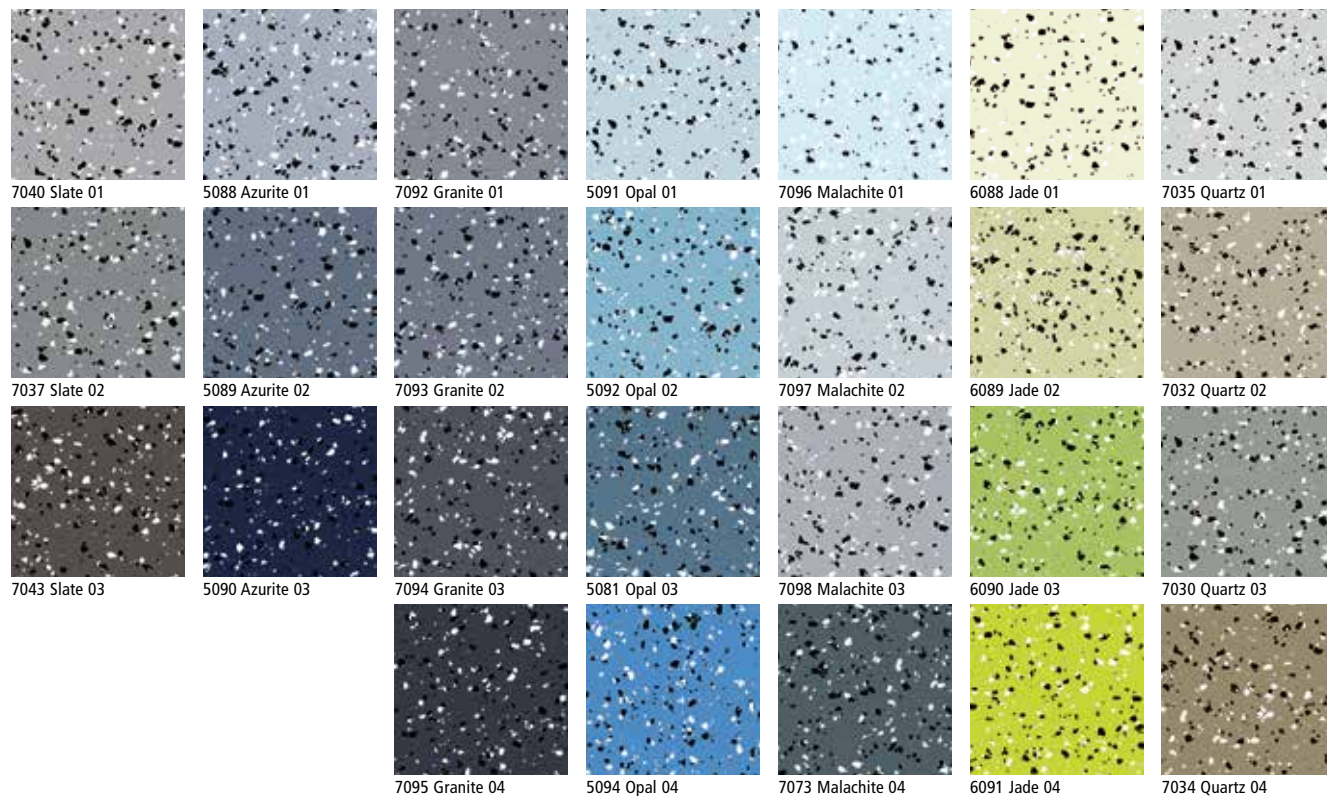
"Triflex Chips Design" surface





Range of colours

"Triflex Chips Design" surface



Please note:

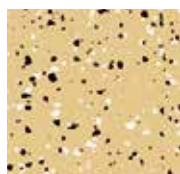
All surfaces are displayed on a scale of 1:2.
Minor variations between the colour shown here and the actual colour are due to printing technology and the materials used.



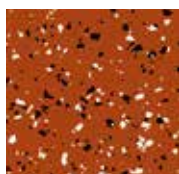
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Range of colours

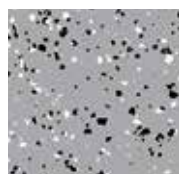
"Triflex Chips Design" surface – S1 variant (flame-retardant)



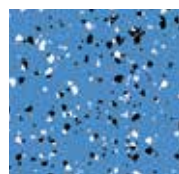
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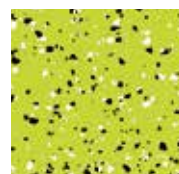
8096 Garnet 03



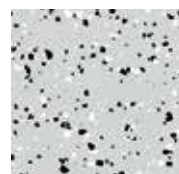
7040 Slate 01



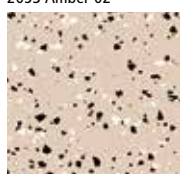
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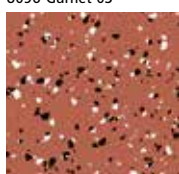
6091 Jade 04



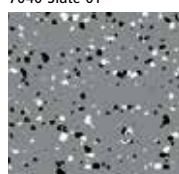
7035 Quartz 01



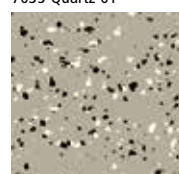
7090 Sand 02



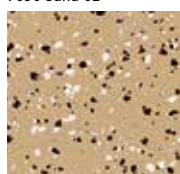
8081 Ruby 01



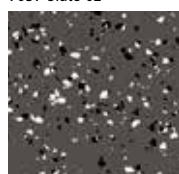
7037 Slate 02



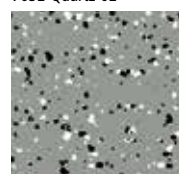
7032 Quartz 02



8089 Sand 03



7043 Slate 03



7030 Quartz 03



Range of colours

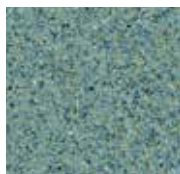
"Triflex Colour Design" surface



A719 Grey



A720 Blue



A721 Grey blue



A722 Grey green



A724 Red orange



A727 Cream beige



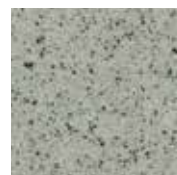
A728 Anthracite grey



A729 Stone Red

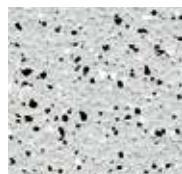


A730 White



A731 Light grey

"Dressing, fine" surface



Dressing, fine

Additional flame-dried quartz sand dressing provides a non-slip finish. For available colours, see "Triflex Chips Design"

"Dressing, coarse" surface



Dressing, coarse

Coarse quartz sand dressing is particularly recommended for stairs and slanted surfaces. For available colours, see "Triflex Chips Design"

Please note:

All surfaces are displayed on a scale of 1:2.
Minor variations between the colour shown here and the actual colour are due to printing technology and the materials used.



Delivering solutions together.

International

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