

Planning documents  
Stair coating system

## Triflex TSS





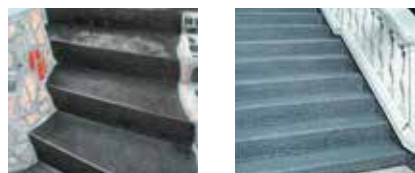
## Stair coating system Triflex TSS

### Applications



#### 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.



**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 almost 40 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.



### 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.

# Stair coating system Triflex TSS



## 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 trowel, level out ...



8. ... and dress with quartz sand in excess.



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



## 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.



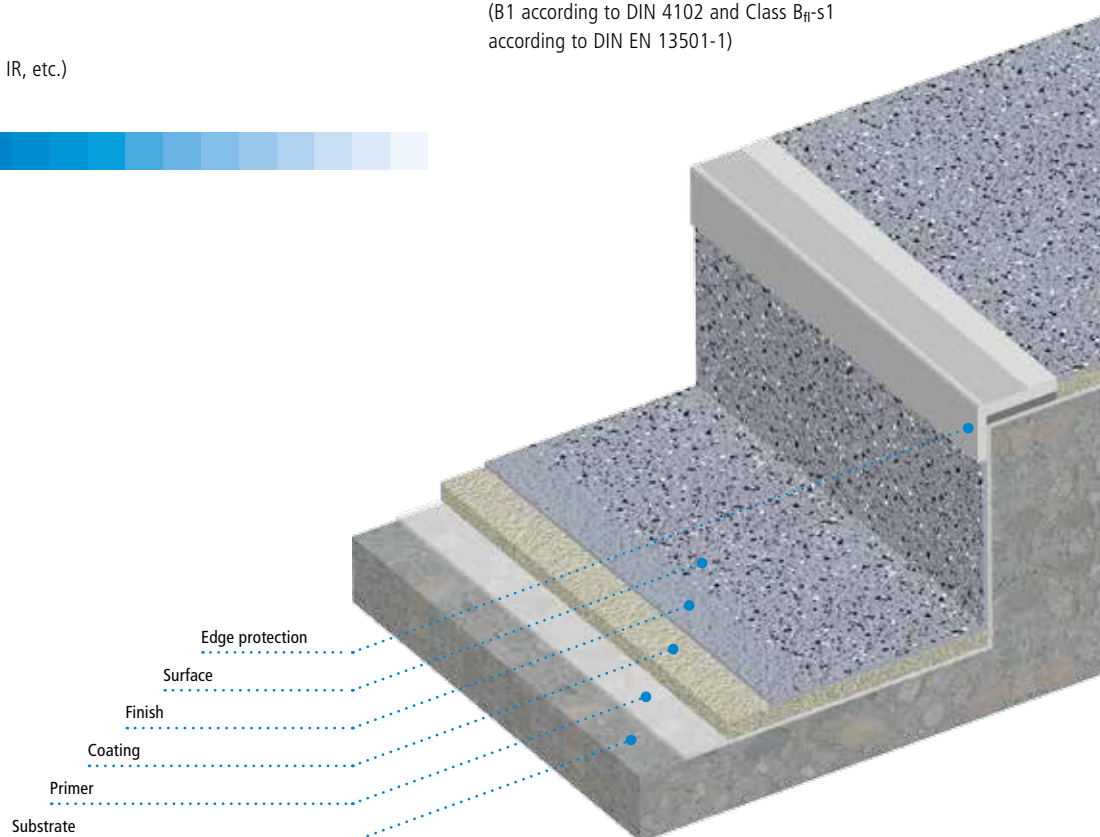
# Stair coating system Triflex TSS

## System description

### Properties

- Thick-coating system made of polymethyl methacrylate (PMMA) resin
- Withstands high mechanical loads
- Seamless
- Full-surface adhesion
- Cold-applied
- Fast-curing
- Chemical-resistant
- Weather-resistant (UV, IR, etc.)
- Non-slip (R 12)
- Highly abrasion-resistant
- Self-levelling
- Can be decorated
- Approved coating as per EN 1504 / DIN V 18026
- The Triflex TSS S1 version is flame-retardant (B1 according to DIN 4102 and Class B<sub>fl</sub>-s1 according to DIN EN 13501-1)

### System design



### System components

#### Primer

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

#### Coating

Triflex ProFloor<sup>(1)</sup> / Triflex ProFloor S1<sup>(2)</sup>, self-levelling and waterproof 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

Substrate suitability should always be checked on a case-by-case basis. The substrate must be clean, dry and free of cement bloom, dust, oil, grease and other adhesion-reducing dirt.

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

**Hardness:** Mineral substrates must be permitted to fully harden for at least 28 days.

**Adhesion:** The following tensile strengths must be verified on pre-treated test surfaces:

Concrete: in the centre, at least 1.5 N/mm<sup>2</sup>, individual value not less than 1.0 N/mm<sup>2</sup>.

Screed: in the centre, at least 1.0 N/mm<sup>2</sup>, individual value not less than 0.7 N/mm<sup>2</sup>.

Asphalt: in the centre, at least 0.8 N/mm<sup>2</sup>, individual value not less than 0.5 N/mm<sup>2</sup>.

<sup>(1)</sup> Triflex ProFloor (3K) or Triflex ProFloor RS 2K

<sup>(2)</sup> for the Triflex TSS S1 (flame-retardant)



## System description

### Substrate pre-treatment

Substrate	Pre-treatment	Primer
Aluminium	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(3)</sup>
Asphalt	Grind	Triflex Cryl Primer 222
Composite thermal insulation systems	Remove any loose objects	Triflex Pox R 100
Concrete	Grind	Triflex Cryl Primer 276
Copper	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(3)</sup>
Epoxy resin coating	Roughen surface, adhesion and compatibility test	No primer
Glass	Abrade with Triflex Glass Cleaner, adhesion test	Triflex Glass Primer
Lightweight concrete	Remove any loose objects	Triflex Cryl Primer 276
Mortar, resin-modified	Grind, adhesion and compatibility test	Triflex Pox R 100
Paints	Completely grind off	See substrate
Plaster/masonry	Remove any loose objects	Triflex Cryl Primer 276
PU coating	Roughen surface, adhesion and compatibility test	No primer
PVC mouldings, rigid	Abrade with Triflex Cleaner, roughen surface	No primer
Screeds	Grind	Triflex Cryl Primer 276
Stainless steel	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(3)</sup>
Steel, galvanised	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(3)</sup>
Tiles	Mechanically remove glaze	Triflex Cryl Primer 276
Wood	Remove paints	Triflex Cryl Primer 276
Zinc	Abrade with Triflex Cleaner, roughen surface	No primer <sup>(3)</sup>

<sup>(3)</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:

1. The Triflex TSS S1 version (flame-retardant) can only be used to surface the following substrates: concrete, screed and lightweight concrete. Additional gradients must also be created using purely mineral-based materials.
2. 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/m<sup>2</sup>. Can be recoated after approx. 45 min.

#### Triflex Cryl Primer 276

Apply evenly with a Triflex universal roller.  
Volume: at least 0.40 kg/m<sup>2</sup>. Can be recoated after approx. 45 min.

#### Triflex Glass Primer

Wipe up evenly with a cleaning cloth GP.  
Volume: approx. 50 ml/m<sup>2</sup>.  
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 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.

#### Triflex Pox R 100

Apply evenly with a Triflex universal roller.  
Dress the fresh primer with a surplus of quartz sand.  
Volume of Triflex Pox R 100: at least 0.30 kg/m<sup>2</sup>,  
Volume of quartz sand 0.2–0.6 mm: at least 2.00 kg/m<sup>2</sup>.  
Can be recoated after approx. 12 hrs.

### Repairing

#### Triflex Cryl Level 215

Mortar for making sloping screeds with layer thicknesses of 10 mm to 50 mm.  
Volume with a minimum layer thickness of 10 mm: approx. 22 kg/m<sup>2</sup>.  
Can be recoated after approx. 45 min.

#### Triflex Cryl RS 240

Mortar for repairing mineral substrates with roughness depths of RT > 10 mm.  
Volume: at least 2.20 kg/m<sup>2</sup> per mm layer thickness.  
Can be recoated after approx. 45 min.

#### Triflex Cryl Paste

Paste for filling in shrinkage cracks, smaller areas of damage and for levelling out uneven areas and fleece overlaps.  
Volume: approx. 1.40 kg/m<sup>2</sup> per mm layer thickness.  
Can be recoated after approx. 1 hr.

#### 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\* per 33.00 kg of Triflex ProFloor (3K) or 4.50 kg of quartz sand, 0.2–0.6 mm\* per 15.00 kg of Triflex ProFloor RS 2K  
Volume: at least 2.00 kg/m<sup>2</sup> per mm layer thickness.  
Can be recoated after approx. 1 hr.

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



# Stair coating system

## Triflex TSS

### System description

#### Detail waterproofing

Triflex ProDetail must be applied to all junctions, transitions and other detail solutions before surface coating. Triflex ProDetail can also be used for waterproofing of stairs. Application is wet-on-wet.

##### 1. Triflex ProDetail

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 ProDetail

Apply until the Triflex Special Fleece is fully saturated.  
Volume: at least 1.00 kg/m<sup>2</sup>.

Total volume of Triflex ProDetail: at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 45 min.

For dimensions, see Triflex TSS system drawings.

#### Important note:

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

#### Edge protector

Before coating the stairs, aluminium or stainless steel brackets with a non-slip surface are attached.

##### 1. Triflex Cleaner

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

##### 2. Triflex Cryl Paste

Apply to the underside to bond the edge protector.

##### 3. Edge protector

Attach and secure mechanically if necessary.

#### Coating of stairs

##### Standard:

##### Triflex ProFloor<sup>(1)</sup>

Spread evenly using a squeegee or stainless steel trowel and level out.  
Volume: at least 4.00 kg/m<sup>2</sup>.  
Can be recoated after approx. 1 hr.

##### Triflex TSS S1 version (flame-retardant):

##### Triflex ProFloor S1

Spread evenly using a squeegee or stainless steel trowel and level out.  
Volume: at least 4.00 kg/m<sup>2</sup>.  
Can be recoated after approx. 1 hr.

#### Finish

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 wt. % Triflex Liquid Thixo.

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

##### 1. Quartz sand, size 0.7–1.2 mm

In areas with increased risk of slipping, dress the fresh coating with a surplus of quartz sand.

Once the coating is cured, remove any surplus.

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

Can be recoated after approx. 1 hr.

##### 2. Triflex Cryl Finish 205 / Triflex Cryl Finish S1<sup>(2)</sup>

Cross-coat finish evenly using a Triflex finish roller.

Volume: at least 0.70 kg/m<sup>2</sup>.

##### 3. Triflex Micro Chips

Blow into the wet finish using a funnel spray gun.

Volume: at least 0.05 kg/m<sup>2</sup>.

Can be walked on after approx. 2 hrs.

#### Important note:

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<sup>(2)</sup>

Cross-coat evenly using a Triflex finish roller.

Volume: at least 0.50 kg/m<sup>2</sup>.

##### 2. Quartz sand, size 0.2–0.6 mm

Dress the fresh finish with a surplus of quartz sand.

Once the finish is cured, remove any surplus.

Volume: at least 3.00 kg/m<sup>2</sup>.

Can be recoated after approx. 1 hr.

##### 3. Triflex Cryl Finish 205 / Triflex Cryl Finish S1<sup>(2)</sup>

Cross-coat finish evenly using a Triflex finish roller.

Volume: at least 0.70 kg/m<sup>2</sup>.

##### 4. Triflex Micro Chips

Blow into the wet finish using a funnel spray gun.

Volume: at least 0.05 kg/m<sup>2</sup>.

Total volume Triflex Cryl Finish 205 / Triflex Cryl Finish S1<sup>(2)</sup> at least 1.20 kg/m<sup>2</sup>.

Can be walked on after approx. 2 hrs.

<sup>(1)</sup> Triflex ProFloor (3K) or Triflex ProFloor RS 2K

<sup>(2)</sup> for the Triflex TSS S1 version (flame-retardant)

# Stair coating system

## Triflex TSS

### System description

#### "Chips Design" (R 9) surface:

**1. Triflex Cryl Finish 205 / Triflex Cryl Finish S1<sup>(2)</sup>**

Cross-coat evenly using a Triflex finish roller.  
Volume: at least 0.50 kg/m<sup>2</sup>.

**2. Triflex Micro Chips**

Blow into the wet finish using a funnel spray gun.  
Volume: at least 0.05 kg/m<sup>2</sup>.  
Can be walked on after approx. 2 hrs.

#### Surface: "Colour Design" (R 10):

Not suitable for the Triflex TSS S1 version (flame-retardant).

**1. Triflex Cryl Finish 205**

Cross-coat evenly using a Triflex finish roller.  
Volume: at least 0.50 kg/m<sup>2</sup>.

**2. Triflex Colour Mix**

Use a funnel spray gun with special attachment to apply generously and evenly with surplus to the wet finish.  
Once the finish is cured (approx. 2 hrs at 20 °C), carefully remove any surplus and wait for another hour.  
Volume at least 0.80 to 1.00 kg/m<sup>2</sup>.

**3. Triflex Cryl Finish Satin**

Cross-coat the dressed surface evenly using a Triflex finish roller.  
Volume: at least 0.35 kg/m<sup>2</sup>.  
Can be walked on after approx. 2 hrs.

#### Important note:

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 at least 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: at least 20 min.

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 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 Glass Primer
Triflex Colour Mix	Triflex Liquid Thixo
Triflex Cryl Finish 205	Triflex Metal Primer
Triflex Cryl Finish S1	Triflex Micro Chips
Triflex Cryl Finish Satin	Triflex Pox R 100
Triflex Cryl Level 215	Triflex ProDetail
Triflex Cryl Paste	Triflex ProFloor <sup>(1)</sup>
Triflex Cryl Primer 222	Triflex ProFloor S1
Triflex Cryl Primer 276	Triflex Special Fleece
Triflex Cryl RS 240	

#### 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 surfacing 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 surfacing 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 surfaces. Special allowances must be made for unevenness, roughness and porosity. Information regarding airing and waiting times applies to a substrate at an ambient temperature of +20 °C.

<sup>(2)</sup> for the Triflex TSS S1 version (flame-retardant)



# Stair coating system Triflex TSS

## System drawings

### 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 products. Subject to change in the interests of technical advancement or enhancement of Triflex products.

### Tender texts

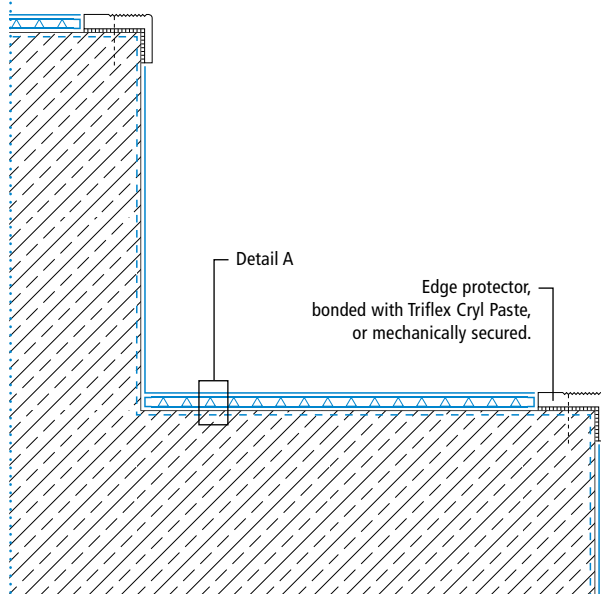
Please visit the download section of the Triflex website at [www.triflex.com](http://www.triflex.com) to obtain the current standard specifications for tender, which are available in a range of different file formats.

### CAD drawings

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

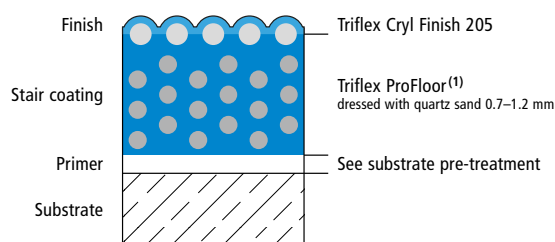
## System drawings

### Stairs – standard



Drawing no.: TSS-2601

### System design – Detail A



Height differences between fleece overlaps are exaggerated.

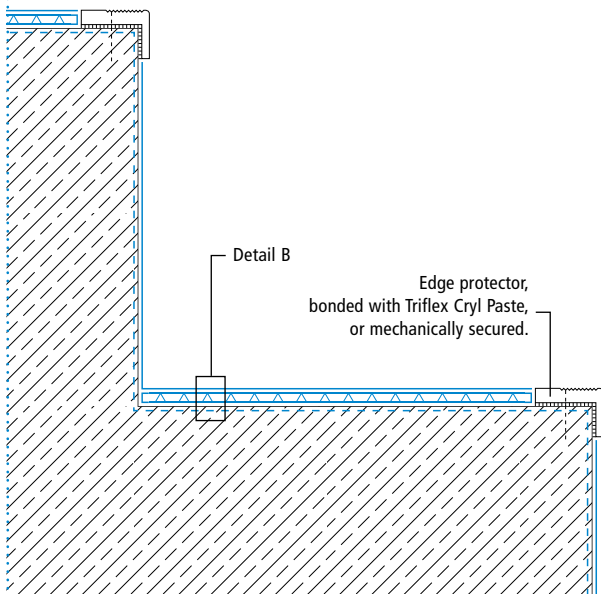
(1) Triflex ProFloor (3K) or Triflex ProFloor RS 2K



# Stair coating system Triflex TSS

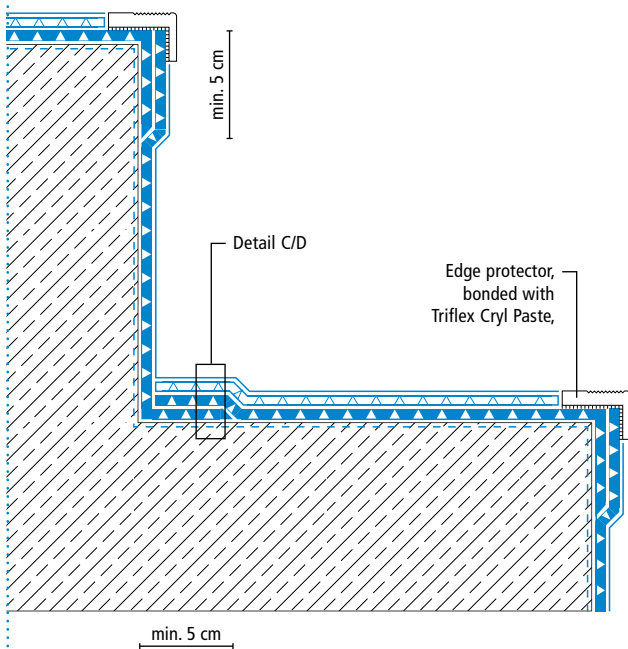
## System drawings

### Stairs – S1 version (flame-retardant)



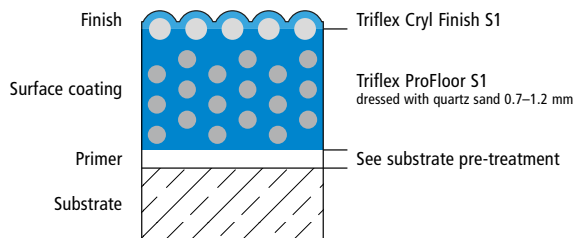
Drawing no.: TSS-2602

### Stair – detail waterproofing

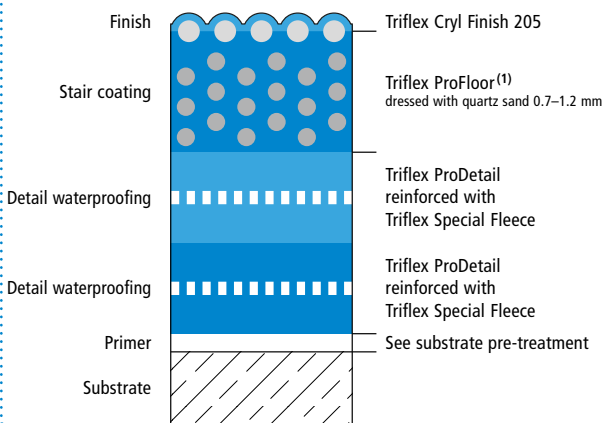


Drawing no.: TSS-2603

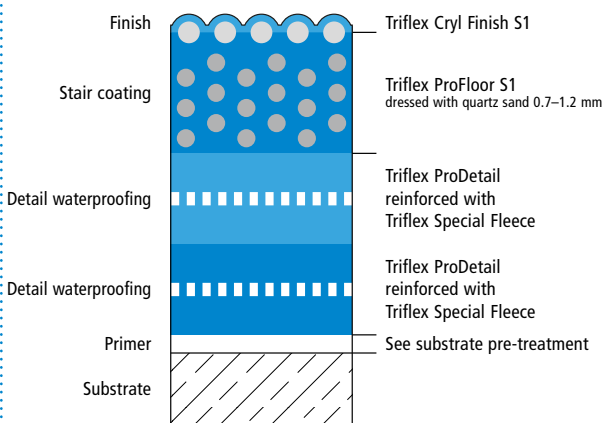
### System design, S1 version – Detail B



### System design – Detail C



### System design, S1 version – Detail D



Height differences between fleece overlaps are exaggerated.

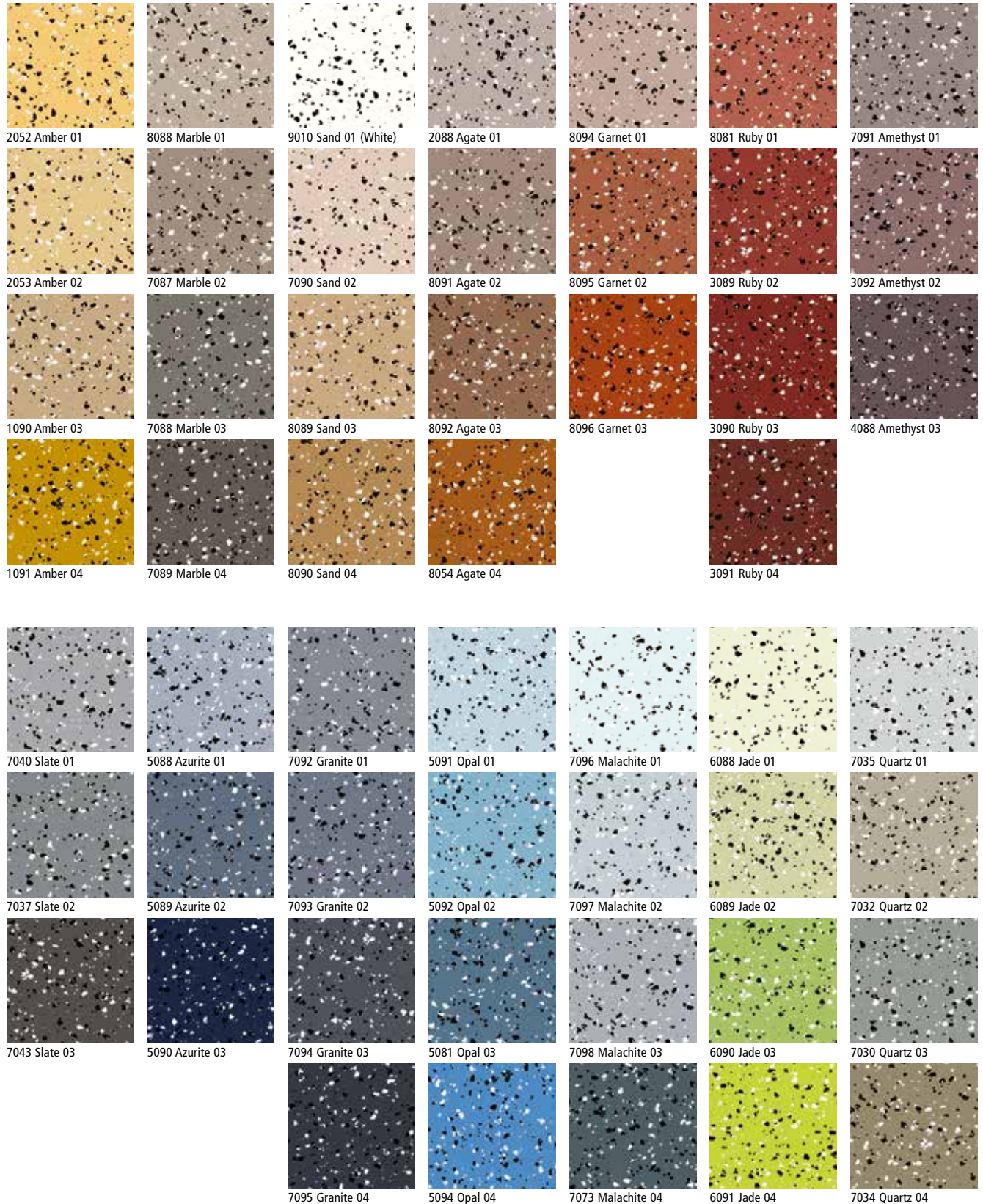
(1) Triflex ProFloor (3K) or Triflex ProFloor RS 2K



Stair coating system  
**Triflex TSS**

## Range of colours

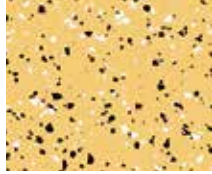
“Triflex Chips Design” surface



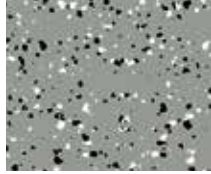


## Range of colours

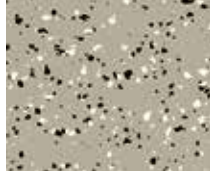
### "Triflex Chips Design" surface – S1 version (flame-retardant)



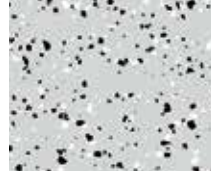
2053 Amber 02



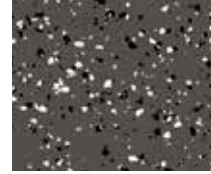
7030 Quartz 03



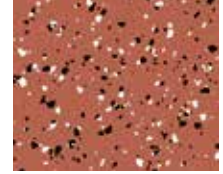
7032 Quartz 02



7035 Quartz 01

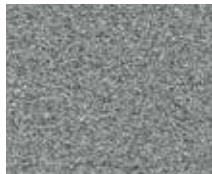


7043 Slate 03



8081 Ruby 01

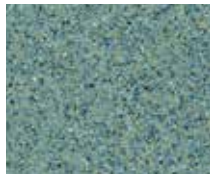
### "Triflex Colour Design" surface



A719 Grey



A720 Blue



A721 Grey blue



A722 Grey green



A724 Red orange



A727 Cream beige



A728 Anthracite grey



A729 Stone Red

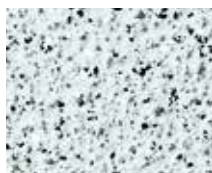
### "Dressing, fine" surface



#### 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.

# Triflex

Delivering solutions together.



#### International

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