

Planning documents
Balcony waterproofing system

Triflex BTS-P



Applications



Triflex BTS-P is a premium full-surface waterproofing system reinforced with Triflex Special Fleece, which is used above occupied rooms or on surfaces at high risk of cracking, and can withstand high mechanical loads. The system, made of polymethyl methacrylate resin (PMMA), is specially developed for balconies, walkways and roof terraces and provides long-lasting protection for the structure.

Safe escape routes thanks to fire protection

The Triflex BTS-P S1 version is a flame-retardant enhancement of the tried-and-tested Triflex BTS-P waterproofing system. Special additives have made this mechanically and chemically highly stable system flame-resistant, which means that it is ideal for walkways and escape routes. The unique Triflex BTS-P S1 system is exclusively for use on mineral substrates.

Safety on balconies and roof terraces

Waterproofing not only extends the life of buildings, but is also indispensable when it comes to protecting occupied rooms. Balconies, walkways and roof terraces are amongst the most exposed components of a building construction, and the load bearing construction in particular is subject to both thermal and mechanical loads as well as other load impacts. Lack of functional waterproofing can lead to damage from moisture penetration, concrete flaking and corrosion of reinforcements. It no longer has to be this way. Triflex has almost 40 years experience of using durable waterproofing and coating systems in the world of building refurbishment. Triflex BTS-P is a waterproofing system developed specially for balconies, walkways and roof terraces that ensures the reliable protection of load-bearing elements.



Advantages at a glance

Durable

Triflex BTS-P is a thick-layer waterproofing system with a layer thickness of approx. 4 to 5 mm, depending on the version. The waterproofing system features an integrated wearing layer and permanently withstands high mechanical point loads from tables and chairs on balconies, or pedestrian traffic on walkways.

Highly resilient with dynamic crack-bridging

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.

Fire protection

The Triflex BTS-P S1 version is a flame-retardant waterproofing system. The product's fire behaviour is graded in Class B1 (flame-retardant) according to DIN 4102, and Class C_{fl} -s1 according to DIN EN 13501-1. The exceptional quality of the system is verified by a test certificate (abP).

Waterproof down to the smallest detail

The cured resin forms a seamless and joint-free surface. Even complicated details such as railing posts can be easily and homogeneously waterproofed using liquid application techniques.

Ideal for refurbishments

The system can be applied to virtually all substrates, is vapour-permeable and, with a surface weight of less than 10 kg/m², it is also suitable for application on existing old substrates without negatively affecting stability. This saves removal costs and time.

Short closure periods

Triflex BTS-P offers much faster curing times than systems made of EP or PUR resins. Surfaces requiring refurbishment can be fully used by residents again on the day of application.

Colours and surface finishes

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.

And this is how it's done ...



1. Prime wall junction and surface.



2. Prepare Triflex Special Fleece cut-outs.



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



4. Apply Triflex Special Fleece across the entire surface, removing any air bubbles.



5. Apply a second layer of Triflex ProDetail.



The details are reliably waterproofed.



7. Triflex ProTerra is applied generously to the surface.



8. Triflex Special Fleece is applied across the entire surface, removing any air bubbles.



9. Then a second layer of Triflex ProTerra is applied.



10. The wearing surface: Spread and level out Triflex ProFloor ...



11. ... using a trowel.



12. Apply the finish Triflex Cryl Finish 205 and ...



13. ... blow in Triflex Micro Chips.



14. Done!



Compatible system components

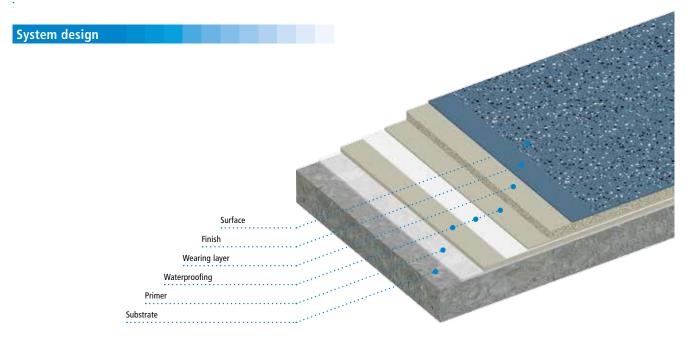
All the Triflex products mentioned in this system are lab-scale and application coordinated as a result of years of experience. This standard of quality ensures optimum results during both application and use.

System description

Properties

- Fully reinforced waterproofing system with a polymethyl methacrylate (PMMA) base
- · Withstands high mechanical loads
- Seamless
- Joint-bridging
- Flexible
- Full-surface adhesion
- · Dynamic crack-bridging
- Cold-applied
- Fast-curing
- · Vapour-permeable

- Chemical-resistant
- Weather-resistant (UV, IR, etc.)
- Surface design to specification
- Variety of colours available
- European Technical Approval with CE mark in the highest usage categories (W3, M and S, P1 to P4, S1 to S4, TL4, TH4)
- The Triflex BTS-P S1 version is flame-retardant (B1 according to DIN 4102 and Class C_{fl}-s1 according to DIN EN 13501-1)
- Can be combined with Triflex BIS Balcony Insulation System or Triflex ProDrain Balcony Uncoupling System



System components

Prime

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

Waterproofing

Triflex ProTerra waterproof membrane, fully reinforced with a sturdy Triflex Special Fleece made of polyester.

Wearing layer

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

Finish

Standard surface with Triflex Chips Design or Triflex Colour Design, non-slip system finish with quartz sand dressing. Other surface systems can be used for the creative use of colours and surface finishes.

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/mm², individual value not less than 1.0 N/mm². Screed: in the centre, at least 1.0 N/mm², individual value not less than 0.7 N/mm². Asphalt: in the centre, at least 0.8 N/mm², individual value not less than 0.5 N/mm².

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

⁽²⁾ for the Triflex BTS-P S1 version (flame-retardant)

System description

Substrate pre-treatment

Substrate	Pre-treatment	Primer
Aluminium	Abrade with Triflex Cleaner, roughen surface	No primer ⁽³⁾
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 (3)
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 (3)
Steel, galvanised	Abrade with Triflex Cleaner, roughen surface	No primer ⁽³⁾
Tiles	Mechanically remove glaze	Triflex Cryl Primer 276
Wood	Remove paints	Triflex Cryl Primer 276
Zinc	Abrade with Triflex Cleaner, roughen surface	No primer ⁽³⁾

⁽³⁾ 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 BTS-P 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/m². Can be recoated after approx. 45 min.

Triflex Cryl Primer 276

Apply evenly with a Triflex universal roller. Volume: at least 0.40 kg/m². Can be recoated after approx. 45 min.

Triflex Glass Primer

Wipe up evenly with a cleaning cloth GP. 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 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/m², Volume of quartz sand 0.2-0.6 mm: at least 2.00 kg/m². 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/m². Can be recoated after approx. 45 min.

Triflex Cryl RS 240

Mortar for repairing mineral substrates with roughness depths of $R_T > 10$ mm. Volume: at least 2.20 kg/m² 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/m² per mm layer thickness. Can be recoated after approx. 1 hr.

Triflex ProFloor

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/m² per mm layer thickness.

Can be recoated after approx. 1 hr.

Scratch coat for repairing mineral substrates

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

System description

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. Volume: at least 2.00 kg/m².

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/m².

Total volume of Triflex ProDetail: at least 3.00 kg/m².

Can be recoated after approx. 45 min.

For dimensions, see Triflex BTS-P 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.

Joint waterproofing

All joints must be treated with Triflex ProDetail before surface waterproofing. To prevent abutting edges, joints should always be embedded in the substrate (see system drawings).

Construction joint:

Application is wet-on-wet.

1. Triflex ProDetail

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

2. Triflex Special Fleece

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

3. Triflex ProDetail

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

Total volume of Triflex ProDetail: at least 0.60 kg/m.

Can be recoated after approx. 45 min.

See Triflex BTS-P system drawings for dimensions.

Important note:

In the area of the construction joint, tape over the wearing layer and the "Dressing, fine" and "Dressing, coarse" surfaces with approx. 2.5 cm wide adhesive tape. Prior to applying the finish, the joint is levelled flush with Triflex ProDetail.

Settlement joint:

1. Triflex Cryl Paste

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

2. Triflex Support Strip

Insert in the joint as a loop.

Can be recoated after approx. 1 hr.

3. Triflex Special Fleece

Insert two fleece strips, each 20 cm wide, saturated with Triflex ProDetail as a double loop, making sure there are no air bubbles.

Can be recoated after approx. 45 min.

4. PE round sealing band

Place in the joint.

5. Triflex ProDetail

Seal the joint so it is flush with the surface.

Total volume of Triflex ProDetail: at least 1.20 kg/m.

Can be recoated after approx. 45 min.

For dimensions, see Triflex BTS-P system drawings.

Important note:

In the area of the settlement joint, tape over the surface waterproofing, the wearing layer and the "Dressing, fine" and "Dressing, coarse" surfaces with at least 5 cm wide adhesive tape. Prior to applying the finish, the joint is levelled flush with Triflex ProDetail.

Surface waterproofing

Application is wet-on-wet.

1. Triflex ProTerra

Apply evenly with a Triflex universal roller.

Volume: at least 2.00 kg/m².

2. Triflex Special Fleece

Lay fleece without any air bubbles. Overlap the fleece by at least 5 cm.

3. Triflex ProTerra

Apply until the Triflex Special Fleece is fully saturated.

Volume: at least 1.00 kg/m².

Total volume of Triflex ProTerra: at least $3.00\ kg/m^2$.

Can be recoated after approx. 1 hr.

Important note:

In the area of the settlement joint, tape over the surface waterproofing with at least 5 cm wide adhesive tape.

Wearing layer

Standard:

Triflex ProFloor(1)

Spread evenly and level out on the previous coat of waterproofing using a squeegee or stainless steel trowel.

Volume: at least 4.00 kg/m². Can be recoated after approx. 1 hr.

Triflex BTS-P S1 version (flame-retardant):

Triflex ProFloor S1

Spread evenly and level out on the previous coat of waterproofing using a squeegee or stainless steel trowel.

Volume: at least 4.00 kg/m².

Can be recoated after approx. 1 hr.

Important note:

In the area of the construction joint, tape over the wearing layer with approx. 2.5 cm wide adhesive tape. In the area of the settlement joint, tape over the wearing layer with at least 5 cm wide adhesive tape.

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

System description

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.

"Chips Design" (R 9) surface:

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

Cross-coat evenly using a Triflex finish roller. Volume: at least 0.50 kg/m².

2. Triflex Micro Chips

Blow into the wet finish using a funnel spray gun. Volume: at least 0.05 kg/m².

Can be walked on after approx. 2 hrs.

"Colour Design" (R 10) surface:

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

1. Triflex Cryl Finish 205

Cross-coat evenly using a Triflex finish roller. Volume: at least 0.50 kg/m².

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/m².

3. Triflex Cryl Finish Satin

Cross-coat the dressed surface evenly using a Triflex finish roller. Volume: at least 0.35 kg/m².

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 or 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 surface by objects (e.g., flower pots, parasol bases, doormats, etc.) must be avoided for at least 7 days following completion.

"Creative Design" surface:

For creative surface design with colours and patterns, see Triflex Creative Design.

"Dressing, fine" (R 11) surface:

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

Cross-coat evenly using a Triflex finish roller. Volume: at least 0.50 kg/m².

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/m².

Can be recoated after approx. 1 hr.

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

Cross-coat finish evenly using a Triflex finish roller. Volume: at least 0.70 kg/m².

4. Triflex Micro Chips

Blow into the wet finish using a funnel spray gun. Volume: at least 0.05 kg/m².

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

Can be walked on after approx. 2 hrs.

Important note:

In the area of the construction joint, tape over the finish layer (1.) together with the quartz sand dressing (2.) with approx. 2.5 cm wide adhesive tape. In the area of the settlement joint, tape over the finish layer (1.) together with the quartz sand dressing (2.) with at least 5 cm adhesive tape. Once cured, the joints are levelled flush using Triflex ProDetail. The finish layer (3.) with Micro Chips dressing (4.) is applied over the joints.

"Dressing, coarse" (R 12) surface:

1. Quartz sand, size 0.7-1.2 mm

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

Once the wearing layer is cured, remove any surplus.

Volume: at least 7.00 kg/m².

Can be recoated after approx. 1 hr.

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

Cross-coat finish evenly using a Triflex finish roller. Volume: at least 0.70 kg/m².

3. Triflex Micro Chips

Blow into the wet finish using a funnel spray gun. Volume: at least 0.05 kg/m².

Can be walked on after approx. 2 hrs.

Important note:

In the area of the construction joint, tape over the guartz sand dressing (1.) and the wearing layer with approx. 2.5 cm wide adhesive tape. In the area of the settlement joint, tape over the quartz sand dressing (1.) and the wearing layer with at least 5 cm wide adhesive tape. Once cured, the joints are levelled flush using Triflex ProDetail. The finish layer (2.) with Micro Chips dressing (3.) is applied over the joints.

System description

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 Colour Mix
Triflex Cryl Finish 205
Triflex Cryl Finish S1
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 ProTerra
Triflex Special Fleece
Triflex Support Strip
Balcony edge finishing profile

Quality standard

All Triflex products are manufactured in accordance with the standards defined in ISO 9001. To ensure that quality is not compromised, Triflex products are only installed by specialist, fully trained and qualified contractors.

Gradient / Evenness

Before commencing any work and during the work itself, it is essential to ensure the correct gradient and evenness of the substrate. Any corrections required must be taken into account during this work.

Dimensional tolerances

When carrying out the work, always ensure compliance with the permissible tolerances for building construction (DIN 18202, Table 3, line 4).

Safety tips / Accident prevention

Read the safety data sheets before using the products.

Volumes required / 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 $+20\,^{\circ}\text{C}.$

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 documentation 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.q., of the substrate.

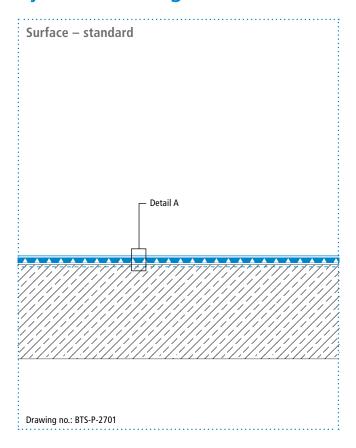
Non-system substances must not be added to Triflex products. Subject to change in the interests of technical advancement or enhancement of Triflex products.

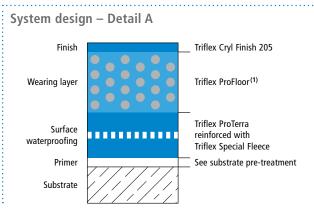
Tender texts

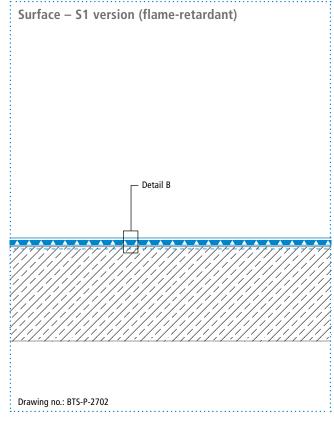
Please visit the download section of the Triflex website at www.triflex.com to obtain the current standard specifications for tender, which are available in a range of different file formats.

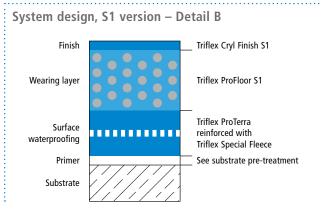
CAD drawings

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



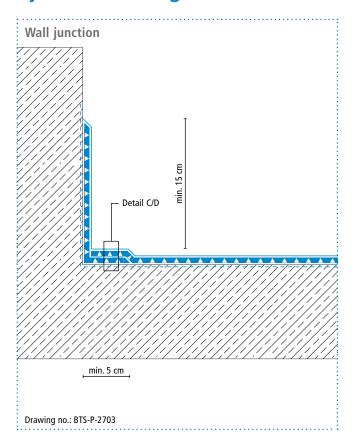


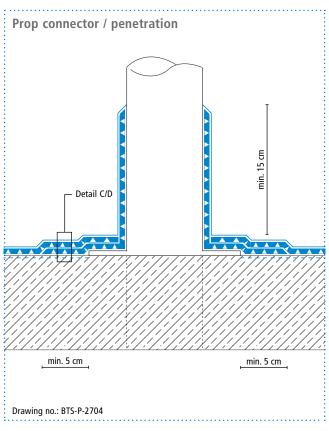


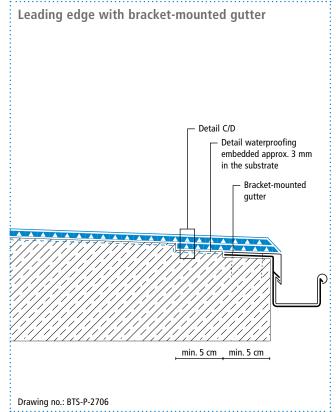


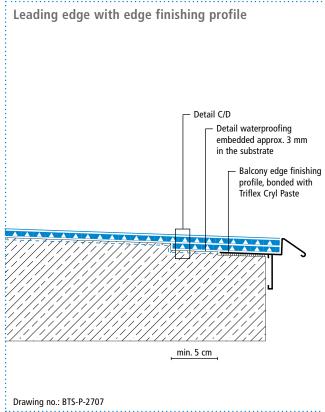
Height differences between fleece overlaps are exaggerated.

System drawings

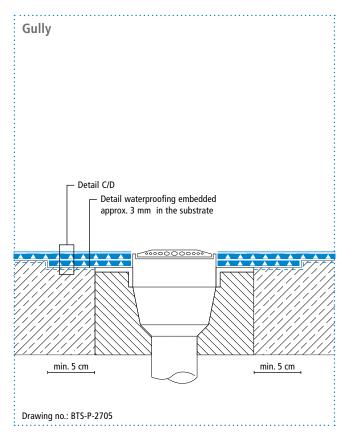


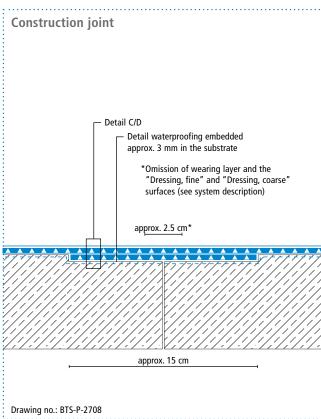


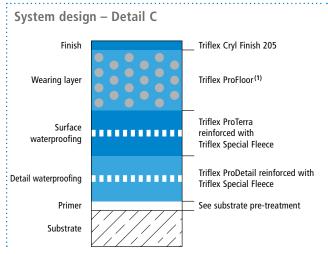


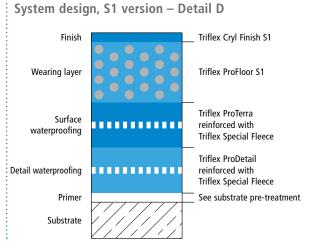


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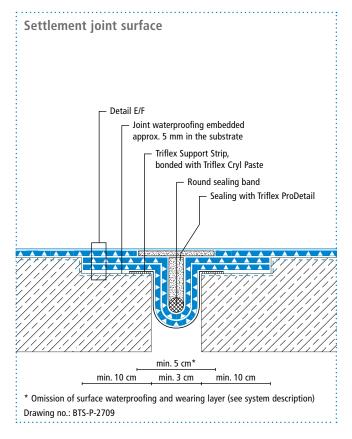


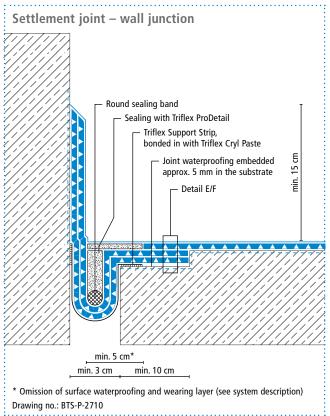




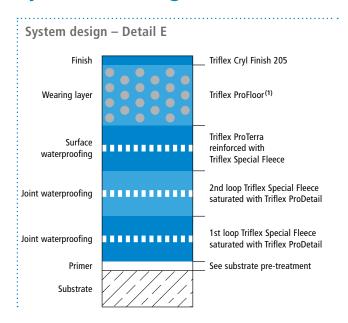


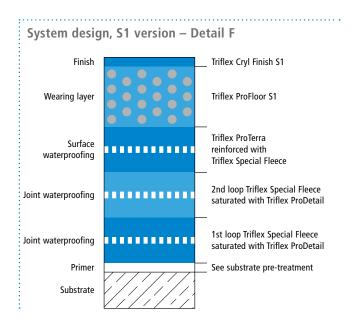
Height differences between fleece overlaps are exaggerated.











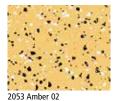
Range of colours

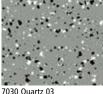
"Triflex Chips Design" surface

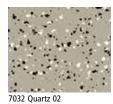


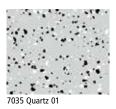
Range of colours

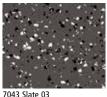
"Triflex Chips Design" surface - S1 version (flame-retardant)

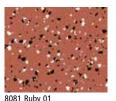




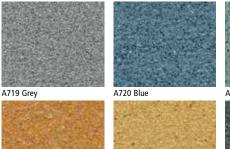








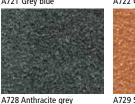
"Triflex Colour Design" surface



A727 Cream beige









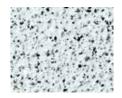
"Dressing, fine" surface



A724 Red orange

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

"Dressing, coarse" surface



Dressing, coarseCoarse 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.



