

Planning documents Waterproofing system under other coverings **Triflex BWS**







It is crucial that the structures of both new and refurbished buildings are reliably waterproofed. Individual requirements in this regard can vary enormously. But one thing they do have in common is the permanent mechanical load of the surface weight of subsequent overlays. Only high-quality systems meet the requirements placed on the material.

Triflex has more than 45 years experience of using durable waterproofing and coating systems in the world of building refurbishment. **Triflex BWS** is a waterproofing system specially developed for other coverings. The waterproofing reliably protects the structure against permanent load from heavy coverings and penetrating moisture.

Advantages at a glance

Highly resilient with dynamic crack-bridging

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

Waterproof down to the smallest detail

The cured waterproofing resin forms a seamless and joint-free surface. Even complex details, such as upturns, can be easily and homogeneously waterproofed using liquid processing technology.

Alkali- and hydrolysis-resistant

Triflex BWS is permanently resistant to alkalis and hydrolysis. Even mineralbased coverings or tile adhesives can be used in direct contact with the waterproofing.

Solutions for details and different coverings

Thanks to its low build-up height of just a few millimetres and its ability to waterproof a wide range of different surfaces homogeneously and seamlessly, the waterproofing system Triflex BWS is ideal for complicated structures.

It can accommodate subsequent surfaces of fixed bonded or loosely applied coverings, such as light wooden decking or the heavy ashlars used in monument preservation.



Short closure periods

Triflex BWS offers faster curing times than systems made of EP or PUR resins. Work on waterproofed surfaces can continue after just a short period of time.

Can also be applied in low temperatures

The waterproofing system can be applied in substrate temperatures of down to 0 $^{\circ}$ C. This means that balconies can be refurbished even in the cold winter months.

Surface finishes

The Triflex BWS system can be dressed with a variety of other loose or fixed coverings. Liquid applied waterproofing solutions support a wide range of alternatives.





And this is how it's done ...



 Prime wall junction 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. Triflex ProTerra is applied generously to the surface.



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



9. A second layer of Triflex ProTerra is applied.



10. The wearing layer of Triflex ProTerra is applied to the surface.



11. For fixed coverings, the wearing layer is dressed with quartz sand.



12. Done! Following this, the other covering is applied.



Triffer 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.

System description

Properties

· Fully reinforced waterproofing system with a polymethyl methacrylate

- (PMMA) base
- Withstands mechanical loads
- Seamless
- Joint-bridging
- Fully bonded
- Elastic
- Dynamic crack-bridging properties
- Cold-applied
- Alkali-resistant
- Hydrolysis-resistant

System build-up

- Fast-curing
- Vapour-permeable
- Chemical-resistant
- Weather-resistant (UV, IR etc.)
- Surface design to specification
- European Technical Assessment with CE mark in the highest usage categories
- (W3, M and S, P1 to P4, S1 to S4, TL4, TH4)
- Conforms to DIN 18531 and the ZVDH technical rule for waterproofing (German Flat Roof Guidelines)



System components

Primer

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

Waterproofing

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

Wearing layer

Triflex ProTerra protects the waterproofing.

Surface

Depending on the subsequent covering, the system will need to be dressed with quartz sand.

Substrate

The suitability of the specific substrate should always be tested on a case-bycase 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.

System description

Substrate pre-treatment

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

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
Screeds	Grinding	Triflex Cryl Primer 276
Stainless steel	Abrade with Triflex Cleaner	Triflex Metal Primer (A)
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).

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Important:

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

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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.



System description

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 Rt 0.5 to 1 mm:

Triflex ProFloor

Scratch coat for repairing mineral substrates with the addition of up to 10.00 kg of guartz sand, 0.2–0.6 mm⁽¹⁾ per 33.00 kg of Triflex ProFloor (3K) or 4.50 kg of quartz sand, 0.2-0.6 mm⁽¹⁾ 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 Rt 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⁽¹⁾ per 33.00 kg of Triflex ProFloor (3K) or 9.00 kg of quartz sand, 0.7-1.2 mm⁽¹⁾ 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.

For a solution for drainage of floor-to-ceiling, barrier-free door and window elements, see Triflex Framebox drainage channel.

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 BWS system drawings.

Important:

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

⁽¹⁾ The quartz sand grading curve must be adjusted on site if necessary.



System description

Joint waterproofing

All joints must be treated with Triflex ProDetail before applying the 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. Consumption: min. 0.30 kg/m.

 Triflex Special Fleece / Triflex Special Fleece PF Lay a 15 cm wide strip with no air bubble. Overlap the ends of the fleece by min. 5 cm.

3. Triflex ProDetail

Apply until the Triflex Special Fleece is fully saturated. Consumption: min. 0.30 kg/m.

Total volume of Triflex ProDetail: min. 0.60 kg/m. Can be recoated after approx. 45 mins. For dimensions, see Triflex BWS system drawings.

Expansion joint:

1. Triflex Cryl Paste

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

Triflex Support Strip
 Lay in the joint as a loop.
 Can be recoated after approx. 1 hr.

3. Triflex Special Fleece / Triflex Special Fleece PF

Insert two strips, each min. 26 cm wide, saturated with Triflex ProDetail as a double loop with no air bubble.

The width of the fleece depends on the joint construction. $% \label{eq:construction}%$

Can be recoated after approx. 45 mins.

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: min. 1.20 kg/m. Can be recoated after approx. 45 mins. For dimensions, see Triflex BWS system drawings.

For dimensions, see innex Bws system drawings.

Important:

In the area of the expansion joint, tape over the surface waterproofing, the wearing layer and the "Other covering, fixed" surface with min. 5 cm wide adhesive tape.

Following curing the joint is levelled flush with Triflex ProDetail.

Bonded other coverings must be taped off in the area of the expansion joint.

Surface waterproofing

Application is wet-on-wet.

1. Triflex ProTerra

Apply evenly with a Triflex Universal Roller. Consumption: min. 2.00 kg/m².

- 2. Triflex Special Fleece / Triflex Special Fleece PF
- Lay with no air bubble. Overlap the strips of fleece by min. 5 cm. 3. Triflex ProTerra

Apply evenly with a Triflex Universal Roller to fully saturate the Triflex Special Fleece. Consumption: min. 1.00 kg/m². Total volume of Triflex ProTerra: min. 3.00 kg/m².

Can be recoated after approx. 1 hr.

Important:

In the area of the expansion joint, tape over the surface waterproofing with min. 5 cm wide adhesive tape.

Wearing layer

"Other covering, fixed" wearing layer:

1. Triflex ProTerra

Apply evenly with a Triflex Universal Roller. Consumption: min. 1.00 kg/m².

 Quartz sand, grain size 0.7–1.2 mm Dress the wet wearing layer generously. After curing, vacuum away any surplus. Consumption: min. 7.00 kg/m².

Can be walked on after approx. 2 hrs.

Important:

In the area of the expansion joint, tape over the wearing layer and quartz sand dressing with min. 5 cm wide adhesive tape. The joint is levelled flush with Triflex ProDetail.

"Other covering, loose" wearing layer:

Triflex ProTerra

Apply evenly with a Triflex Universal Roller. Consumption: min. 1.00 kg/m². Can be walked on after approx. 2 hrs.

Important:

In the area of the expansion joint, tape over the wearing layer with min. 5 cm wide adhesive tape. The joint is levelled flush with Triflex ProDetail.

System description

Other covering

Other covering, fixed:

Adhesion of a subsequent other covering (e.g. paving or tiles) can be performed after approx. 12 h using a standard tile adhesive in class S2 that is suitable for outdoor areas and the respective tiles.

Other covering, loose:

If the subsequent covering is loosely applied (e.g. wooden decking, paving on paving supports, etc.), then no further waiting times are required.

Important:

The constructive design details depend on the other covering being applied. The Triflex BWS system drawings are only intended to serve as examples.

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.

Product information

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

Triflex Cryl Level 215+ **Triflex Cryl Primer 222 Triflex Cryl Primer 276 Triflex Cryl RS 240 Triflex Cryl Paste Triflex Framebox** Triflex Glass Primer **Triflex Metal Primer Triflex Pox R 100 Triflex ProDetail** Triflex ProTerra **Triflex Cleaner Triflex Special Fleece Triflex Special Fleece PF Triflex Support Strip Triflex Balcony Edge Finishing Profile**



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 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.

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 projectrelated 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. Information is subject to change based on the interests of technical advancement or enhancement of our 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



(**) Triflex Special Fleece or Triflex Special Fleece PF The constructive design details depend on the other covering being applied.



System drawings



Height differences where the fleece overlaps are exaggerated.

The constructive design details depend on the other covering being applied.

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System drawings



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System drawings







Triflex BWS surfaces

"Other covering, fixed" wearing layer



7032 Pebble grey with quartz sand dressing

"Other covering, loose" wearing layer



7032 Pebble grey

Please note:

Minor variations between the colour shown here and the actual colour are

due to printing technology and the materials used.





International

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