



Triflex TSS

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Triflex TSS

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

The Triflex TSS cold liquid applied, waterproofing and surfacing system for stairs and stairwells was developed to provide a secure solution to areas which are often left unprotected or are treated with low quality, paint type coatings.

The system combines the performance benefits of the heavy duty Triflex BFS waterproofing and surfacing system on the treads and stairwells with proprietary edge nosings to provide a long term solution. The anti-skid properties of the system greatly reduce the potential for accidents and claims.

The system is suitable for both new build and refurbishment projects, and with its exceptionally rapid cure times and totally cold application, it is the first choice for stairs and stairwells where access is restricted and time on site needs to be minimised.

Note - For full waterproofing of stairs and stairwells to include the risers contact Triflex (UK) Limited.



System information:

System Build Up and Finish Options	System Benefits	System Data Sheet	Model Specification	Sketch Detail
Details of the build up of the system and the available finish options	Details of - system, environmental and quality benefits	Details of - system properties, build up, substrate compatibility, and application	Triflex TSS	Standard detail showing typical stair detail
Page 2	Pages 4-5	Pages 6-9	Pages 10-11	Page 12

For further information on how Triflex TSS can be used to solve your stair and stairwell waterproofing and surfacing problems, please contact the Triflex Technical Team on 01785 819119.

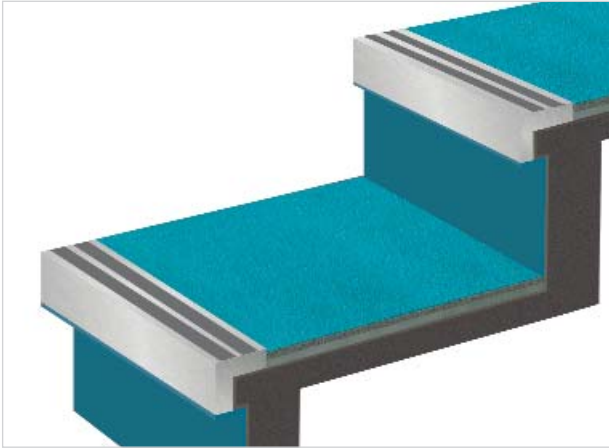


Triflex TSS System Build Up and Finish Options

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

System Build Up and Finish Options

Build Up



Finish Options



Large Grain
Crystal Quartz with
Pigmented Seal



Large Grain
Coloured Quartz
with Clear Seal

Note: For the full colour selection please refer to pages 11 to 13.



Triflex TSS

System Benefits

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-
- TOUGH AND DURABLE** :: The Triflex TSS system features a heavy duty wearing course designed for the high levels of traffic typically encountered on stairs and stairwells
- :: The system features either a crystal quartz, coloured quartz or basalt wearing course to the treads and stairwells. The aggregate is tightly bound within the resin matrix and provides the wearing layer, anti-skid properties and long term resistance to damage
 - :: Vulnerable nosings are protected with a proprietary edge nosing ensuring that the leading edge of the system is not damaged by severe point loadings
 - :: Unlike the more commonly available resins, Triflex resins achieve excellent inter layer adhesion, do not suffer inter layer delamination and have excellent resistance to the day to day forces imposed on them
-
- ANTI-SKID** :: Stairs are a high risk area where slip resistance is of primary importance. The Triflex TSS system can reduce the potential for accidents and provides a defensible standard against claims
-
- AESTHETIC ENHANCEMENT** :: Available with a choice of either large grain crystal quartz with a pigmented seal coat, large grain coloured quartz with a clear seal coat or basalt with a Traffic Grey seal coat, the Triflex TSS system can be used to add colour and design to stairs and stairwells
-
- TOTALLY COLD APPLIED WITH EXCEPTIONALLY RAPID CURE TIMES** :: All elements of the system are cold applied, avoiding the risks and insurance costs associated with hot works
- :: Avoidance of hot works is becoming increasingly important as many clients and building insurers are specifying "100% cold" works for their properties
 - :: Adjacent flammable materials and / or structures require no further special protection during the installation of the system
 - :: Time on site for the contractor is minimised
 - :: Works on site can commence immediately with no waiting time for the heating of materials
 - :: The risk of injury to operatives from the use of hot materials is eliminated
 - :: With its exceptionally rapid cure times, areas are rapidly waterproofed and time on site is reduced
 - :: Access restrictions are minimised as the system achieves full mechanical properties exceptionally quickly and all layers of the system can be trafficked shortly after installation
 - :: With exceptionally short 'rain proof' times, weather windows can be maximised to ensure the highest levels of productivity
 - :: The contractor can leave site, confident that areas completed are totally secure
-
- THICK LAYER BUILD UP** :: With a finished thickness in excess of 4mm on the treads and stairwells, the Triflex TSS has exceptional durability and provides an aesthetically pleasing, easy to maintain system
- :: The system thickness allows profiled substrates to be overlaid without the original profile reflecting through
-
- OVERLAY VS STRIP AND REPLACE** :: The Triflex TSS can be used for both refurbishment and new build projects
- :: The unique properties of the Triflex TSS allow virtually all common stair and stairwell substrates to be overlaid, including asphalt
 - :: The ability to overlay the existing construction decreases disruption to the occupier, and reduces the risk of water ingress during the works
 - :: Without the need to strip the existing coverings, Health and Safety is improved, time on site is minimised, the requirement for temporary waterproofing avoided, and overall costs reduced
-
- LOW TEMPERATURE CURING** :: Works can be carried out all year round and in the majority of climatic conditions, allowing the project to be completed when required, not when dictated by the temperature
-
- FULLY BONDED WITH EXCELLENT INTER LAYER ADHESION** :: Being fully bonded, underflow of water directly beneath the membrane is prevented
- :: The inter layer adhesion of the system is generally greater than the cohesive strength of the substrate, virtually eliminating the risk of debonding or delamination
-
- CHEMICAL RESISTANT** :: The Triflex TSS system offers high levels of chemical resistance
-

Triflex TSS

System Benefits

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

UV RESISTANT :: The Triflex TSS system is both resistant to UV degradation and through the use of UV stable inorganic pigments, retains its colour over time

SIMPLE MAINTENANCE :: Triflex walkway, balcony and terrace systems are designed to be low maintenance, minimising in service costs
 :: The system can be simply cleaned - refer to 'Maintenance and Care'
 :: Should additions need to be made, these can be incorporated quickly and easily

Environmental benefits

COMMITMENT TO THE ENVIRONMENT :: The Triflex Environmental Policy is certified under DIN ISO 14001
 :: The Triflex TSS system is solvent, isocyanate and halogen free, minimising its environmental impact

Quality benefits

QUALITY ASSURED MANUFACTURING :: As all materials are manufactured to ISO9001 quality assurance standards you can be assured of consistently high quality

QUALITY DESIGN, SPECIFICATION ASSISTANCE AND SUPPORT :: The Triflex Technical Team can assist in all areas of the design and specification process and provide ongoing support through to delivery of the project

QUALITY INSTALLATION :: Triflex walkway, balcony and terrace systems are only installed by our contracting partners who have been specially selected for their ability to provide the highest level of service to the client

Triflex TSS

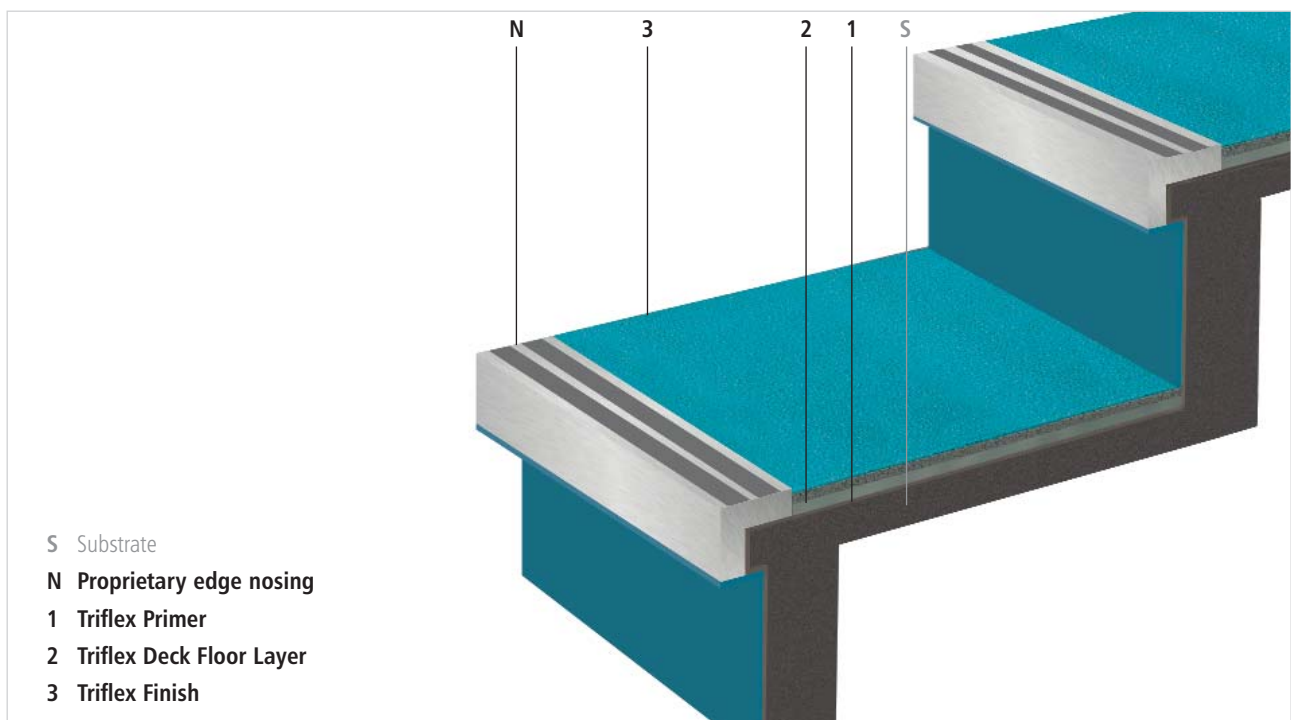
System Data Sheet

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

Properties

- Waterproof, thick layer system (>4mm Dry Film Thickness) to treads and stairwells
- Available with the following finish options:
 - 0.7 - 1.2mm crystal quartz with pigmented seal
 - 0.7 - 1.2mm coloured quartz with clear seal
 - 1.0 - 1.6mm basalt with Traffic Grey pigmented seal
- Anti-skid
- Localised reinforcement to deal with dynamic cracking and movement zones
- Flexible
- Impact and abrasion resistant
- Durable - resistant to static and dynamic loads
- Totally cold applied
- Exceptionally fast curing
- Based on highly advanced PMMA technology
- Quick and easy to apply
- Compatible with a wide range of substrates
- Suitable for all common stair and stairwell constructions
- Fully bonded with excellent inter layer adhesion
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Low temperature curing - 0°c
- UV resistant
- Solvent free
- Isocyanate free
- Halogen free
- Fire resistant:
 - EN ISO-11925-2:2002
 - EN ISO-9239-1:2002
- Tailored design options
- 10 year materials warranty as standard
- Optional extended warranties available

System Build Up



System Details

Treads and stairwells:

Triflex Primer - Primer for sealing of substrate and to improve adhesion.

Triflex Deck Floor Layer - Waterproof, self levelling surfacing layer with large grain, hard wearing crystal quartz, coloured quartz or basalt aggregate.

Triflex Finish - Abrasion resistant system seal coat.

Risers:

Triflex Primer - Primer for sealing of substrate and to improve adhesion.

Triflex Finish - Abrasion resistant system seal coat.

Applications

The system is suitable for the waterproofing and surfacing of stairs and stairwells.

For full waterproofing of stairs and stairwells to include the risers contact Triflex (UK) Limited.

Triflex TSS

System Data Sheet

Substrate preparation and priming

Substrate	Preparation Notes	Priming
		Triflex TSS main area
Asphalt	1	Triflex Cryl Primer 222
Concrete / Screed	1 / 5	Triflex Cryl Primer 276
Lightweight concrete	1 / 5	Triflex Cryl Primer 276
Polymer modified concrete repair materials	1 / 5	Triflex Cryl Primer 276
Steel	3	No primer required
Galvanised steel	3	No primer required
Timber	2	Triflex Cryl Primer 276
Plastics (sheets, coatings, mouldings)		
PU (polyurethane)	4 / 6	No primer required
PMMA (acrylic)	4 / 6	No primer required
UP (polyester)	4 / 6	No primer required
EP (epoxy)	4 / 6	No primer required

For other substrates, consult Triflex (UK) Limited for required preparation methods and priming.

Notes:

- 1 = Scarify, grind or lightly bead blast.
- 2 = Clean thoroughly.
- 3 = Rub down thoroughly with Triflex Cleaners, and abrade / grind metals and hard plastics to achieve a roughened surface
(steel must be ground or blasted to bright metal – where all rust cannot be practically removed an approved active anti-corrosion primer may be used)
- 4 = Lightly abrade and carry out an adhesion test
- 5 = The equilibrium moisture content of cementitious materials must not exceed 6% or 75% RH. Where moisture levels are in excess of these values refer to Triflex Pox R103
- 6 = Subject to testing of insitu material and approval by Triflex (UK) Limited

Where there are any doubts as to adhesion, carry out an adhesion test.

Triflex TSS

System Data Sheet

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

Substrate Assessment

In all cases the condition and stability of the underlying substrate should be assessed prior to the commencement of work. See Substrate Testing section. Concrete structures should be designed in accordance with BS8110/CP110.

Substrate Preparation

Refer to substrate preparation and priming schedule.

Generally:

Remove existing paint and finishes etc. by grinding.

Ensure that the prepared surface is clean, dry and free from dust, laitance, grease, oil and any other contaminants.

Priming

Refer to substrate preparation and priming schedule.

Triflex Cryl Primer 222:

Apply with a lambswool roller (0.4kg/m² min.)

Rainproof after approx. 30 minutes.

Can be walked upon/next coat applied after approx. 45 minutes.

Triflex Cryl Primer 276:

Apply with a lambswool roller (0.4kg/m² min.)

Rainproof after approx. 30 minutes.

Can be walked upon/next coat applied after approx. 45 minutes.

Note: For new cementitious materials where it is not practical to allow the substrate to hydrate to below 6% equilibrium moisture content and 75% RH, or for existing cementitious substrates with higher levels of moisture, Triflex Pox R103 can be used where the equilibrium moisture content is less than 10%.

Triflex Pox R103:

Apply with a lambswool roller (0.5kg/m² min.)

Can be walked on after approx. 8 hours.

Next coat applied after approx. 18 hours.

Able to withstand stress after approx. 24 hours.

Surface Repairs and Filling

Cut out blisters and repair all minor indentations with scratch coat of Triflex Cryl RS 233 or Triflex Cryl Paste. Allow to dry for a minimum of 1 hour.

Larger indentations can be filled with Triflex Cryl RS 240 (cementitious substrates), Triflex Cryl Mortar or Triflex Cryl Paste Mortar (non-cementitious substrates).

Dynamic Cracks and Dayjoints

Remove any existing filler material and fill with Triflex Cryl RS 233.

Apply Triflex Cryl R 210 (1.5kg/m² min.) with a lambswool roller.

Roll a strip of Triflex 110g Reinforcement into the wet resin, pressing trapped air free using the lambswool roller, ensuring a minimum 50mm overlap between the reinforcement sheets.

Apply Triflex Cryl R 210 (1.0kg/m² min.) wet on wet to ensure full saturation of the fleece. Allow to dry for a minimum of 1 hour.

Minimum fleece overlap either side of dynamic crack/dayjoint - 75mm.

Note: Identification of Dynamic Cracks should include a survey of the soffit (where visible).

Edge Nosing

Mechanically fix 4mm thick proprietary edge nosing (e.g. Gradus) in accordance with manufacturers instructions, bedding in Triflex Cryl Paste.

Stairs and Stairwells

Apply Triflex Cryl RS 233 (4.0kg/m² min.) by trowel.

Embed into the wet Triflex Cryl RS 233 a full cover of crystal quartz (0.7 - 1.2mm), coloured quartz (0.7 - 1.2mm), or basalt (1.0 - 1.6mm) (5.0kg/m²) approx.

Allow to dry for a minimum of 2 hours, sweep away excess aggregate and vacuum clean.

Rainproof after approx. 30 minutes.

Can be walked upon after approx. 1 hour.

Next coat applied after approx. 2 hours.

Finish

Risers

Apply Triflex Cryl Finish 205 Thixo (0.5kg/m² min.) using a lambswool roller.

Rainproof after approx. 30 minutes.

Can be walked upon after approx. 1 hour.

Treads and Stairwells

Crystal quartz / basalt systems (pigmented seal) - Apply Triflex Cryl Finish 205 (0.65kg/m² min.), (0.8kg/m² min.) if over basalt) using a lambswool roller and remove excess material / level with a dry lambswool roller.

Coloured quartz systems (clear seal) - Apply Triflex Cryl Finish 202 (0.65kg/m² min.) using a lambswool roller and remove excess material / level with a dry lambswool roller.

Rainproof after approx. 30 minutes.

Can be walked upon after approx. 1 hour.

Can be subjected to loads after approx. 3 hours.

Triflex TSS

System Data Sheet

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

Interruptions During Works

If work is interrupted for more than 12 hours, use Triflex Cleaner to clean and reactivate the transition area.

Evaporation time: at least 20 minutes - overlay within 60 minutes.

For reinforced details, the subsequent waterproofing layers must overlap by at least 100 mm, including the Reinforcement.

System Components

Please refer to the appropriate Product Data Sheet for details about areas of application/application conditions/mixing instructions (available on request):

Triflex Cryl Primer 222

Triflex Cryl Primer 276

Triflex Pox R103

Triflex Cryl Paste

Triflex Cryl RS 240

Triflex Cryl Mortar

Triflex Cryl Paste Mortar

Triflex Cryl R210

Triflex 110g Reinforcement

Triflex Cryl RS 233

Triflex Cryl Finish 205

Triflex Cryl Finish 202

Quality Standard

All products are manufactured to ISO 9001.

Substrate Testing

Prior to the commencement of work the Contractor must check and only proceed if he has satisfied the following requirements.

Dimensional stability: All factors which may affect the subsequent performance of the system e.g. failed structural elements etc. must be repaired.

Hardness: All concrete substrates, concrete repair materials, screeds and mortars shall be cured and allowed to achieve a minimum hardness of 25N/mm².

Moisture: Prior to overlay with Triflex systems, the equilibrium moisture content of the substrate must not exceed 6% and 75% RH. For cementitious substrates with higher levels of moisture (less than 10% equilibrium) refer to Triflex Pox R103.

Adhesion: Trial areas to be prepared to ensure that the System achieves a minimum bond to the substrate of:

Concrete, concrete repair materials, screeds and mortars: 1.5N/mm²

All other substrates: 0.8N/mm²

Health and Safety

Refer to product Health and Safety data prior to using the materials.

Coverage Rates

The coverage rates given are guidelines based on smooth, level substrates. Allowances must be made if the substrate is uneven, rough or porous.

Drying Times

The drying times stated are at +20°C and are dependent upon weather conditions.

Important Notes

It is the Contractors' responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with Technical Data Sheets and Application Guidelines in force at the time.

The advice we can provide on the application of our products is based on extensive development work as well as many years of experience and is given to the best of our knowledge. However, the wide variety of requirements for a building under the most diverse conditions mean that it is necessary for the Contractor to test the product for suitability in any given case. We reserve the right to make alterations in keeping with technical developments or improvements.

Triflex TSS

Model specification

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

J31 Liquid Applied Waterproof Roof Coatings

To be read with Preliminaries / General Conditions.

Liquid Applied Waterproof Roof Coating Reference

Triflex TSS

Manufacturer:
Triflex (UK) Limited
Whitebridge Way
Stone
Staffordshire
ST15 8GH
Tel: +44 (0) 1785 819119
Fax: +44 (0) 1785 819960
E-mail: info@triflex.co.uk
Web: www.triflex.co.uk

Generally

Apply Triflex TSS system fully in accordance with Manufacturer's System Data Sheet (Appendix), standard Sketch Details (Appendix), and project specific Sketch Details (Appendix).

Substrate Assessment

Assess substrate in accordance with Triflex TSS System Data Sheet.

Substrate Preparation

Prepare substrate in accordance with Triflex TSS System Data Sheet.

Priming

Apply Triflex primer in accordance with Triflex TSS System Data Sheet.

Primer reference: Triflex Cryl Primer 222 / Triflex Cryl Primer 276 / Triflex Pox R103.

Surface Repairs and Filling

Repair and fill surface in accordance with Triflex TSS System Data Sheet.

Filling reference: Triflex Cryl RS233 / Triflex Cryl Paste / Triflex Cryl RS240 / Triflex Cryl Mortar / Triflex Cryl Paste Mortar.

Dynamic Cracks and Dayjoints

Treat dynamic cracks and dayjoints in accordance with Triflex TSS System Data Sheet.

Filling reference: Triflex Cryl RS233.

Overbanding reference: Triflex Cryl R210 with 110g Reinforcement.

Edge Nosing

Apply edge nosing in accordance with Triflex TSS System Data Sheet.

Edge nosing reference: INSERT.

Edge nosing adhesive reference: Triflex Cryl Paste

Stairs and Stairwells

Apply waterproofing and surfacing layer to treads and stairwells in accordance with Triflex TSS System Data Sheet.

Waterproofing and surfacing reference: Triflex Cryl RS233.

Aggregate reference: crystal quartz / coloured quartz / basalt.

Coloured quartz colour mix reference: INSERT.

Finish

Risers: Apply finish to risers in accordance with Triflex TSS System Data Sheet.

Finish reference: Triflex Cryl Finish 205 Thixo.

Finish colour references: INSERT.

Treads and stairwells: Apply finish to treads and stairwells in accordance with Triflex TSS System Data Sheet.

Finish reference: Triflex Cryl Finish 205 / Triflex Cryl Finish 202.

Finish colour references: (INSERT).

Installation

The works shall be executed by a Triflex Approved Contracting Partner licensed to install Triflex walkway, balcony and terrace waterproofing, surfacing and protection systems.

Triflex TSS

Model specification

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

Required System Properties

- Waterproof, thick layer system (>4mm Dry Film Thickness) to treads and stairwells
- Available with the following finish options:
 - 0.7 - 1.2mm crystal quartz with pigmented seal
 - 0.7 - 1.2mm coloured quartz with clear seal
 - 1.0 - 1.6mm basalt with Traffic Grey pigmented seal
- Anti-skid
- Flexible
- Impact and abrasion resistant
- Durable - resistant to static and dynamic loads
- Totally cold applied
- Exceptionally fast curing
- Based on highly advanced PMMA technology
- Quick and easy to apply
- Compatible with a wide range of substrates
- Suitable for all common stair and stairwell constructions
- Fully bonded with excellent inter layer adhesion
- Chemical resistant
- Resistant to Chloride and Carbon Dioxide ingress
- Vapour permeable
- Low temperature curing - 0°c
- UV resistant
- Solvent free
- Isocyanate free
- Halogen free
- Fire resistant:
 - EN ISO-11925-2:2002
 - EN ISO-9239-1:2002
- Tailored design options
- 10 year materials warranty as standard
- Optional extended warranties available

General Notes

The Triflex TSS System Data Sheet, standard Sketch Details and project specific Sketch Details are to be read as an integral part of this specification.

The Triflex Approved Contracting Partner is to install all details to comply with the Triflex TSS standard Sketch Details, any project specific Sketch Details and Triflex project specific recommendations. Should any detail arise where the treatment is not clear, the Contractor must seek advice and approval from Triflex (UK) Limited prior to commencing the works.

It is the Contractor's responsibility to ensure that the substrate is suitable and that the system is applied in all areas in accordance with System Data Sheets and Application Guidelines in force at the time.

Notes to Specifiers

We recommend that for all walkway, balcony and terrace projects, the actual specification clauses for the Triflex waterproofing, surfacing and protection systems are prepared by the Triflex Technical Team.

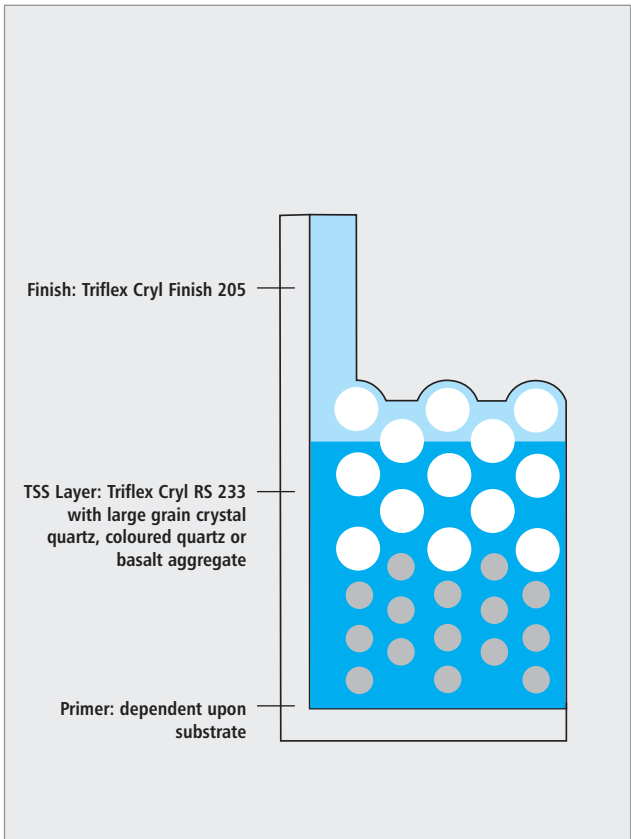
This information can then be provided in a text format for insertion into Word and other documents.

Triflex TSS

Sketch Detail

Fast curing, thick layer, heavy duty waterproofing and surfacing system for stairs and stairwells

Detail interface



Standard stair detail

