



TRIROOF SYSTEMS MANUAL



LIQUID ROOFING SYSTEMS

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FLEX – Flexible GRP Roofing System

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FLEX
Flexible GRP
Roofing System

01. What is FLEX?

- Superior, flexible GRP technology suitable for both overlay and new applications
- Based on a formulation that's been used within the specification market for decades
- Single topcoat system that can be repaired/overcoated
- Anti-slip finish available for balconies and walkways
- Suitable for application in temperatures as low as 5°C or as high as 1-30°C

02 FLEX vs Other Roofing Systems

FLEX vs Traditional GRP

FLEX	Traditional GRP
• Can be applied to OSB3 & existing roof surfaces such as Felt, Asphalt, and GRP • Uses the same topcoat for both base and finish coat • Requires BPO Catalyst paste to cure • Uses a 225g/m2 Matting • Primer for overlay of various surfaces • Flexible modified roofing system with minimal expansion joints • Use trims for new decks but can also coat existing detailing	• Can only be applied to OSB3 • Has a separate base Resin & Topcoat • Requires a Liquid Catalyst to cure • Uses 450g/m2 Matting • Does not use a Primer • More rigid and better suited to small roofs • Trims are always needed for detailing

FLEX vs Traditional GRP vs Other Liquid Systems

FEATURE	FLEX – Flexible GRP Roofing System	Traditional GRP (Fibreglass)	Other Liquid Roofing Systems
Save time and money by overlaying a roof instead of stripping and replacing the deck	✓	✗	✓
Can be applied directly to Felt, Asphalt, GRP, Concrete, Single-ply & Timber	✓	✗	✓
One Topcoat system – no need for different Resin and Topcoats	✓	✗	✗
Highly flexible membrane – allowing for potential movement in roof structure	✓	✗	✓
Able to seal existing roof details without the need for trims	✓	✗	✓
Quick cure system with fast application times	✓	✓	✗
Superior wet-out characteristics for quick and tidy detailing work	✓	✓	✗
Can be walked on 60 minutes after application	✓	✓	✗
Can be over-coated without sanding down to base coat	✓	✗	✓
Second coat or topcoat application can be done in around 1-2 hours, rather than waiting until the next day	✓	✓	✗
Glass reinforcement for consistent application thickness, increased crack-resistance and zero risk of weak points	✓	✓	✗
Can be applied to vertical sections without the need for costly additives – no slumping or sagging issues	✓	✓	✗
Extra-tough, impact-resistant finish	✓	✓	✗

03 FLEX GRP System Overview



Primer



FLEX Overlay System



BPO Catalyst



225g/m2 Matting



3" CSM Bandage/3" Glass Tape

TriRoof Primer



**One Primer For All Substrates
Available in 5KG**

Primer is used for several reasons, but most importantly to seal in any problematic substrates such as uncured bitumen, solar reflective paint and metal prior to TriRoof FLEX being applied. TriRoof Primer requires the use of BPO Catalyst Paste.

- Coverage is 8-12 sqm per 5kg tin (substrate dependent)
- TriRoof Primer requires a BPO Hardener to cure. No powder catalyst required. BPO paste ensures safe handling & storage
- use. Mix well before and after the catalyst is added.
- Mix well before decanting into a mixing bucket
- BPO Paste added at a rate of x2 50gm BPO Tubes per 5kg
- Once the BPO Paste has been applied mix thoroughly for minimum 60 seconds
- Surface area must be evenly covered
- Primer must be applied to dry substances

FLEX Modified Polyester Liquid Overlay System



Modified Polyester Liquid Roofing System

Modified Polyester Liquid Overlay System

is the main component of the waterproofing system. It is a cold-applied liquid GRP system based on a unique flexible formulation.

FLEX combines all the benefits of traditional fibreglass roofing products with other liquid overlay systems' versatility, flexibility and multi-surface abilities.

TriRoof FLEX Liquid Overlay System requires the addition of BPO catalyst paste.

Available in 20KG

BPO Hardener



**BPO Hardner | Paste Catalyst
Available in 50gm & 100gm Tubes**

- Mix contents before decanting into a mixing bucket
- Mix well before and after the catalyst is added
- BPO Paste is added per tube, each tube is 50gm or 100gm
- Add x2 50gm tubes or x1 100gm tube of BPO per 5kg of Primer or FLEX
- Mix BPO Paste thoroughly into the FLEX Modified Polyester Liquid Roofing System until no red streaks
- Do not add more or less than specified

Recommended BPO Hardener Addition Rate:

x2 50gm BPO Tubes (100gm) per 5kg of Primer or FLEX at ambient temperatures' 1-30°C

Example

5kg of Primer or FLEX would require 100gm of BPO Catalyst: 1 x 100gm Tube or 2 x 50gm Tubes

It is not recommended to catalyse more than 5 kg at a time. When working large areas decant the primer into manageable quantities and always be aware of your pot life. Over catalysation can greatly affect the flexibility of both the FLEX Modified Polyester Liquid Roofing System and TriRoof

TriRoof Primer Installation Instructions

BPO Catalyst is required for the Primer to cure

Primer is used for several reasons, but most importantly to seal in any problematic substrates (bitumen, bitumen based products, asphalt & concrete substrates) prior to one of the TriRoof Systems been applied over the top.

The Primer also acts as the first barrier of waterproofing protection.

- Ensure any substrate the primer is to be applied to is free
- from any dust, dirt and debris
- Substrate must be dry prior to TriRoof Primer application
- Shake the TriRoof Primer tin thoroughly for 2 minutes
- TriRoof Primer requires BPO Catalyst to be added to the
- product – add x2 50gm tubes or x1 100gm tube of BPO per 5kg of Primer
- It is not recommended to catalyse more than 5kg of primer at any one time
- The Primer is white in colour, and the BPO catalyst is vibrant pink, this acts as a colour indicator for mixing. Once the BPO paste is mixed in to the primer, you will notice the primer colour turns light pink after a minute or 2 of mixing – the light pink consistency indicates the primer is now ready to be applied to the substrate
- Apply the TriRoof Primer to the substrate using a brush or roller, ensuring the substrate is completely encapsulated – the surface area must be covered not smothered
- During the application process, if it starts to rain stop work immediately and cover over the primer with a tarpaulin or coverall sheet to stop any water contamination
- The TriRoof Primer will cure in 20-40 minutes dependent on catalyst percentage and temperature
- Once the primer is cured, it is then ready for overcoating with one of the TriRoof Liquid Roofing Systems e.g. FLEX. Please Note, Primer will remain tacky to touch, this is normal as it aid adhesion.

225G/M2 Chopped Strand Mat



225g/m² Fibreglass CSM (Chopped Strand Mat) provides strength and resilience to the FLEX System and helps ensure an even coverage of the liquid material.

The Fibreglass Matting is embedded into the first coat of the FLEX Modified Polyester Liquid Roofing System and, by working through with the Roller, becomes fully consolidated with the resin.

FLEX Coverage Rates

SUBSTRATE	FELT	ASPHALT	SINGLE PLY	GRP	OSB 3 TGA	CONCRETE/SCREED
Primer	TriRoof Primer	TriRoof Primer	TriRoof Primer	No primer usually required	Stripe coat & joints with TriRoof Primer	TriRoof Primer
Reinforcement	225g/m ² CSM	225g/m ² CSM	225g/m ² CSM	225g/m ² CSM	225g/m ² CSM	225g/m ² CSM
Coverage Rate	700gm/m ²	700gm/m ²	700gm/m ²	700gm/m ²	600gm/m ²	700gm/m ²
Base coat	700gm/m ²	700gm/m ²	700gm/m ²	700gm/m ²	600gm/m ²	700gm/m ²
Laminating coat	700gm/m ²	700gm/m ²	700gm/m ²	700gm/m ²	600gm/m ²	700gm/m ²
Finish coat	200gm/m ²	200gm/m ²	200gm/m ²	200gm/m ²	200gm/m ²	200gm/m ²

04 FLEX Application Guide

Required Application Tools



PPE



Application Rollers



Brushes



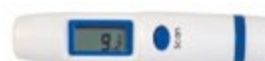
Paddle Roller



Mixing Bucket



Trimming Knife



Infrared Thermometer

Recommended Components



Taping Mat

A 75mm wide strip of 450g/m² is used to provide additional, local reinforcement to details (such as pipes) and joints (such as trim joints). Woven glass tape can also be used.



Mineral Slate Anti-Slip

Mineral Slate Chippings are thrown onto a wet layer of Topcoat to provide an anti-slip surface – ideal for balconies and walkways. Color quartz can also be used.



Acetone

A solvent primarily used for cleaning tools and wiping trims before coating. Acetone can also reactivate the FLEX membrane if another coat needs to be applied and the system has been left longer than 7 days.

Important: Acetone is NOT to be used on Bitumen surfaces such as Felt and Asphalt as it will re-activate the Bitumen. Only a degreasing agent such a mild detergent must be used.



TriKlean

TriKlean is a non-hazardous non-flammable acetone replacement.



Paddle Roller

Using a Paddle Roller is essential to qualify for the 20-year guarantee, as it ensures proper consolidation of the CSM layer.

Installing New vs Overlay System

- For new roof installations using FLEX, please ensure to use T&G OSB3 and follow the guidelines for installation as per instructions laid in this manual.
- When using FLEX as overlay system, please ensure to follow the correct preparation procedure.

FLEX Application Instructions

FLEX Liquid Overlay System Application

Step 1

Stir the TriRoof FLEX Liquid Overlay System thoroughly in the original container – mixing from top to bottom. Ensure any settlements are dispersed throughout the liquid.

Step 2

Pour the calculated amount of resin into a calibrated bucket/suitable container on weighing scales and replace the lid on the resin can. This prevents contamination or unnecessary losses to the atmosphere. Do not attempt to mix more than 10 kg/7litres at one time, and during the hot summer months, this should be considerably reduced.

Step 3

Add the required amount of BPO Catalyst directly into the measured FLEX and mix thoroughly, stirring for a minimum of 2 minutes. Ensure the BPO Paste is thoroughly mixed into the resin (no red streaks visible).

Step 4

To coat the roof surface with FLEX, use a roller and apply around two-thirds of the needed amount. Roll out the fibreglass CSM over the resin, ensuring the mat is correctly orientated so the feathered edge of the next strip overlaps the straight-cut edge. All matting must be overlaid by 50ml. Work the CSM fibres into the TriRoof FLEX Liquid Overlay System before applying the remaining one-third of the resin. Leave matting to soften for 2 minutes and consolidate with the roller until the matting appears “swirly” and no straight fibres remain. Ensure a closed, pinhole-free surface is achieved.

Step 5

Inspect the surface thoroughly and if there appear to be any areas with insufficient FLEX resin (voids, prominent fibres, or spots remaining white) apply extra resin as required – this is critical only if applying the 10-year overlay system (one coat). Allow to cure (30 – 60 minutes depending on conditions).

Step 6

For the 20-year guarantee, lightly sand with a 40-grit sandpaper and clean the surface with an Acetone dampened cloth. Once cured, apply the finish coat of catalysed FLEX at a coverage rate of 200g/m².

Step 7

Allow to cure and the roof is ready.



HPX Hybrid Polymer Roofing System

05. What is HPX?

TriRoof HPX is a hybrid technology with high elasticity even under changing weather variations. Even with temperature variations, it has high adhesion properties, and the liquid membrane system doesn't harden under cold weather conditions. HPX is solvent-free and ideal for repairs and roofing applications.

- HPX is a Premium Hybrid Polymer Roofing System that repairs, restores, waterproofs and protects
- Adheres to most substrates inc. felt, rubber, concrete, most metals, roofs. and fibre cement boards e.g. Multi-pro, AQUAPANEL®, fermacell®
- Ideal for roofs & wet rooms as a damp proofing membrane (not suitable for heavy foot traffic)
- Can be used as a tanking system
- Exceptionally flexible (up to 300% its normal size)
- It is recommended to use TriRoof Primer with asphalts, bitumen and untested substrates
- Silicone-based products must be completely removed
- TriRoof Primer must be used on bitumen (or bitumen based products), asphalt, concrete substrates, and untested substrates

Benefits of Using HPX

- One coat application for a 10 year guarantee
- Two coat application for 20 year system (Primer, CSM & HPX)
- Solvent-free, non-flammable
- Remains breathable until cured, allowing moisture to evaporate
- Adheres to 95% of traditional building materials (can be used in conjunction with TriRoof Primer for untested surfaces)
- Contains stain reducing properties
- Can be used on substrate temperatures from 3°C to 40°C (should be tested with a digital gun)
- Can be laid onto damp surfaces
- Tack-free time: 2-4 hrs
- Full cure time: 8-16 hrs
- Fibre-free formula



06 HPX Application Guide

HPX Preparation of Substrates

- Conduct a patch test prior to full application
- Surfaces should be clean and free from any oil, grease, debris, or other contaminants that may affect adhesion
- All loose materials must be removed by brushing, scraping or high-pressure water
- All surfaces must be preps and cleaned prior to application
- All repairs MUST be carried out before the application commences
- For surface cracks or gaps use TriGrip as a sealant to fill the void
- New concrete and mortars must be at least 28 days old; any organic growth should be treated with a fungicidal wash
- Metal surfaces should be clean and free from rust and or flaking debris



For **TriRoof Primer Installation instructions please refer to page 8 of manual*

HPX Application Tools

Short pile roller(s) will aid the movement of the liquid, a squeegee, trowel or adhesive spreader, can also be used to initially move the products around the desired areas

Paddle roller is essential for using for the 20 year guarantee for consolidating the CSM layer.

Scraper to remove loose and stubborn debris as well as filling any imperfections prior to main application

Acetone or TriKlean for cleaning, degreasing and clean up

Rags/Cloths to wipe up spills/drips with acetone clean up

450g TriRoof Bandage for repairs of substrate

TriRoof 225g Chopped Strand Matting (CSM) for reinforcement of the area

TriRoof Trims must be used for new installations

HPX 20 Year Guarantee Kits available in 10 & 20 metre options

HPX Repair Kit



Essential First Steps for Substrate Repair

- For all splits, holes, tears etc., a bandage strip/patch must be applied prior to first layer being laid.
- Apply a thin layer of HPX over the clean, dry surface ensuring 50mm cover either side of tear/hole.
- Apply 450g CSM bandage over the area to be repaired. Using a paddle roller, consolidate the liquid fully through the matting until no white CSM is visible.
- A second layer may be applied when touch-dry in approximately 3-4 hours. Once all layers have been applied, allow to fully cure for 8 hours.
- Using 40 grit sandpaper, lightly sand and then clean the area with acetone.
- If just doing a patch repair, apply heavier 2nd layer over the bandage/patch at 1.8kg per sqm. If doing a complete roof recover, then follow guidelines for the 1st initial layer. (Please note, patch repairs are not covered under our guarantee.)

07 HPX Roofing System Guarantees

Application 10 Year System

- Ensure all repairs are fixed, ensuring substrate is free from any contaminants and no standing water is present.
- Measure the area (depending on substrate) to ensure the correct coverage is applied. Approximate coverage rates in accordance with the guidelines.
- Cut the corner of the foil sealed and in a snaking motion create beads about 2 inches apart covering 1m² at a time.
- Using a short piled roller or paddle roller, slowly apply the product around the area ensuring even coverage.
- Immediately move on to the next 1m² area.
- Ensure the application is allowed to cure for a minimum of 2-3 hours before rain to ensure resistance.
- Inspect the finished surface. If pinholes are present, scuff the affected area with 40 grit sandpaper, wipe with acetone and apply a thin layer of HPX with a spreader over the affected area.

Application 20 Year System

- System must be applied on DRY substrates
- Measure the runs for the 225csm, store the rolled matting in a clean environment, always allow minimum 50mm overlap ensuring the feathered edge overlaps.
- Mix up the TriRoof Primer and catalyst as per instructions on page 28
- Apply TriRoof Primer to the roof in 1 metre wide sections, place the matting onto the newly applied primer and with a clean paddle roller, roll the matting into the primer slowly and with pressure ensuring you work all the matting including the edges until the CSM is fully bonded to the substrate.
- Apply a thin coat of Primer over the top of the matting to ensure full encapsulation is achieved.
- The Primer will cure off in 30-60 minutes so it would be advised to mix no more than 5kg of primer at any time. Primer must be fully cured before application of HPX.
- Move over to the next 1m² area making sure there is a continuous flow from each section.
- Once the primer & matting is cured you are now ready to apply HPX.
- Apply the HPX to the substrate, with a brush, roller or squeegee, ensuring a coverage of 2kg/m² of HPX is achieved, and make sure the product is applied to the whole area evenly with no excessive deep areas
- Allow to cure for 8-16 hours (full cure at 2-3ml thickness) thereafter 1 ml per 24hrs. Please note curing rates in the winter are extended.
- Inspect the finished surface. If pinholes are present, scuff the affected area with 40 grit sandpaper, wipe with acetone and apply a thin layer of HPX with a spread over the affected area.

HPX Installation Requirements

- Felt must be washed off with a de-greasing agent (soap).
- All metal rust must be removed and repaired with 225g bandage then cleaned off with acetone
- PVC surfaces must be sanded to give good adhesion and then cleaned off.
- For GRP substrates, 40 grit sandpaper must be used to remove topcoat down to the base layer, (repair if needed) and wipe down with acetone.
- For the 20 year guarantee, you must allow the first consolidated layer to cure fully before applying the second coat.
- Remove all standing and excess water from the substrate prior to using HPX.
- In cold weather, the unopened bag may be brought up to room temperature by placing it in lukewarm water to ease application.
- Use HPX finishing rollers for the final coat application.
- Do use 225g bandage to fix repairs and bridge gaps of up to 5mm.
- Any opened product must be used within one hour. If planning to use it later, expel all air and clip the bag for any unused product to stop curing.
- Scatter coat slate granules, kiln-dried sand or colour quartz over the uncured additional final coat to achieve an anti-slip finish. For non-slip it's an additional layer of HPX to encapsulate the non-slip aggregates.



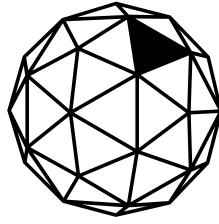
THE SAFER, SMARTER ACETONE REPLACEMENT



LOOKING FOR A POWERFUL CLEANER THAT'S SAFE AND EFFECTIVE?

- **Non-Hazardous & Non-Flammable:** TriKlean offers peace of mind with a safer formula that eliminates the risks associated with traditional acetone.
- **Superior Cleaning Performance:** Whether you're prepping substrates or cleaning tools, TriKlean tackles stubborn resins and residues with ease - ensuring a clean surface ready for secondary bonding.
- **Controlled Evaporation:** Unlike acetone, TriKlean doesn't evaporate rapidly, giving you more working time and better control during application.
- **Surface Prep Made Easy:** After cleaning, simply wipe with a dry cloth to leave minimal residue - perfect for applying HPX or FLEX adhesives.
- **Tool Cleaner Approved:** Keep your tools clean and safe between jobs with TriKlean's reliable performance.
- **Safe for You, Safe for Your Workspace:** Its non-flammable nature makes it a smart choice for any professional environment.

TRIKLEAN IS YOUR GO-TO SOLUTION.



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