TRICEL

GENERATIONS OF INNOVATION

FLEX

FLEXIBLE GRP ROOFING SYSTEM

&

HPX

HYBRID POLYMER ROOFING SYSTEM

HPX_Manual-12/03/2024 Revision number: (0)

TRIROOF LIQUID ROOFING SYSTEMS MANUAL

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FLEX

FLEXIBLE GRP ROOFING SYSTEM

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FLEX CONTENTS

INTRODUCING FLEXIBLE GRP

- Superior, flexible GRP technology suitable for both overlay and new deck applications
- Based on a formulation that's been used within the specification market for decades
- Single Topcoat system that can be repaired / overcoated without sanding down
- Anti-slip finish available for balconies and walkways
- Suitable for application in temperatures as low as 5°C or as high as 30°C

COMPARING FLEX GRP & TRADITIONAL GRP

FLEX GRP ROOFING SYSTEM

- 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

TRADITIONAL GRP

- Can only be applied to OSB3
- Has a separate base Resin & Topcoat
- Requires a Liquid Catalyst to cure
- Uses 450g/m2Matting

COMPARING FLEX GRP & TRADITIONAL GRP

FLEX GRP ROOFING SYSTEM

- Primer for overlay of various surfaces.
- Flexible modified Topcoat with minimal expansion joints.
- Use trims for new decks but can also coat existing detailing.

TRADITIONAL GRP

- Does not use a Primer.
- More rigid and better suited to small roofs.
- Trims are always needed for detailing.

FLEX VS GRP VS LIQUIDS

Feature	Typical GRP (Fibreglass)	Flex System	Traditional Overlay System
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	✓	✓	✗

FLEX VS GRP VS LIQUIDS

Feature	Typical GRP (Fibreglass)	Flex System	Typical Overlay System
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	✓	✓	✗
Uses a BPO Hardener instead of a liquid catalyst for safer and easier catalysing	✗	✓	✗
Extra-tough, impact-resistant finish	✓	✓	✗

FLEX GRP SYSTEM

Modified Polyester Topcoat 20kg

Primer 5kg

BPO Catalyst 50gm Tubes

225g/m2 matting

3" CSM Bandage / 3" Glass Tape

FLEX GRP SYSTEM

PRIMER

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 silicone prior to TriRoof FLEX being applied. TriRoof Primer requires the use of BPO Catalyst Paste.

For metal substrates please contact your local FLEX Stockist.

TRIROOF PRIMER

ONE PRIMER FOR ALL SUBSTRATES

- Coverage is 8-12 sqm per 5kg tin (substrate dependent)
- TriRoof Primer requires a BPO Hardener to cure. Triroof BPO paste is safe to use in all weather conditions. No powder catalyst required. BPO paste ensures safe handling & use.
- Mix well before decanting into a mixing bucket
- BPO Paste added at a rate of 1% - 5%, please refer to the catalyst addition chart on the side of the tin
- Once the BPO Paste has been applied mix thoroughly for minimum 60 seconds
- **Do NOT** mix in a metal tin
- Surface area must be evenly covered

FLEX GRP SYSTEM

MODIFIED POLYESTER TOPCOAT

AVAILABLE IN 20KG

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

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

TriRoof FLEX Topcoat requires the addition of BPO catalyst paste.

FLEX GRP SYSTEM

BPO HARDNER

AVAILABLE IN 50G & 100G TUBES

Mix contents before decanting into a mixing bucket

Add the correct % of hardener

BPO Paste is added per tube, each tube is 50ml

Mix BPO Paste thoroughly into the Topcoat until no red streaks

Do not add more or less than specified 2% - 4%

BPO PASTE CATALYST

Recommended BPO Hardener Addition Rate:

Amount of Hardener Volume per 50gm BPO Tube

- 10ml of BPO Catalyst per 1kg of Primer only required for 1% curing rate (24-30°C)
- 20ml of BPO Catalyst per 1kg of Topcoat or Primer required for 2% curing rate (18-24°C)
- 30ml of BPO Catalyst per 1kg of Topcoat or Primer required for 3% curing rate (13-17°C)
- 40ml of BPO Catalyst per 1kg of Topcoat or Primer required for 4% curing rate (8-12°C)
- 50ml of BPO Catalyst per 1kg of Topcoat or Primer required for 5% curing rate (5-7°C)

Example

5kg of Primer or Topcoat would require 100ml of BPO Catalyst at 2% curing rate
100gm tube or 2 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.

FLEX GRP SYSTEM

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 Topcoat system and, by working through with the Roller, becomes fully consolidated with the Topcoat.

COVERAGE RATES FOR TRIROOF PRIMER & FLEX

Substrate	Felt	Asphalt	Single Ply	GRP	Metal	OSB3 TGA	Concrete/ Screed
Primer	TriRoof Primer	TriRoof Primer	TriRoof Primer	No Primer usually required	Metallic Primer	Stripe coat T&G joints with riRoof Primer	TriRoof Primer
Reinforce-ment	225g/ m2 CSM	225g/ m2 CSM	225g/m2 CSM	225g/ m2 CSM	225g/ m2 CSM	225g/m2 CSM	225g/m2 CSM
First Coat Coverage Rate	0.85 – 1.15 l/m2 (1.2 – 1.6 kg/m2)	0.85 – 1.15 l/m2 (1.2 – 1.6 kg/m2)	0.85 l/m2 (1.2 kg/ m2)	0.85 l/ m2 (1.2 kg/ m2)	0.85 l/ m2 (1.2 kg/ m2)	0.85 l/m2 (1.2 kg/ m2)	1.0 – 1.15 l/ m2 (1.4 – 1.6 kg/m2)
Second Coat Coverage Rate	0.5 l/m2 (0.7 kg/ m2)	0.5 l/m2 (0.7 kg/ m2)	0.5 l/m2 (0.7 kg/ m2)	0.5 l/m2 (0.7 kg/ m2)	0.5 l/ m2 (0.7 kg/ m2)	0.5 l/m2 (0.7 kg/ m2)	0.5 l/m2 (0.7 kg/ m2)

FLEX GRP SYSTEM

PPE

APPLICATION ROLLERS

BRUSHES

MIXING BUCKET

TRIMMING KNIFE

INFRARED THERMOMETER

FLEX GRP SYSTEM

OTHER 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). **Note –This product should be kept in stock.**

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.

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. **Note –This product should be kept in stock.**

Triklean - Triklean is a non-hazardous non-flamable acetone replacement. See page “ “ for further details.

INSTALLING AS NEW VS OVERLAY SYSTEM

- For new roof installations, please ensure to use T&G OSB3 and follow the guidelines for installation as per instructions laid out at beginning of manual.

- When using as overlay system, please ensure to follow correct preparation procedure.

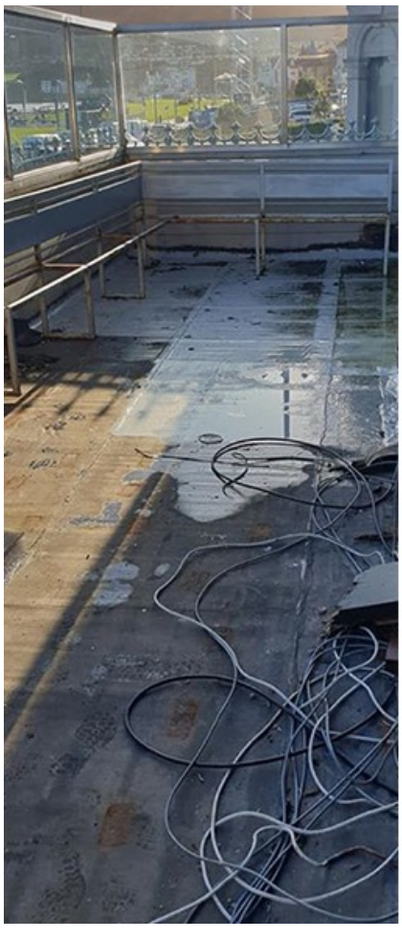
MODIFIED FLEX TOPCOAT

APPLICATION

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

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

3. Add the required amount of BPO Catalyst directly into the measured Topcoat and mix thoroughly, stirring for a mini-mum of 1.5 minutes.
   Ensure the BPO Paste is thor-oughly mixed into the resin (no red streaks visible).



MODIFIED FLEX TOPCOAT

APPLICATION CONTINUED

4. To coat the roof surface with Topcoat, 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. Work the CSM fibres into the TriRoof FLEX Topcoat 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.

5. Inspect the surface thoroughly and if there appear to be any areas with insufficient Topcoat (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) before walking over the membrane.

6. For the 20-year guarantee, lightly sand with a 40-grit sandpaper and clean the surface with an Acetone dampened cloth. After 2 hours, apply the second layer of catalysedTopcoat at acoveragerate of 700g/m2.

7. Allow to cure and the roof is ready.

HPX

HYBRID POLYMER ROOFING SYSTEM

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HPX CONTENTS

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 incl. **felt, rubber, concrete, most metals, roofs and Fibre cement boards** e.g. Mulitpro, aqua panel, 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 substates
- Silicone-based products must be completely removed
- **TriRoof Primer** must be used on bitumen (or bitumen based products), asphalt & concrete substrates. **Full TriRoof Primer instructions are available on page 5.**

WHY USE THE TRIROOF HPX SYSTEM?

- 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 to 40 degrees (should be tested with digital gun)
- Can be laid onto damp surfaces
- Tack-free time: 2-4 hrs
- Full cure time: 8-16 hrs
- Fibre-free formula

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 should be cleaned, and wiped down with triklean (see page “ “) or acetone.

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.

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 at a rate of 2-4%. For each 5kg primer, 1 x tube of BPO catalyst 50g is 1% catalyst.... therefore 2 x tubes = 2%, 3 x tubes = 3%, 4 x tubes = 4%. **This is temperature dependent, and you must check the temperature guidelines on the side of the tin prior to mixing the product. NEVER CATALYSE ABOVE 4%.**

• It is not recommended to catalyse more than 5kg of primer at any one time.

TRIROOF PRIMER
INSTALLATION INSTRUCTIONS CONTINUED.

• 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 Primer to the substrate by 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 Primer will cure in 20-40 minutes dependent on catalyst percentage and temperature.

• Once Primer is tack-free, it is then ready for overcoating with one of the Triroof liquid systems.

HPX APPLICATION RATES

	Felt	OSB/CONCRETE	GRP/EPDM	Metal
10 Year* (Primer)	7.5m2	8.5m2	8.75m2	8.75m2
10 Year (HPX)	7.5m2	8.5m2	8.75m2	8.75m2
20 Year (Primer)	6.25m2	6.25m2	6.25m2	6.25m2
20 Year (HPX)	8-10m2	8-10m2	8-10m2	8-10m2

*10 year primer required only on certain substrates - refer to page 2

- All coverage rates are approximate depending on condition of substrate.

HPX APPLICATION TOOLS

- **Short pile roller(s) –** Short pile will aid the movement of the liquid,a squidgee, trowel or adhesive spreader, can also be used to initially move the products around the desired areas
- **Paddle roller –** This 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 area
- **TriRoof Trims -** Must be used for new installations
- **HPX 20 Year Guarantee Kits available in 10 & 20 metre options.**

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.
- For tears in felt or membranes, stitch with felt nails prior to bandaging/patching.
- 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.)

APPLICATION 10 YEAR
1 COAT SYSTEM

- (1) Ensure all repairs are fixed, ensuring substrate is free from any contaminants and no standing water is present(see Page 5).
- (2) Measure the area (depending on substrate) to ensure the correct coverage is applied. Approximate coverage rates in accordance with the guidelines.
- (3) Cut the corner of the foil sealed and in a snaking motion create beads about 2 inches apart covering 1m2 at a time.
- (4) Using a short piled roller or paddle roller, slowly apply the product around the area ensuring even coverage.
- (5) Immediately move on to the next 1m2 area .
- (6) Ensure the application is allowed to cure for a minimum of 2-3 hours before rain to ensure resistance.
- (7) Inspect the finished surface. If pinholes are present, scuff the affected area with 80 grit sandpaper, wipe with acetone and apply a thin layer of HPX with a spreader over the affected area.

APPLICATION 20 YEAR
2 COAT SYSTEM
Requires use of TriRoof 225g CSM

- 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 5
- 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 30-40 minutes so it would be advised to mix no more than 5kg of primer at any time.

APPLICATION 20 YEAR
2 COAT SYSTEM CONT.

- 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 1.3 – 1.5kg 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 80 grit sandpaper, wipe with acetone and apply a thin layer of HPX with a spread over the affected area.

TRIROOF HPX INSTALLATION
WHAT YOU MUST DO

- Felt must be washed off with a de-greasing agent (soap) and then cleaned with acetone for optimum preparation.
- All Metal-All rust must be removed and repaired with 450g 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.

TRIROOF HPX INSTALLATION
WHAT YOU MUST DO

- Do use 450g 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 silica over the un-cured 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.

TriKlean

- Triklean is a non-hazardous non-flamable acetone replacement.
- It can be used as substrate cleaner and it does not evaporate in the same way as acetone.
- Triklean will remove any stubborn resins or residues and allow for a good surface for secondary bond.
- Triklean should be removed to a minimal residue with a dry cloth after cleanse before application of HPX or FLEX.
- Triklean can also be used as a tool cleaner. It will keep tools clean and safe between jobs.
- Triklean is also a safe option as it is non-flamable.

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