TOPSEAL PU

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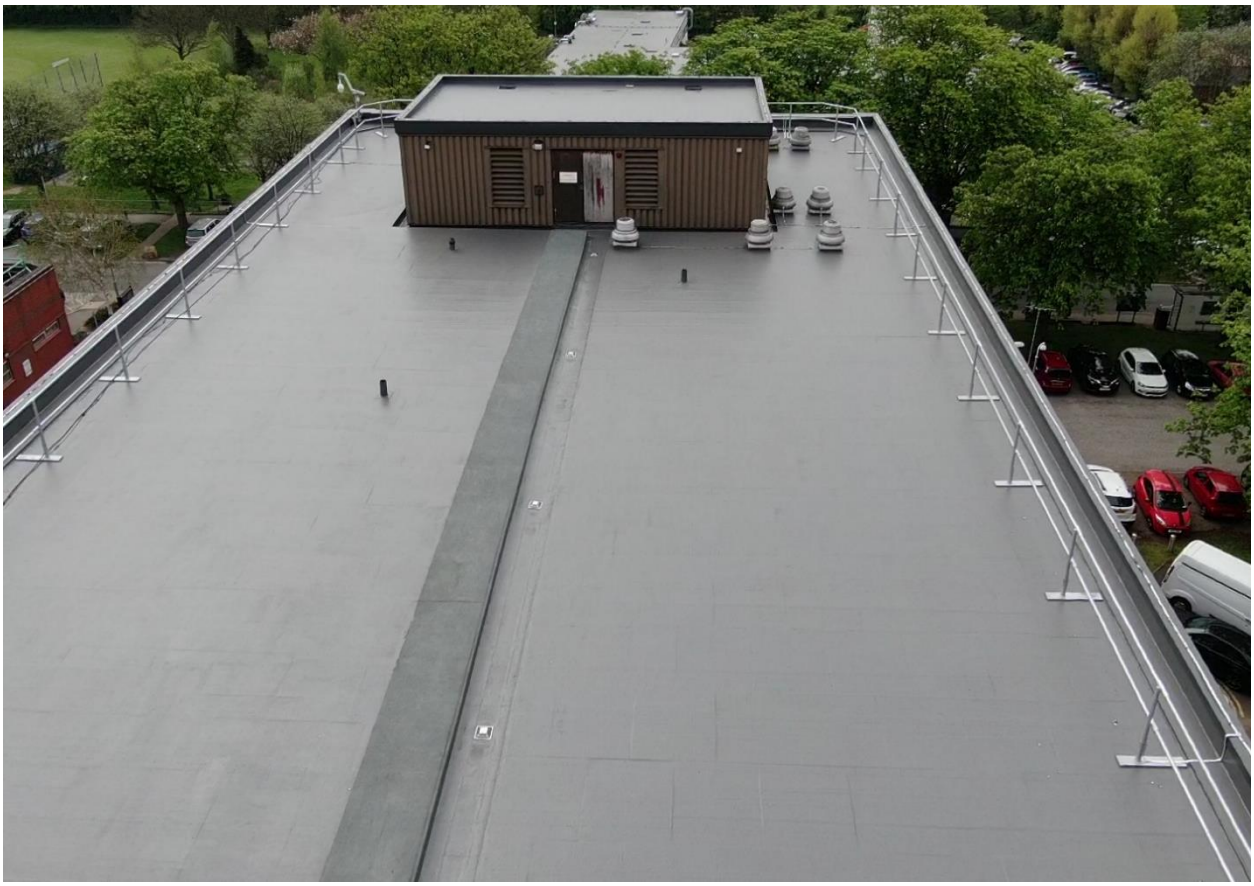
Installation Guide



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TOPSEAL PU

Topseal PU Waterproofing System

COMPONENTS OF A TOPSEAL PU ROOF

- Topseal PU Basecoat (10-15m²)
- Topseal PU Topcoat (12-20m²)
- Topseal PU 225gm CSM Reinforcement (117m² approx.)
- Topseal PU Primer (80-100m² approx.) – Various substrates including concrete, felt, asphalt, OSB3
- Topseal PVC Primer (25m² approx.) – For use on PVC single ply substrates
- Topseal EPDM Primer (20m² approx.) – For use on EPDM substrates
- Topseal Epoxy Primer (50-75m² approx.) – For use on metal substrates
- Topseal PU Reactivation Primer (30-50m² approx.) – For use when leaving a prolonged period of time between coats
- Topseal PU Bandage (155mm x 124m) – Optional
- Topseal Finishing Tissue – Optional
- Topseal GRP Edge Trims – Optional
- Topseal PU Adhesive

TOPSEAL PU WARM ROOF COMPONENTS

- Topseal Insulation Spray Adhesive (250m²)
- Topseal Carrier Membrane Primer (180m²)
- Topseal Carrier Membrane (43.2m²)
- Adhesive & Primer Canister Gun
- Canister Tip (For use with Carrier Membrane Primer only)
- Canister Hose
- Canister Cleaner
- Tissue faced insulation (By others)

TOOLS REQUIRED

- Stanley knife
- Claw hammer
- PU Rollers (4” and 7”)
- Paint brushes
- Acetone
- Buckets
- Mastic gun
- 40 grit sandpaper
- Sanding pads
- Angle grinder
- Soft and stiff sweeping brushes
- Shovel
- Extension poles
- Surface thermometer

ADDITIONAL ITEMS

- Disposable gloves
- Eye wash kit
- Protective glasses
- Galvanized clout nails (For fixing trims)
- Lead Sealant (For sealing flashings into walls only)
- Granulated Slate Chippings (For non-slip finish)

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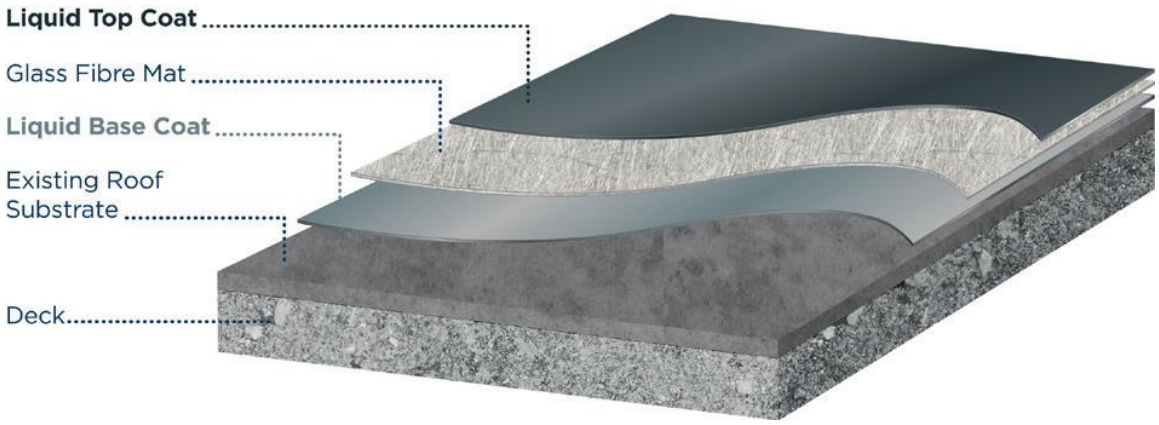
TOPSEAL PU

Topseal PU Waterproofing System

DESCRIPTION

High Performance Waterproofing System for applications on to various substrates*.



*Most substrates require a primer

PRODUCT APPLICATION

Primer application (where required):	Theoretical coverage rate is 6-8m²/kg dependent on substrate porosity
Detailing and Joints:	Topseal PU Basecoat and Topcoat Chopped Strand Reinforcing Mat 225gm (950mm wide)
Basecoat:	Topseal PU Basecoat @ 1.5kg/m² Chopped Strand Reinforcing Mat 225gm
Topcoat: 20 Year Guarantee	Topseal PU Topcoat @ 1kg/m²
Topcoat: 25 Year Guarantee	Topseal PU Topcoat @ 2kg/m²
Walkways (if required):	Topseal PU Topcoat @ 2kg/m² Aggregate 0.8-1mm @ 0.75kg/ m².

SURFACE PREPARATION

Dirt/ Soil/ Contamination must be removed from the surface prior to installation of the system. Surfaces should be power washed and rinsed to remove all residual dirt and other contamination after which the surface should be dried.

Surfaces which have been subject to moss and lichen must now be treated with a proprietary fungicidal wash and allowed to dry in accordance with manufacturers' instructions.

Any ballast chippings present must be removed with a mechanical flail. Deeply embedded chippings need not be removed if removal would result in extensively damaging the asphalt. Failure to remove all loose chippings will invalidate any offer of warranty. Badly degraded asphalt must be removed. Asphalt blisters are to be cut open exposing the surface, which should be dried then rebuilt with a cementitious mortar.
Deck surfaces must be free from protruding fixing bolts and concrete nibs.

Roofing felt is to be inspected; weak and degraded felt to be replaced. Blisters in the roofing felt are to be star cut, the exposed surface dried and the felt re-bonded to the substrate.

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This system can extend up and over brick/concrete parapet walls if required. Any cracks in these surfaces are to be cleaned out and filled with cementitious mortar in accordance with the manufacturer's recommendations and allowed to dry prior to coating with Topseal PU Primer in accordance with the product data sheet.

Gutters and outlets must be checked to ensure that they are and remain clear of debris.

Corroded metal surfaces are to be thoroughly wire brushed to remove corrosion products and then primed with Topseal Epoxy Primer in accordance with the product data sheet.

All wood or wood-based materials are to be primed with Topseal PU Primer.

The system must be applied when the air and substrate temperatures are greater than 5°C. Special precautions may be necessary when temperatures exceed 30°C, as shown in the Technical Data Sheets.

Roof area cleaned and allowed to dry.

TOPSEAL PU PRIMER APPLICATION FOR OVERLAYING EXISTING SUBSTRATES

Topseal PU Primer is compatible with a wide range of substrates including concrete, wood and metal amongst others. Coverage approx. 80m² - 100m² per 5l can.

Preparation

- Ensure all surfaces to be primed are clean, dry and free from contamination.

Application

- Ensure any cracks in the surface are sealed.
- Apply a thin coat of primer by brush or roller, ensuring a uniform coverage of the substrate is achieved.
- Leave to cure until slightly tacky (but not wet to touch or peel off when walking on it) this will take approximately 90 minutes.
- If the primer is left for more than 24 hours, then a second coat should be applied and left as above.

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TOPSEAL EPOXY PRMER APPLICATION

Topseal Epoxy Primer is compatible with a wide range of metallic surfaces including steel, galvanized steel and non-ferrous metals. It is suited to metal substrates with complex interface details or where the substrate is impaired, e.g., Due to poor condition / rust. Coverage approx. 50m² - 75m² per 5l can.

Preparation

- Mix parts A & B as supplied.
- Tests should be conducted to ensure substrate compatibility.
- Ensure all surfaces to be primed are clean, dry and free from contamination.

Application

- Apply by brush or roller, ensuring a uniform coverage of the substrate is achieved.
- Leave to dry fully before overlaying (20 – 60 minutes dependent on ambient temperature).

TOPSEAL PVC PRIMER APPLICATION

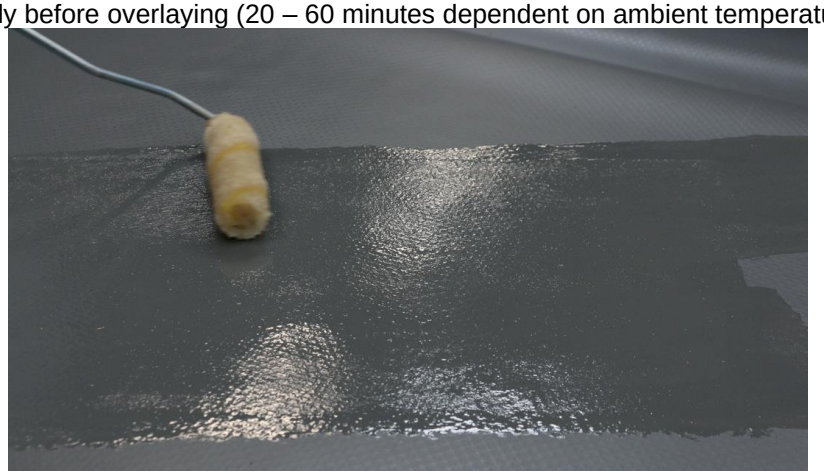
Topseal PVC & EPDM primers are compatible with PVC and EPDM based membranes. Extensive aging tests show that platicisers from PVC & EPDM membranes do not have an effect on the film properties of the Topseal PVC & EPDM primers, which promotes successful overlay and lasting adhesion between the two membranes. Coverage approx. 25m² (PVC) and 20m² (EPDM) per 5l can.

Preparation

- Tests should be conducted to ensure substrate compatibility.
- Ensure all surfaces to be primed are clean, dry and free from contamination.

Application

- Apply by brush or roller, ensuring a uniform coverage of the substrate is achieved.
- Leave to dry fully before overlaying (20 – 60 minutes dependent on ambient temperature).



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INSTALLING A WARM ROOF

When installing a warm roof, depending on the substrate, this will determine whether a new vapour control layer is required. Timber hard edges may be required around perimeters and openings at this stage, this will provide a solid fixing for trims, fascia, gutter brackets, etc.

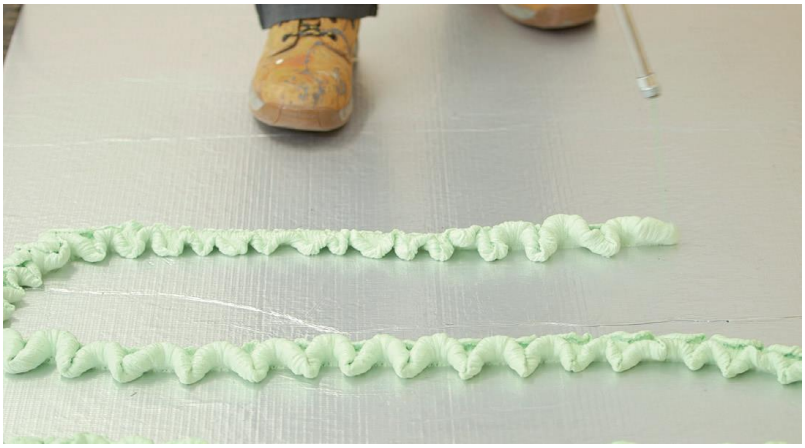
Installing insulation onto existing felt, single ply, EPDM and GRP membranes

Preparation

- Ensure the ambient temperature and surfaces are within the application temperature guidelines.
- Ensure the roof substrate is dry and clean from grease, dirt and other contaminants before applying adhesive.
- Set the canister up as described in the 'Set-up and Maintenance Guide'.
- Remove any overspray from the surface of the membrane with cleaner.

Application

- Ensure the Topseal Insulation Adhesive is by applying a bead of adhesive at a minimum of 30mm wide.
- Apply beads at 200-300mm centres to VCL/deck or in compliance with wind uplift calculations.
- Immediately place the insulation board directly onto the adhesive
- Apply hand pressure to the insulation board to ensure full contact with the adhesive. Allow the insulation boards to float in the adhesive.
- Do not walk the boards for a minimum of 15 minutes. If the boards are walked before this time expires, reapply the adhesive.



Installing Topseal Carrier Membrane (as VCL)

Preparation

- Ensure the ambient temperature and surfaces are within the application temperature guidelines.
- Ensure the roof substrate is dry and clean from grease, dirt and other contaminants before applying adhesive.
- Apply Topseal Carrier Membrane Primer (Spray applied or pour on dependent on substrate) on all surface where required.
- The use of primer to new, clean and oil free metal is generally not required.
- Unroll the membrane and align. Application must be perpendicular to the roof falls and overlapped at edges by a minimum of 50mm and at least 150mm at roll ends.
- Remove the release film and evenly press down on the surface well by hand, heavy brush or roller being careful not to trap air pockets.
- Protect the membrane from UV rays within one/two weeks post installation.

Installing insulation onto Topseal Carrier Membrane

The same installation method for installing insulation is the same in all situations. Once the insulation has been installed and allowed to set in place you then need to install the Topseal Carrier Membrane over the insulation.

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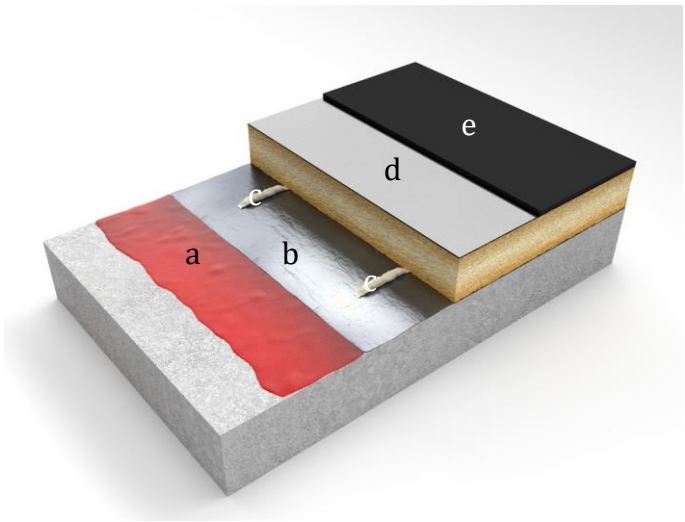
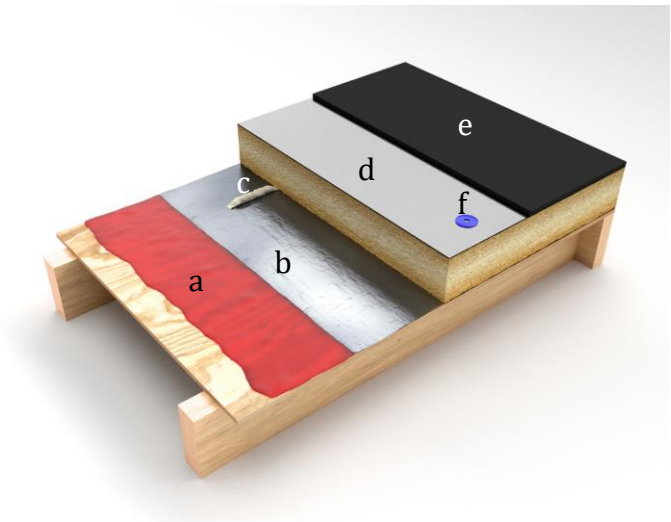
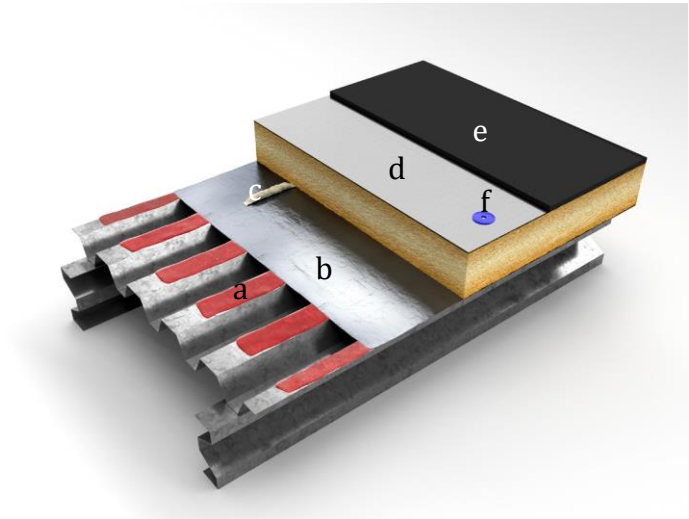


Concrete substrate



Timber substrate



Metal deck substrate

a) Topseal Carrier Membrane Primer (Spray applied or pour-on)
b) Topseal Carrier Membrane
c) Topseal Insulation Spray Adhesive
d) Tissue Faced Insulation
e) Topseal Carrier Membrane Primer
f) Optional mechanical fixings

<u>Installing Topseal Carrier Membrane (as carrier membrane over tissue-face insulation)</u>

<u>Preparation</u>

- Ensure the ambient temperature and surfaces are within the application temperature guidelines.
- Ensure the roof substrate is dry and clean from grease, dirt and other contaminants before applying adhesive.
- Ensure the canister spray-system is spraying correctly and the spray pattern is 300mm wide.

<u>Application</u>

- Apply 1-2 coats of the primer to the roof deck, ensuring an even distribution of primer is achieved.
- Allow the solvents to evaporate from the primer layer for a minimum of 5 minutes at 20°C (time will vary depending on temperature).
- Apply the self-adhered membrane to the coated deck in as described previously.

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STARTING TO INSTALL TOPSEAL PU

Once all insulation and carrier membrane has been installed, you are then ready to start installing the Topseal PU system. Step by step overview -

i. Always check the weather and if there is any chance of inclement weather do not start.
ii. Check the deck temperature, dew point before starting to ensure it is within the correct guidelines.
iii. Apply primer (if required) and allow to cure.
iv. Mark out 1m² gridlines to assist in ensuring you are using the optimum quantity of materials and you are not over or under using to ensure you achieve the correct coverage.
v. Load out the roof with the materials required.
vi. Fit perimeter trims where required.
vii. Roll out and cut all CSM to size, then roll back up ready for installing later.
viii. Install PU basecoat and allow to cure.
ix. Sand the entire area lightly and brush off.
x. Apply PU topcoat with the correct amount to achieve the required guarantee.
xi. Once fully cured, inspect the roof for pinholes and defects, making any repairs before applying for the guarantee.

DETAILING AND JOINTS

225gm CSM must be used as a reinforcement membrane over treated movement joints together with all angle joints with protrusions and upstands. Topseal PU Basecoat is then to be applied to the areas to be treated at a nominal rate of 1.5kg/m².

CSM should then be laid over the Topseal PU Basecoat and then brushed to totally wet out and encapsulate the sheet, including the edges. Adjacent lengths/sections of the mat are to be overlapped to ensure a minimum 50mm overlap after coating.

Note: For treating joints, 155mm wide rolls of Topseal PU Bandage are available. Topseal GRP Trims can also be installed at this stage.

APPLICATION OF TOPSEAL PU BASECOAT

Topseal PU Basecoat is applied to the roof surface using a medium pile roller at an application rate of 1.5kg/m²

225gm CSM is to be applied over the entire roof surface. Adjacent widths of CSM should be overlapped to ensure a minimum 50mm overlap after coating, laying the feathered edge over the square edge. Should the CSM supplied have two square edges, you can blend this in by working the roller over the overlap during installation.

225gm CSM should also be overlapped 50-100mm on to the treated reinforced up stands, parapets, joints and corners to maintain a continuous reinforcement.

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After the CSM has been laid out, it should be rolled in to the wet Topseal PU Basecoat, ensuring that there are no creases. The CSM breaks-down into individual fibres when embedded into the basecoat. A further application of Topseal PU Basecoat should be rolled through the CSM on any areas not completely wetted to totally encapsulate and impregnate the matting, if required.

The coverage rate of the Topseal PU Basecoat will be 1.5kg/m² with CSM. This may increase on uneven or porous surfaces. Topseal PU Basecoat can be overcoated after 6 - 12 hours @ 20ºC. At lower temperatures, this time will be increased.

APPLICATION OF TOPSEAL PU TOPCOAT

Prior to application of Topseal PU Topcoat, Topseal PU Basecoat must be dry and free from contamination. Once dry, the entire roof should have a light sand with 40 grit sandpaper and all detail works made good.

Topseal PU Topcoat should be applied by brush or roller, rollers being preferred for large applications. Ensure the Topseal PU Topcoat is thoroughly stirred prior to application.

Topseal PU Topcoat should be applied to give a uniform even coating totally obliterating the embedment coat at coverage rate of 1kg/m² to achieve a 20-year guarantee. To achieve a 25-year guarantee, apply a second coat of Topseal PU Topcoat at 1kg/m² once the first coat has dried. Ensure to finish rolling in the same direction to avoid a striped finish.

If there is a prolonged period between applying the basecoat and topcoat, Topseal PU Reactivation Primer will need to be applied before topcoating.

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APPLICATION OF SLIP RESISTANT FINISH

Where slip resistant walkways are required, this can be achieved by the application of an extra coat of Topseal PU Topcoat incorporating an aggregate.

As soon as the overall coat of Topseal PU Topcoat is dry, approximately 6 hours at 20ºC, a second coat should be applied to the designated area. Aggregate 0.8-1mm should then be broadcast over the freshly applied product at a rate of 0.75kg/m², whilst the Topseal PU Topcoat is still wet.

PRIMER CHECKLIST

Substrate	Topseal PU System
Asphalt	PU Primer
Asbestos	PU Primer
Aluminium	Epoxy Primer
Brick	PU Primer
Bitumen / Felt	PU Primer
Carrier Membrane (Foil faced)	None required
Concrete	PU Primer
Corroded Mild Steel	Epoxy Primer
Corroded Galvanising	Epoxy Primer
Galvanising	Epoxy Primer
Insulation Boards Ply Faced	PU Primer
Lead	PU Primer
Mild Steel	Epoxy Primer
Previously Painted	PU Primer
EPDM*	EPDM Primer
PVC / Single Ply*	PVC Primer
Slate / Tile	PU Primer
GRP	PU Primer
OSB3 / Plywood	PU Primer

***We would recommend carrying out bond tests on EPDM & single ply membranes.**

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ADDITIONAL INFORMATION

Testing

Please contact Topseal if you have any questions regarding specific substrate preparation.

Storage & Handling

The products should be stored unopened in a dry condition at a temperature of 5-25°C. This will ensure the stated shelf life. The products will have a limited life once the container is opened.

Store Topseal Carrier Membrane in a vertical position protected from sunlight, rain, heat and frost.

Temperatures & Timings

All information on temperature and timings represents normal working conditions and is provided as a guideline only. However, please contact Topseal for advice if you wish to operate outside of these parameters.

Disposal

For disposal of Topseal PU resins and primers used packaging, it would need to be classified as packaging containing residues of / or contaminated by hazardous substances using waste code EWC 15 01 10*.

For disposal of Topseal Adhesive Spray canisters, once the canister is empty of any hazardous materials and depressurized, it can be considered as scrap metal, in accordance with the national or local waste company, under code EWC 15 01 04* (Empty aerosol, non-hazardous residues). Canisters that are still pressurized and contain product should be disposed of in accordance with the national or local waste company under code EWC 16 05 04* (full or partially empty aerosol).

Disclaimer

Topseal has taken care to ensure that the information provided in the literature is correct and up to date. However, it is not intended to form any part of a contract or provide a guarantee.

The company will supply, upon request, individual advice in writing in connection with the use and application of its products in all appropriate cases. Customers are urged to make use of this service. This leaflet is provided for general guidance only. All recommendations and suggestions are made in good faith but without guarantee and are subject to the company's terms and conditions.

Before use, ensure that you read the relevant Health and Safety Data Sheets for this product.

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