

OVERLAYING METROFLEX ON SUBSTRATES OTHER THAN OSB3 DECKING

ENSURE THE ROOF SURFACE IS DRY

It is critically important to ensure that the roof surface you intend to apply the Metroflex System to is completely dry before you start. Application on to wet substrates is likely to cause contamination to the materials and adhesion not to occur, causing a total failure of the system.

FULLY ASSESS THE SUITABILITY OF ANY SURFACES TO BE COATED

All roof surfaces that are being considered for over-laying should be fully assessed for damage and compatibility before starting. Any existing damage should be made good, and any questionable surfaces should have an adhesion test carried out. Thoroughly clean down all areas which are to be coated, removing all dirt and debris, surface water, mould, moss etc. Loose and embedded chippings should also be removed.

The decision to overlay an existing roof covering comes down to the installer, and it is their responsibility to carry out all necessary cleaning, repairs, and testing prior to overlaying.

OVERLAYING FELT

Any areas of damaged or loose felt on the roof surface MUST be repaired and re-bonded prior to overlaying with MetroFlex. Ensure the roof surface is clean and any loose material has been brushed away. MetroFlex Primer is recommended to be used prior to following the application process.

OVERLAYING ASPHALT

Ensure that any blow holes and structural cracks are made good and/or removed prior to overlaying. Allow for any repairs to fully cure, following the manufacturers guidelines. MetroFlex Primer is recommended to be used prior to following the application process.

OVERLAYING GRP

Heavily abrade the existing GRP covering using a 40 grit paper, giving a good rough surface. Clean the surface using Acetone to remove any contamination from the surface. MetroFlex Primer is not required before the application process.

OVERLAYING CONCRETE/RENDER/BRICKWORK

Remove any damaged or loose material and repair where necessary with a suitable repair mortar. Any smooth concrete or render surfaces should be lightly abraded to create a good clean, dry, and open surface. Repair any major cracks etc using repair mortar. Newly laid concrete should be left to cure for a minimum of 2 weeks. MetroFlex Primer is essential to be used prior to following the application process.

OVERLAYING SINGLE PLY

Check and repair any damage to the membrane as necessary. It is essential that an adhesion test is completed to ensure that a sufficient bond is achievable. Clean all single ply surfaces with Acetone. MetroFlex Primer is essential to be used prior to following the application process.

USING METROFLEX PRIMER

ADDITION OF CATALYST	RESIN WEIGHT	
	5kg	20kg
1%	50g	200g
2%	100g	400g
3%	150g	600g
4%	200g	800g
5%	250g	1000g
6%	300g	1200g

If primer is required, follow directions below:

- After the catalyst has been stirred in, the primer is poured on to the substrate in stripes and distributed with a short pile paint roller.
- Apply at a rate of between 0.3 to 0.5 kg/ m², depending on the density and porosity of the substrate. Continue applying primer until saturation occurs to obtain a continuous resin film. On porous substrates, a second primer coat may be required.
- Do not apply when surface temperature is above 40°C and/or rapidly rising. Special care must be observed if the area is exposed to direct sunlight.
- The Primer should be ready to overlay with MetroFlex Resin after approximately 45 minutes, when the Primer is slightly tacky to the touch but there is no transfer of material.

LAMINATING / TOPCOATING PROBLEMS

WET WEATHER

If it should rain while the resin is liquid, stop work and cover what you have done immediately. Water will contaminate the resin and prevent it from curing. If it rains at any point after the resin has started to change from a liquid to a solid, although not ideal, it should be OK. Any rain falling will settle on top and not mix so the resin should still complete its cure. However, it is very likely that gas (styrene) given off while the resin is curing will still react with the water. This will manifest itself as a white coating that appears on the surface of your fibreglass layer. If this happens at the fibreglass stage, dry the surface and wipe down with acetone as this should remove most of the white coating. Then check all areas have cured, sand down with heavy grit paper, clean and apply the final resin coat as normal.

WEATHER CONDITIONS

It is very important to check weather conditions and temperatures before starting GRP application. It is advisable to avoid working in the rain. A check on the average temperatures forecast is also important to ensure that the correct amount of catalyst is mixed into the resin.

CATALYST MIXING

If the resin is not mixed with the correct amount of catalyst, it can have several detrimental effects. Too little catalyst can lead to uncured resin which can mean that the resin will remain soft and will not provide a totally hard and waterproof surface. Too much catalyst can cause the resin to cure too fast which can lead to exotherm and damage to laminate.

WETTING OUT

It is vitally important to ensure that every part of the fibreglass mat is completely wetted out with resin. Dry patches can lead to problems. Laminate that has not had the resin completely infused into the fabric can have areas that will leak. The fibres of the dry area can force upwards through the final resin coat and water can then run down the fibre and cause a leak.

PINHOLES

Pinholes occur where there are gaps in the fibreglass mat. This can be due to incomplete wetting out of the fabric. They will appear in the final resin coat as tiny pinholes. They can be rectified by sanding the area and reapplying a new resin layer to seal the pinholes and prevent the leak.



METROFLEX
THE FLEXIBLE CHOICE



METROFLEX

A 5 step reference guide for installers

The Metroflex Roofing System is a wet laid flexible roofing system consisting of a GRP laminate which is finished around the perimeter with pre-formed GRP edge trims. Unlike conventional GRP systems, Metroflex, when used in conjunction with its revolutionary priming system, can overlay many different substrates such as felt, concrete, asphalt, GRP, liquid and single-ply for example. This completely removes the need to strip the existing roof covering if the condition is suitable.

If you are overlaying any substrate other than new OSB3 Decking, please refer to the Priming section of this installation guide.

CHOOSING THE RIGHT MATERIALS

Which Mat to Use?

Metroflex can be used with both 225g and 300g emulsion bound chopped strand mats. For best performance we recommend 300g.

WHAT TOOLS WILL YOU NEED?

Mixing Buckets

Paint Brushes

Medium pile rollers

Extension Handle

Mixing sticks

Measuring cup

Acetone

Gloves

Goggles

Overalls



GRP
ROOFING
SOLUTION

5 STEP GUIDE



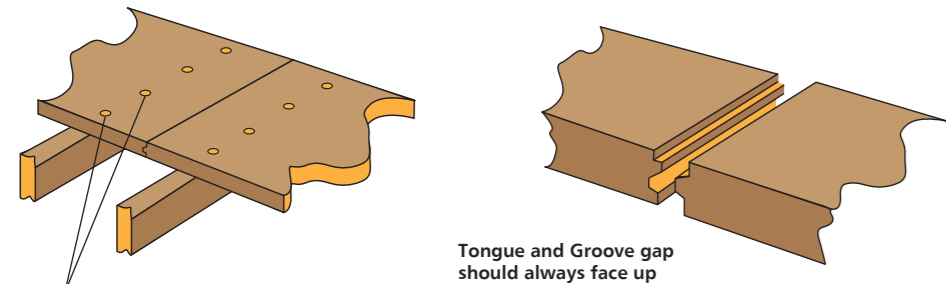
METROFLEX

APPLICATION/CONSTRUCTION

Step 1. Deck

For best results, lay a substrate of new 18mm OSB3 decking of 2400mm x 600mm, tongue and groove. Its surface is particularly good for maximum adhesion of resin, as the slotted joints increase roof strength and are much quicker and easier to fit than 2400mm x 1200mm cut edge boards. Do not use any chipboard based decking.

The first step to start your fibreglass roof is to lay the OSB boards onto the joists. The tongue and groove boards should be laid at 90° to the roof joists. It is important to have the boards laid with the gap side of the tongue and groove facing upwards. This will allow the resin to flow between the boards and glue them together. The OSB boards should be staggered to allow a strong deck to be built. When all the boards are aligned in rows the joints become weak and can move over time. Boards are attached to joists using a nail gun or screws at 200mm centres, and fixings must penetrate a minimum of 40mm into the joist. For a warm roof, the top deck should be attached with sufficiently long screws to penetrate the lower deck. Ensure extra fixings are used here to prevent deck movement.



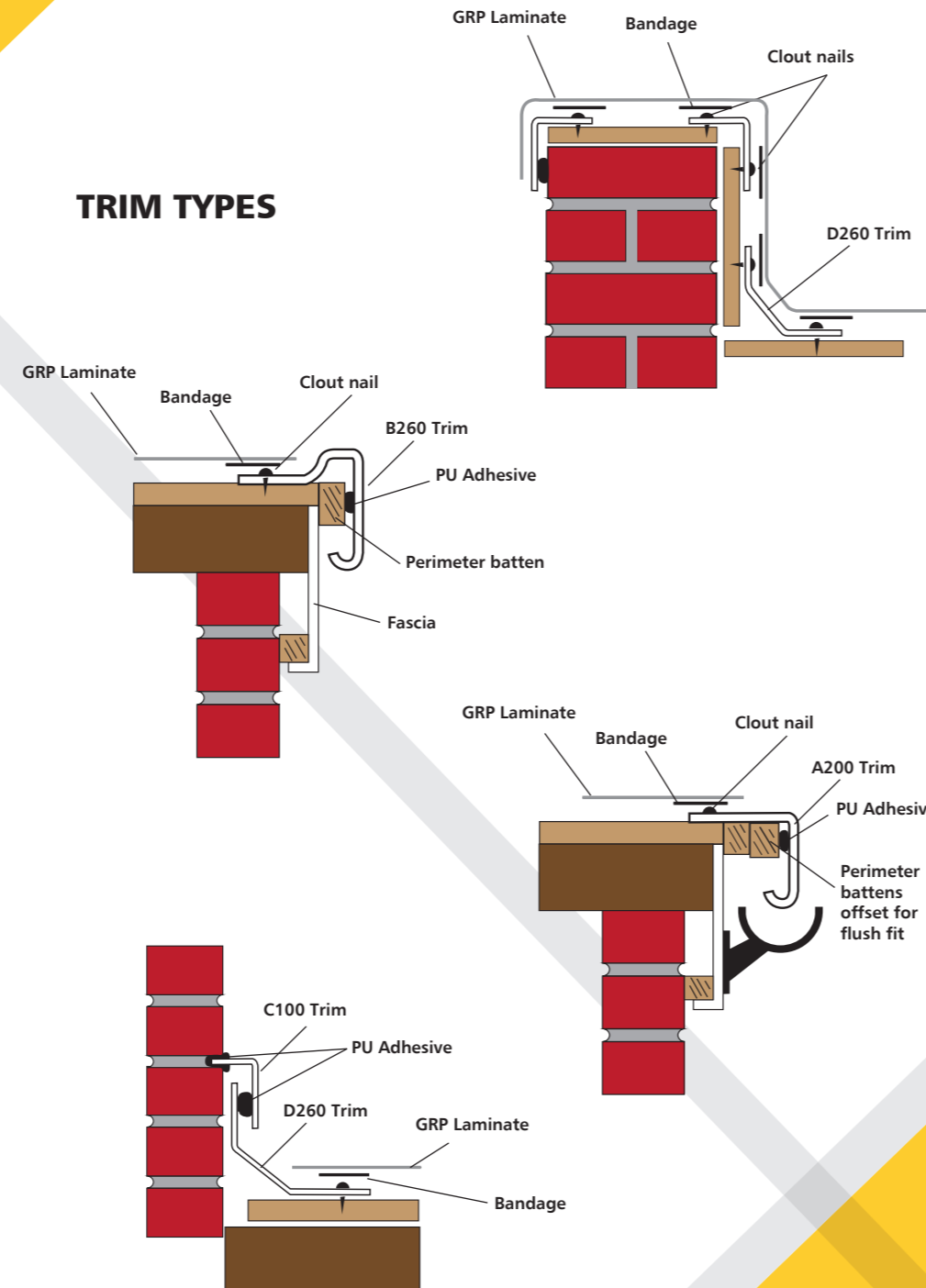
Boards should be fixed at 200mm centres

Tongue and Groove gap should always face up

Step 2. Trims

Trims need to be fixed to the deck using galvanized clout nails or staples. A flexible PU adhesive is used to secure the trims to a supporting batten at the front. Where trims need to be joined, this should be done by using a bead of PU Adhesive, and the joint is finished using a strip of matting or fibreglass tape and resin.

TRIM TYPES



Step 3. Bandaging

Before laying the fibreglass mat, cover the trim edges that meet the deck with a strip of fibreglass tape or fibreglass mat bandage. This will help to seal the edge of the trim to the deck. To do this, apply a thin layer of resin over the deck and trim edge with a roller, and then apply the tape. Wet out the tape until the resin is well absorbed into the glass.

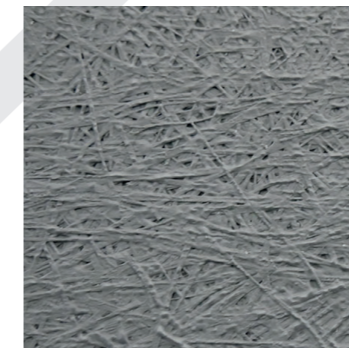
Step 4. Laminating - Prepare the matting

Ideally, you should orientate your matting parallel to the drip edge, with the first 'run' starting at that side, but this is for cosmetic reasons. Matting is random stranded so structurally it is not essential to worry about roll direction. Roll out the mat across the roof and cut to length (allowing for 50mm onto the edge of the trim). Matting will have one cut edge and one 'feathered' edge, the feathered edge should always overlap cut edges by 50mm. Repeat until you have enough prepared rolls to start work.

Application

Stir the resin in its original container to ensure that any additives in the resin are thoroughly mixed in. Decant enough resin into a separate container to 'wet out' the fibreglass mat. The amount of resin you need to mix will be dependent on weather conditions - you will have less working time the hotter the conditions. 300g matting will require a minimum of 0.75kg resin per metre run.

Mix the resin thoroughly with the correct amount of catalyst. To start the process of laying up, firstly cover the area of board being fibreglassed with a coat of resin using a medium pile roller. Lay the fibreglass on the wet board and 'wet out' using the resin-soaked roller, being careful to avoid leaving any dry patches in the fibreglass mat. Now use the resin-soaked roller to roll the area to remove any air bubbles and work the resin into the fibreglass mat until the fibrous texture is reduced as much as possible.



Inspect the laminate, ensuring there are no dry patches (where matting appears fibrous) or pin holes. If any are found, add more resin to the affected area and reconsolidate.

Step 5. Topcoating

Once the roof area has cured and is touch dry, it can now be topcoated to create the final waterproof layer. Inspect the fibreglass layer for signs of any defects, such as loose strand spikes which should be sanded and then cleaned of dust. If the fibreglass layer is older than 48 hrs, the whole roof needs to be sanded with 40 grit paper and wiped down with acetone to ensure a suitable bond between topcoat and fibreglass.

Thoroughly stir the required amount of resin to ensure that any additives in the resin are thoroughly mixed in. Decant a manageable amount of the resin into a separate container, and mix thoroughly with the correct amount of catalyst.

Coverage of topcoat is approximately 250g per m² (minimum).

Once catalysed, the resin can be applied to the roof using a fluffy roller. Ensure coverage is even, and ensure the resin is completely covering the fibreglass with nothing exposed. Trims should also be coated in resin. Cover the entire roof with the resin and allow it to cure. If you are using MetroFlex Non-Slip Additive, it can now be sprinkled on the wet topcoat. Always ensure that the area is kept dry whilst curing, as water can affect the appearance and strength of the uncured laminate.

