



PITCHED AND FLAT ROOFING SOLUTIONS

# GRP

## INSTALLATION

### GUIDE



Offering a comprehensive range of solutions for the refurbishment and maintenance of flat and pitched roofs, or for the laying of a new flat roof, **FIX-R** is the ideal partner for roofing contractors.

Whether applying EPDM, liquid waterproofing or GRP systems, we have a solution for all your requirements and our technical backup is always on hand for support when you need it.

To find out more about the full **FIX-R** product range, pick up a copy of our **Pitched & Flat Roofing Solutions brochure** at your local **SIG Roofing** branch, or download a copy now by scanning the QR code below or by visiting our website, [www.fix-r.co.uk](http://www.fix-r.co.uk).



**SCAN ME**

To download your copy now



#### TRIED & TESTED

We have been helping roofing contractors create the perfect flat roof, with our tried and tested solutions, for over 15 years.



#### A QUALITY SOLUTION

With 10, 15, 20 and 25 year warranties available across the range, you can be assured our **FIX-R** systems are there to last, giving you and your customers peace of mind. T&C's apply.



#### PRODUCTS FOR PROFESSIONALS

Our **FIX-R** products have been developed utilising the latest technologies, so professional roofing and home improvement contractors can be assured of a consistently reliable choice.



#### NATIONWIDE AVAILABILITY

Exclusive to **SIG Roofing**, **FIX-R** is available in over 100 branches across the UK.



#### WIDE RANGE

Our comprehensive range of flat roofing solutions includes EPDM, bituminous membranes, liquid waterproofing and GRP systems, ensuring you have access to solutions for every situation.



#### ONE WARRANTY

We are so confident in the quality of our products, that most are included in **SIG Roofing's ONE Warranty**, a single warranty that covers all of the key elements of your roof. T&C's apply.



#### PRODUCT TRAINING & TECHNICAL SUPPORT

When you purchase any of our **FIX-R** products and systems, you can be confident that we will be here to support you now and in the future with our ongoing product advice, robust warranties and technical support.

Our dedicated technical email address is [fix-rtechnical@sigroofing.co.uk](mailto:fix-rtechnical@sigroofing.co.uk)

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# FIX-R GRP SYSTEM

## PREPARATION



### GRP WOVEN GLASSFIBRE TAPE

This tape is used to bandage the joints in square edged OSB, join edge trims and corners together and cover/fill small gaps, producing a clean and neat finish.

Available in 50m rolls and in widths of 50mm and 75mm.



### GRP ROOF RESIN

This is the base resin layer that is used to go onto clean, dry OSB 3.

Available in 10kg and 18kg €.

Hazard Classification: H226, H332, H315, H319, H361d, H335, H372, H335, H372, H412



### GRP ROOF CATALYST

The Catalyst is mixed with the Resin to start the reactive curing process before the mixture is then applied to the timber deck and over the pre-applied tape.

Available in 1kg and 5kg €.

Hazard Classification: H242, H302, H332, H314, H318



### GRP CHOPPED STRAND MAT (CSM)

Chopped Strand Mat is used in the layering and continuous lamination of FIX-R GRP installations. It is applied to the wet surface and a further coat of resin is applied on top of the CSM, which is then sanded and left to cure.

Available in:

450GSM | 18.5m, 37m & 74m Roll Lengths | 20 Year Material Warranty\*

600GSM | 13.75m, 27.5m & 55m Roll Lengths | 25 Year Material Warranty\*

\*When used as part of the system. T&C's apply.

## FINISHING



### GRP ROOF TOPCOAT

The final layer within the system is the topcoat which is applied to protect the roof and give it a smooth, seamless finished appearance.

Available in:

Grey | 10kg €

Anthracite | 20kg €

Black | 20kg €

Hazard Classification: H226, H332, H315, H319, H361d, H335, H372, H412, H317



### GRP ROOF CATALYST

Catalyst is added to the topcoat to start the reactive curing process and the mixture is applied to the roof.

Available in 1kg and 5kg €.

Hazard Classification: H242, H302, H332, H314, H318

Please refer to the Safety Data Sheet(s) prior to use, available on request or via <https://www.sigrooing.co.uk/roofingproducts/fix-r/fix-r-grp-system/>

Storage instructions can be found on the product label.

## ALSO AVAILABLE



### GRP ROOF WINTER CATALYST

An alternative catalyst that provides a faster cure speed particularly during the winter months or in cooler conditions throughout the year.

Available in 1kg €.

Hazard Classification: H242, H302, H332, H314, H318



### GRP ACETONE BRUSH/TOOL CLEANER

Acetone is used to clean uncured resin and topcoat from brushes, rollers and other equipment.

Available in 1L, 5L and 25L €.

Hazard Classification: H225, H319, H336

## FIX-R GRP SYSTEM

### IDEAL FOR

ASPHALT / FELT ROOFS	<input type="radio"/>
BALCONIES	<input type="radio"/>
CEMENT FIBRE ROOFS	<input type="radio"/>
COMMERCIAL	<input type="radio"/>
COMPLEX DETAILING	<input checked="" type="radio"/>
CORRUGATED METAL ROOFS	<input type="radio"/>
DOMESTIC	<input checked="" type="radio"/>
DORMER ROOFS	<input checked="" type="radio"/>
EXTENSIONS	<input checked="" type="radio"/>
FLASHINGS	<input type="radio"/>
GARAGES	<input checked="" type="radio"/>
GREEN ROOFS	<input type="radio"/>
HOSPITALS	<input type="radio"/>
LARGE ROOFS	<input type="radio"/>
NEW BUILD	<input type="radio"/>
RECOATING FAILED SINGLE PLY ROOFS	<input type="radio"/>
REPAIR / REFURBISHMENTS	<input type="radio"/>
SCHOOLS	<input type="radio"/>
SMALL ROOFS	<input checked="" type="radio"/>
WALKWAYS	<input checked="" type="radio"/>
WINTER APPLICATION	<input checked="" type="radio"/>



### SCAN ME

To find out more about  
FIX-R GRP SYSTEM

# FIX-R GRP INSTALLATION GUIDE

## A. PRIOR TO COMMENCING WORK

1. The Health & Safety Executive has published guidance for roof works HSG33 <https://www.hse.gov.uk/pubns/books/hsg33.htm>
2. Before starting make sure that the weather forecast is fair as rain will affect the cure and finish of any GRP system. Ensure areas around the installation that are liable to resin splashes/drips are covered or moved where possible, such as vehicles, windows etc.
3. Remove any old roof coverings, chippings or rotten wood for over boarding or full replacement using 18mm OSB 3.
4. Ensure temperature is above 7.5°C.
5. All materials should be stored suitably between 15-25°C before use.
6. Use the material estimation guide on page 21 to make sure you have everything you need to do the job.
7. Read the catalyst addition guide on page 20 to take account of the temperature on the day of installation.
8. If you're not sure of anything, stop and ask our technical team for help and guidance, we always recommend asking about our training and demonstration days to really see the product in action.



Diagram 1



## B. PREPARING THE DECK

Like any good construction it's only as good as its foundations and the same is true for GRP, please read through the guidelines below if you are preparing the deck or pass along to the contractor who is, so you can be sure you're ready to go.

### PREPARING A NEW DECK

If using 18mm Tongue & Groove OSB 3 board have the gap of the tongue & groove facing upwards when laying. If laying square edge OSB 3 the joints must be taped using the FIX-R GRP Woven Glassfibre Tape embedded in a base coat of the GRP Roof Resin.

1. The boards must be laid at 90° to the joists or existing boards ie across joists/boards and not inline (See diagram 1) making sure there is sufficient fall built in to allow the surface to drain without standing water. When laying next to a wall, allow a 25mm gap between the board and wall and a 5mm gap between the board edges, this allows for the movement of the roof during hot and cold temperatures. Finish the board flush to the fascia and then stagger the next row of board with a minimum of 400mm board to start.
2. Fix the boards with a galvanised ringshank nail (recommended 63mm to penetrate the joists by 40mm) the fixings should be spaced 200mm apart. We recommend a powered nail gun to fix the nails in place as this makes the job considerably quicker and avoids damaging the ceiling below. Standard hammers can be used in areas that have no ceiling below, please ask about the correct fixings when installing a roof with insulation.
3. It is vital to note that any one flat area above 50m² must include an expansion joint (see GRP Trim Installation Guide from page 13-19).



## C. APPLYING THE GRP TRIMS

GRP trims are essential for giving the finished roof its performance and appearance to your customer. There are a full range of trims and each have a different use (see GRP Trim Installation Guide on pages 13-19 for sizes and use). When you have selected the correct trims for the job the same application details apply to the range.

1. The trims should be fixed to the perimeter of the roof (diagram 2), apply a 6-8mm bead of an adhesive/sealer on the perimeter of the OSB 3 for the trim to bed in, use 13mm clout nails/staples to fix the trim into position. Firstly fix each end of the trim, then the middle and then in between with spacing of approx. 200mm between, note that trims have a matt surface and a gloss surface, the matt surface should always be used to overlay with the resin and fibreglass matting.
2. When using drip trims (A170/A200/A250) it is recommended to use an electrical planer to remove 2mm of the OSB 3 at the perimeter to allow the trim to lay flush with the deck to prevent any drainage issues/ponding.
3. Apply the 75mm FIX-R GRP Woven Glassfibre Tape with approximately half on the trim edge and half on the OSB 3, in preparation for the resin and fibreglass layer (See diagram 3).
4. Corners should be selected and used to ensure the best fit between drip trims, raised edge trims and where the trims terminate against the wall.
5. Where the edge of the OSB 3 meets a vertical wall a fillet trim must be used (D260) to bridge the 25mm expansion gap and form the upstand, this is then finished off with the simulated lead flashing trim (C100) which must be rebated into the brickwork/mortar line by using an angle grinder to make a 35mm chase cut, this forms protection from water coming down the brickwork and behind the fascia trim. Bond the (C100) into place using an adhesive/sealer.

Diagram 2



Diagram 3



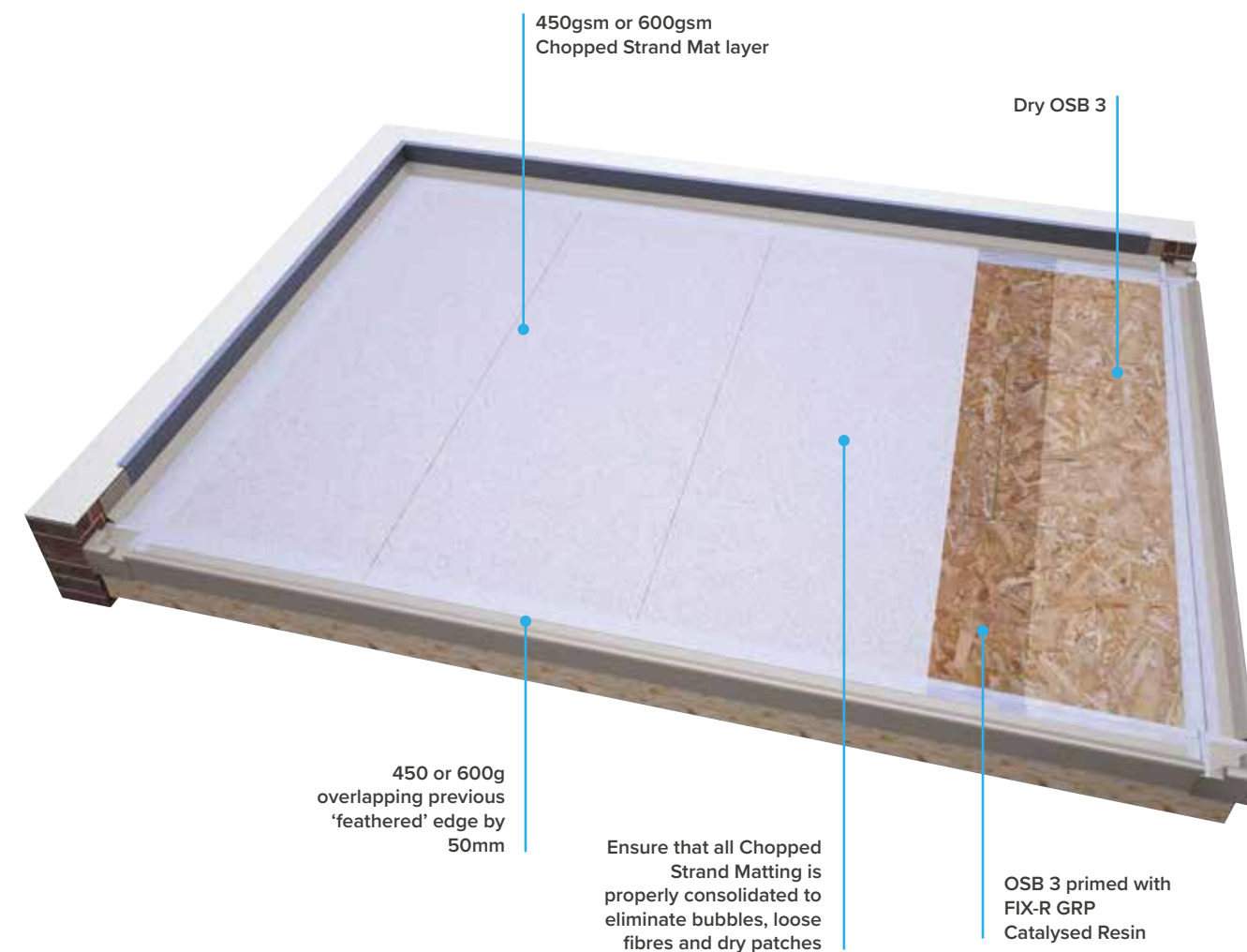
## D. APPLYING THE GRP

Before commencing work it is essential you calculate the amount of materials you will need, a materials calculator guide is shown later in this guide. It is also important to note the catalyst addition rate needed depending on the temperature (see addition rate guide on page 20).

Prior to commencing the main work, mix up the resin you require to laminate the Woven Glassfibre Tape used on the edge trims and corners. This will help you decide on what working time for the main installation of the Chopped Strand Mat (CSM) will suit you. The normal working time for the resin should be around 20 minutes per mix, never mix a container above 5kg in weight as this will potentially cure in the container if you cannot lay it in time.

1. Ensure your OSB 3 board is clean and dry and that all your trims are fixed in place, always ensure that the CSM has been stored in a dry place and that it has not been in contact with damp or water as this will severely impair the systems performance and invalidate the warranty. CSM is normally laid at 90° to the direction of OSB 3 as shown in diagram 4. When mixing the resin only make up enough for one or two rows of 2-3 metres maximum as you need enough time to consolidate the matting before laying the next row.
2. Prime your dry OSB 3 with your catalysed resin mix. Whilst wet lay your first pre-cut length of matting. This helps to ensure a full bond and holds the matting in place whilst laying. You will need approx. 1.25-1.5kg of resin per m<sup>2</sup> depending on the weight of the CSM you are using. When applying resin always use a long pile fluffy roller (18mm pile), we recommend a minimum 6" wide for the main application on an extension pole. Be wary of buying 'DIY' rollers as these haven't been tested with the FIX-R GRP system and can fall apart whilst in use.
3. Select the correct weight of CSM for either the 20 year (450g) or 25 year warranty (600g). Your matting has two edges, one a straight cut and the other a 'feathered' edge. The cut edge is laid onto the trim edge with the 'feathered' edge forming the start of the next row. When laying the next row it should overlap the 'feather' edge by a minimum of 50mm to ensure a continuous bond.
4. Use the correct consolidation tool (either paddle/fin or bubble buster roller) to ensure that all the fibres of the matting are flat and that you have no trapped air or areas of the matting without sufficient resin, if carried out correctly you will have no standing fibres, bubbles, pinholes or white fibres of the matting showing. The laminate should go semi transparent and you will be able to see the OSB 3 through the row. When this is done continue to lay each row, please note you do not need to fully cover the main trims (i.e. drip, raised and upstand) finish the matting so it covers the taped seams.
5. Prior to laying the Topcoat a few simple processes will greatly enhance the finished look and durability of the roof. Once the GRP resin layer has hardened (1-2 hours depending on temperature) use a flexi sanding head on an extension pole with a 40-60gsm sandpaper to lightly sand the main area, this ensures that any high spots, raised fibres and rough edges are smoothed. Use a small sanding block on the corners or hard to sand areas.
6. Tools or resin drips can be cleaned with FIX-R GRP Acetone Brush/Tool Cleaner whilst the resin is in its liquid form. Do not use on skin and always wear correct PPE such as gloves, eye protection and dust mask.

Diagram 4



**NEVER** lay on wet boards, never lay in the rain or if its likely to rain within 30 - 40 minutes of starting. If it does begin to rain, cover the roof and ensure that any cover does not come in contact with the wet resin as it will stick.

**NEVER** leave the catalyst or acetone in the sun or near ignition sources as both are classed as highly flammable and never confuse GRP Acetone Brush/Tool Cleaner for FIX-R GRP Catalyst.



## E. APPLYING THE TOPCOAT

FIX-R GRP Roof Topcoat has been specially formulated to give the optimal finish to your GRP roof, designed not to run and sag whilst applying.

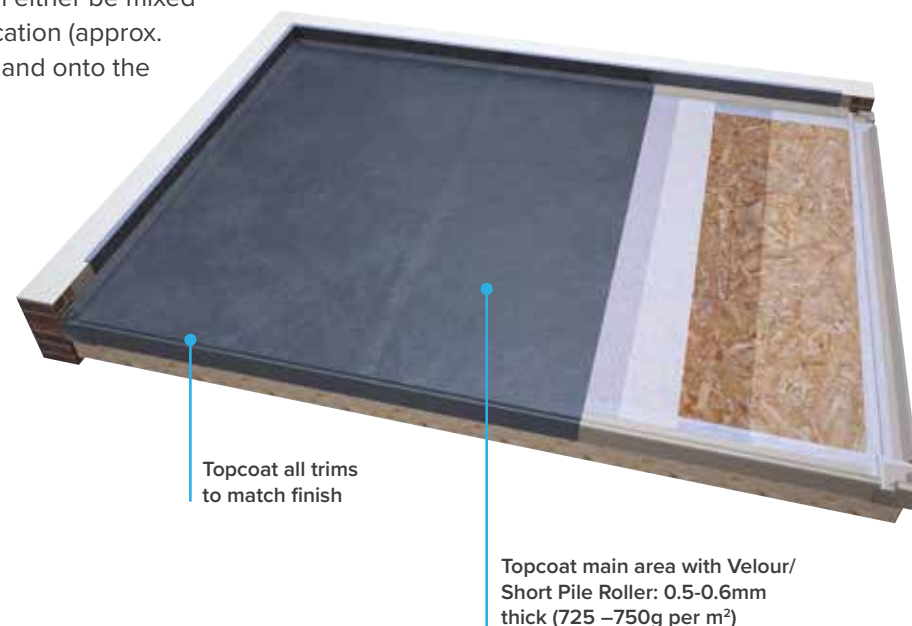
Ensuring that the FIX-R GRP resin layer is cured you can then proceed to apply the Topcoat. Topcoats are a vital layer to protect against the sun and UV weathering but unlike the resin layer it does not have reinforcement so you should never exceed 0.5-0.6mm in thickness so that it does not become brittle or crack. Putting down a thicker layer will not give any better performance and in most cases will be detrimental so take care that you don't get a build up in low lying areas such as expansion joints.

1. When calculating use you should allow approx. 750g/m<sup>2</sup> to give the correct coverage rate. Note you should calculate for around 5% loss of materials due to residues on tools and buckets etc.
2. Mix the topcoat in the same manner as the resin and again don't catalyse more than you can use within 15-20 minutes. Use a shortpile Velour roller to ensure a smooth pinhole free coating. We recommend that you paint the GRP trims and corners prior to doing the main work, care should be taken that runs and drips are avoided as there may be windows, vegetation or vehicles below. Topcoat should be showerproof in around an hour depending on the level of catalyst used and the temperature.
3. It is possible to create a slip inhibiting finish by using a GRP Iron Silicate, this can either be mixed in with the topcoat prior to application (approx. 10-15%) or can be broadcast by hand onto the wet topcoat.

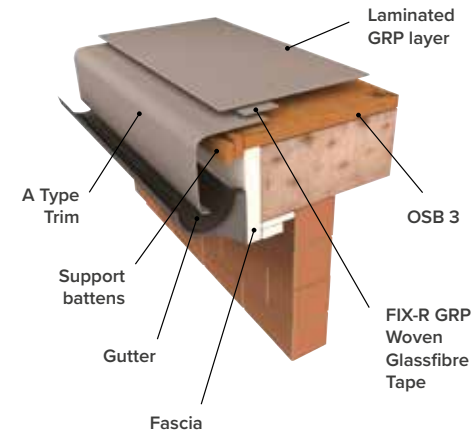
**NEVER** lay on a wet surface, never lay in the rain or if its likely to rain within 30-40 minutes of starting. If it does begin to rain, cover the roof and ensure that any cover does not come in contact with the wet topcoat as it will stick.

**NEVER** lay the topcoat at the height of the day in hot sunlight 25°C+ as this could affect the finish and look of the Topcoat or before nightfall in the winter where the temperature is likely to fall rapidly.

Diagram 5



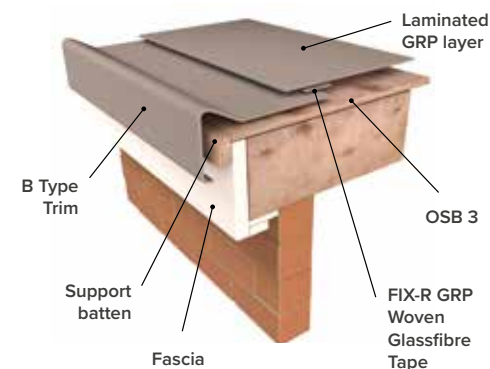
# GRP TRIM INSTALLATION GUIDE



## A170/A200 & A250 DRIP TRIMS IN SITU

These trims should be fitted to the lowest point of the roof to allow for the flow of water into the gutter. Support battens should be used to create a gap from the gutter to stop the trim flexing out of position - fix in place with a suitable adhesive/sealer. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

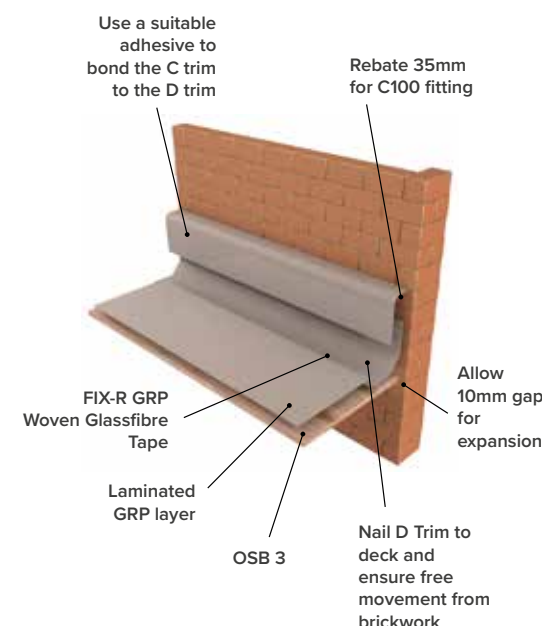
To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## B240/B260 & B300 RAISED EDGE TRIMS IN SITU

The trims should be used to prevent water flowing over the edge of the roof with the use of batten to support the trim and prevent flexing out of position. Fix in place with a suitable adhesive/sealer. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



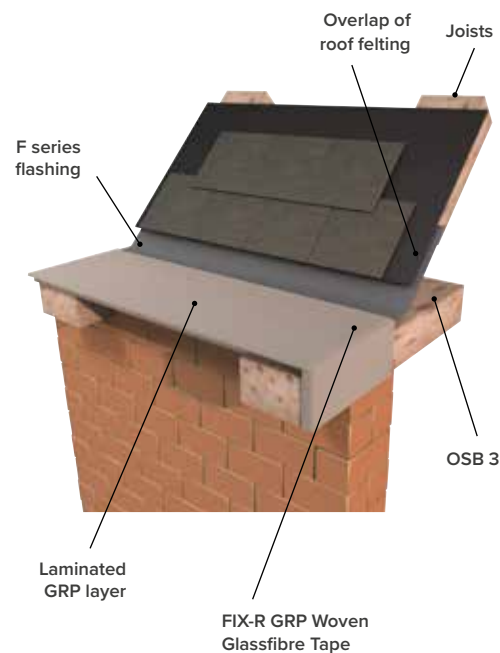
## D260/C100 & C150 WALL FILLET AND SIMULATED LEAD FLASHING IN SITU

D260 trims should be fitted against walls to provide an upstand and to allow for a 25mm gap of the deck board from the wall.

C Trims should be used to complete a water tight finish and to rebate the mortar line about the D260 trim to a depth of 35 - 45mm. The edge of the C Trim should be fitted in the rebate and sealed with a suitable adhesive/sealer. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.

Note: Do not topcoat the C trim as it is not required.

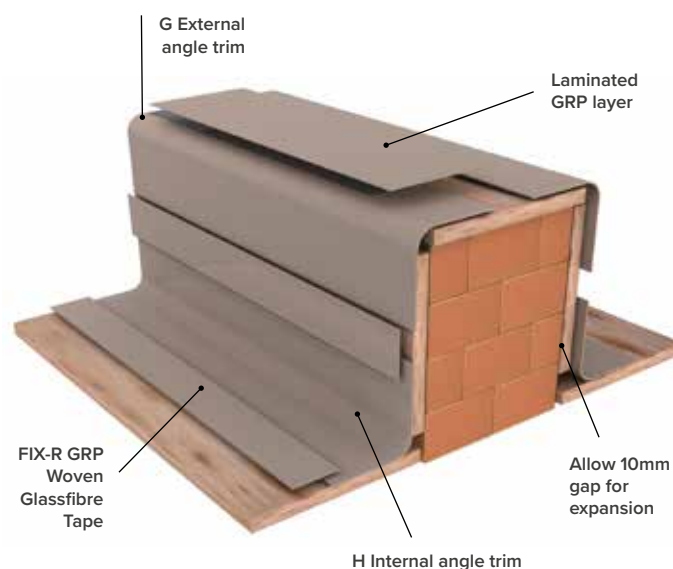


## F300/F600 & F900 FLAT FLASHING IN SITU

The F series flat flashing is used when a pitched roof meets a flat roof. Clout nails are used to fix the flashing to the deck. Then form the shape at an angle to underneath the roof felt and tiles.

The F series flat flashing can also be used to form around vertical surfaces.

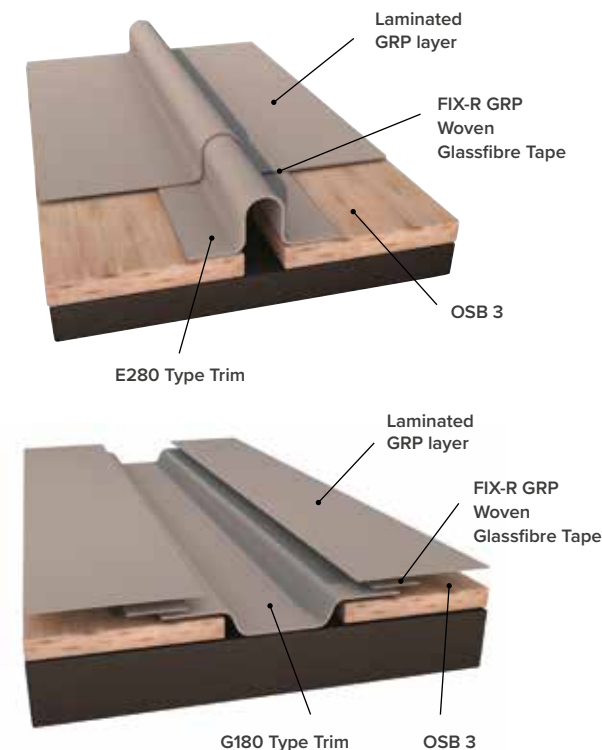
To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## G150 & G275 90° EXTERNAL ANGLED TRIMS AND H150 & H275 90° INTERNAL ANGLED TRIMS IN SITU

The G & H series of trims are used to form over a parapet wall or similar features. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## E280 & G180 EXPANSION JOINTS IN SITU

Use either the E280 or G180 gulley trim to form expansion joints on single formed areas over 50m<sup>2</sup>. The appropriate width should be cut in the deck to accommodate the trim type used. Either can be used however the G180 gulley trim gives the added benefit of channelling water for drainage. The E280 trim should be finished with a C5 closure. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## ER40/30 PRE-FORMED RIB DETAIL IN SITU

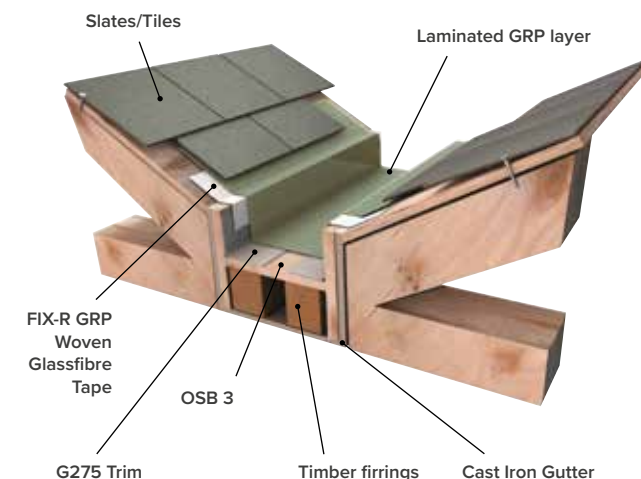
The ER40/30 trim is used to create the simulation of raised lead roll effect joints. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.

Use C6 closures to finish the ends.





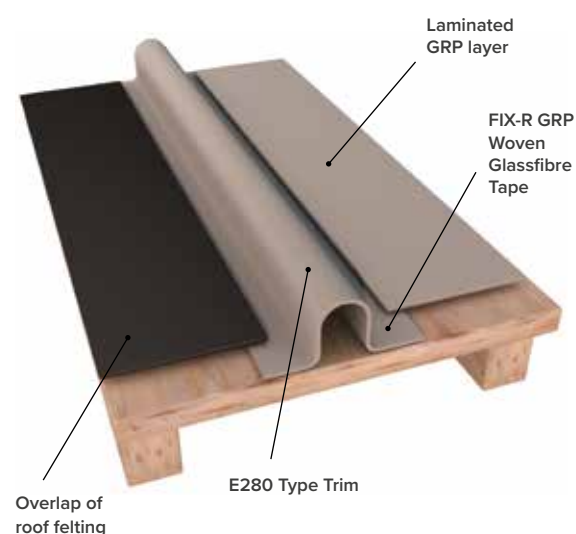
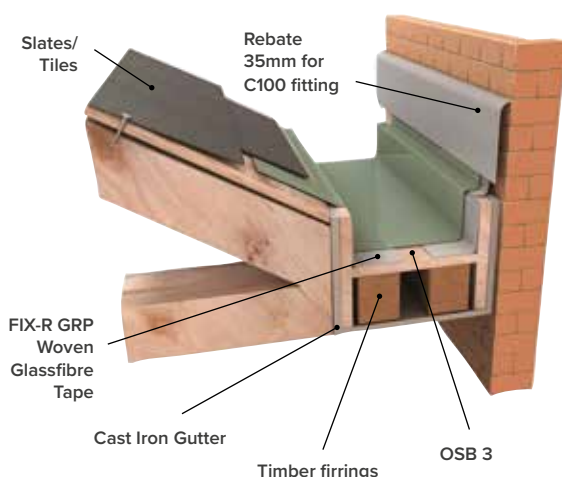
## REPAIRING BOX GUTTERS BETWEEN PITCHED AND PITCHED/WALLED ROOFS

To raise the slates/tiles lay a OSB 3 the length of the roof and then use cut lengths into the box gutter supported by firrings to create a surface to form a sealed surface with the appropriate trims and laminated GRP.

Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## E280 PRE-FORMED RIB TO FORM A JOINT TO A FELT ROOF IN SITU

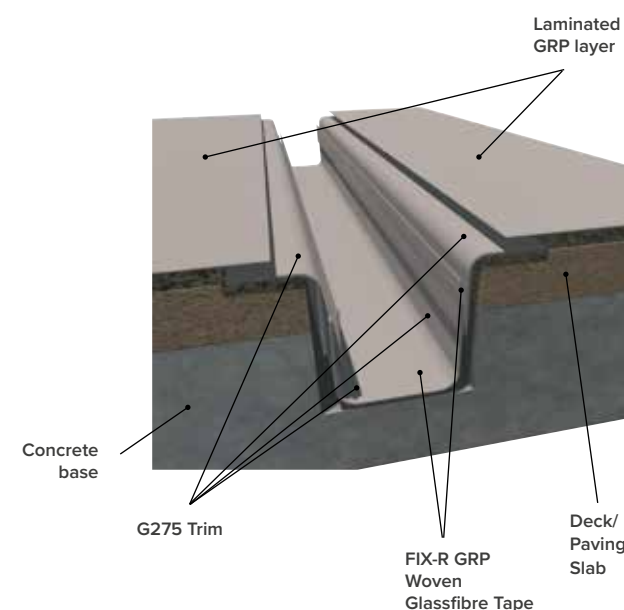
The E280 can be also used to form a joint between an existing felt roof and the GRP roof, by lifting the adjoining felt and bond the trim with a suitable adhesive/sealer both to the felt and the deck, use an additional bead where the lip of the felt meets the trim to form a watertight seal.

Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.

Use C5 closures to finish the ends.

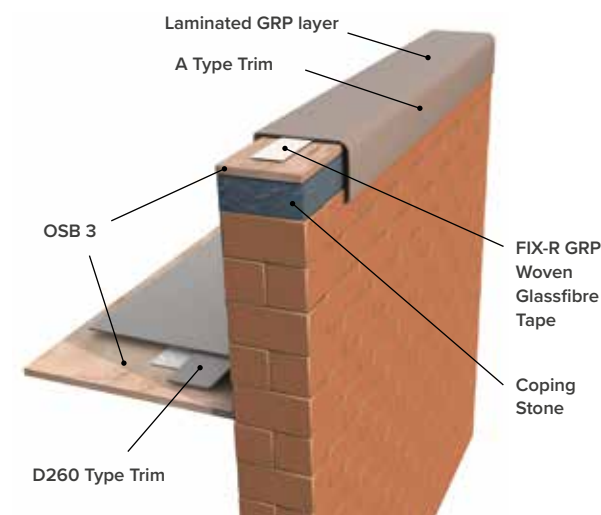


## G275 TRIM TO FORM GULLEY DETAIL IN SITU

Use the G275 to form the shoulders of the gutter and the base of the gulley, fix with nails if boarded and use a suitable adhesive/sealer in both instances if bonding to concrete. Tape all joints to ensure a strong gulley.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.



## FORMING GRP OVER PARAPET WALL WITH COPING STONE IN SITU

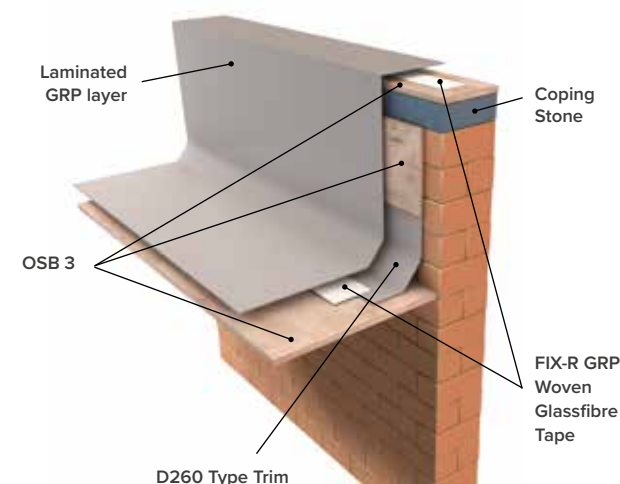
To ensure a fully sealed system is achieved when laying roofs with parapet walls it is strongly advised to form the GRP up the vertical of the wall over the coping stone and terminating in a A type drip trim

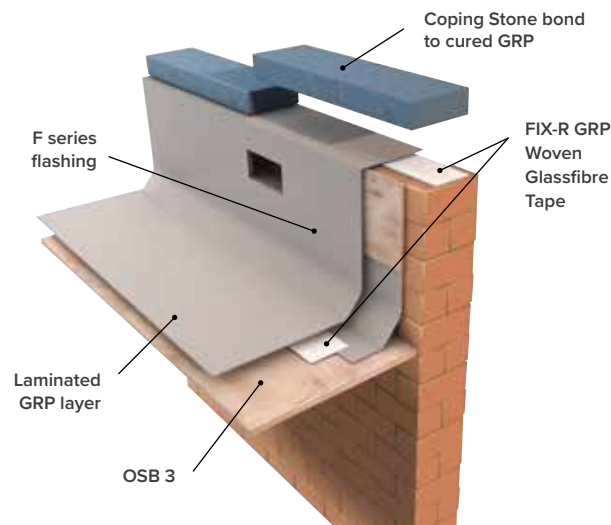
Lay the GRP in the normal manner using a D260 upstand then use the F series flashing up the wall and an A type drip trim to finish the drop on the back face of the parapet.

Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.





## FORMING GRP OUTLET THROUGH A PARAPET WALL WITH COPING STONE

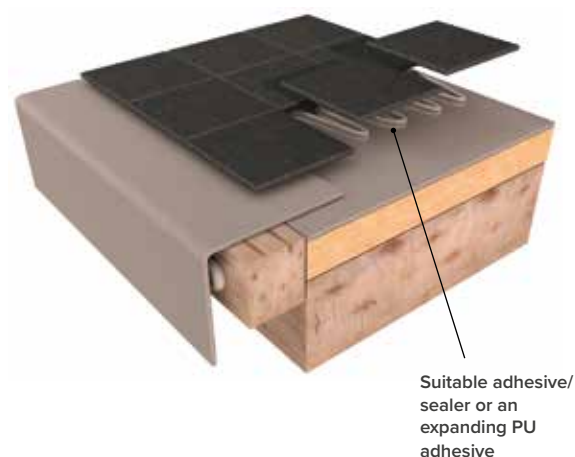
To form a lined outlet it is recommended that this is formed in conjunction with the trims being fixed. Lay the GRP in the normal manner using a D260 upstand then use the F series flashing up the wall and cut the F trim to form the outlet, trim an A type trim on the back face of the wall to create a fall to the gutter.

Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run overlap by 50mm the first trim with the next and bond with a suitable adhesive/sealer. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R GRP resin.

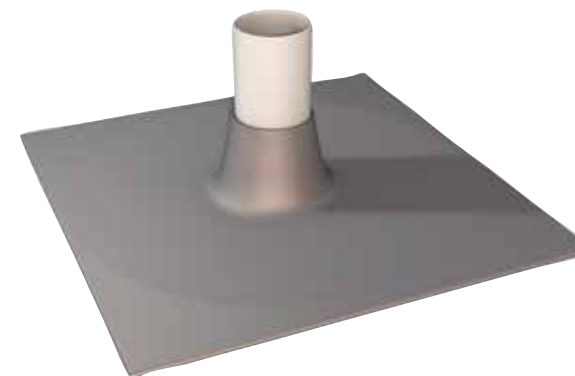
Allow to go hard and then lightly sand before finishing with catalysed FIX-R Topcoat.

Alternatively, we can offer preformed outlets for ease of installation, contact your local SIG Roofing branch for more information.



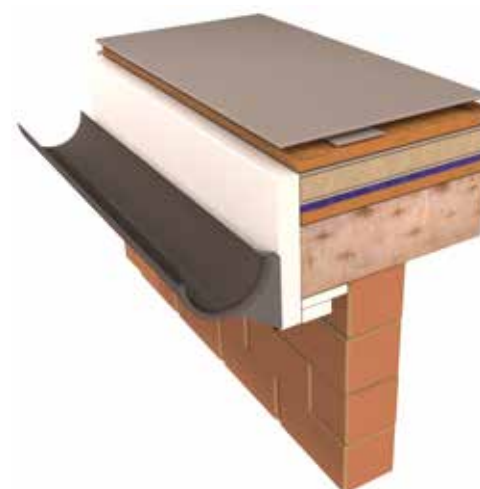
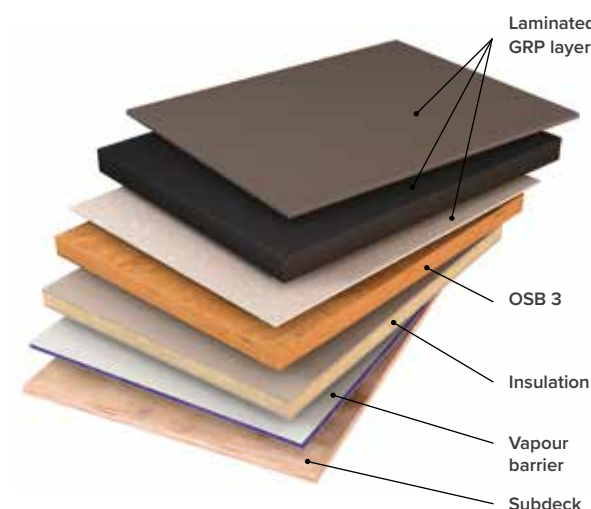
## LAYING RUBBER & PROMENADE TILES

When laying tiles onto the formed GRP roof it is strongly recommended that this is done within a short time of the GRP curing to achieve the best bond, if this is done post installation then the GRP will need to be lightly abraded, wiped clean with FIX-R Acetone cleaner. Ensuring the surface is clean dry and free of debris proceed to lay the tiles using either a suitable adhesive/sealer with a zig-zag pattern with a bead size of 8-10mm or an expanding PU Adhesive.



## FORMING GRP ON UPVC PIPE

GRP can be formed around and into UPVC pipes by abrading the UPVC first, in addition any cementitious collars should be primed along with the UPVC using G4 sealer prior to forming the GRP around the pipe. To finish the pipe correctly it is recommend wrapping the uppermost part in the FIX-R GRP Woven Glassfibre Tape and catalysed FIX-R GRP Resin to form a neat collar, finish with FIX-R GRP Topcoat in the normal manner.



## WARM ROOF CONSTRUCTION IN SITU

Forming a warm roof with GRP is achieved by laying a sub deck on the joists with 300mm centres, a vapour barrier is laid next then the insulation layer, preferably use insulation with a built in vapour barrier.

Either mechanically fix the OSB 3 to the joists below or fully bond with an expanding PU adhesive. Then form the GRP roof in the normal manner.



# CATALYST ADDITION CHART

OSB 3/FIX-R GRP Resin Temperature	28-35°C	20-27°C	12-19°C	6-11°C	0-5°C
Percentage Catalyst	1% Standard Catalyst	2% Standard Catalyst	3% Standard Catalyst	2% Winter Catalyst	3% Winter Catalyst*
Weight of resin/topcoat	Weight or volume of catalyst (ml/g)				
1kg	10ml	20ml	30ml	20ml	30ml
2kg	20ml	40ml	60ml	40ml	60ml
3kg	30ml	60ml	90ml	60ml	90ml
4kg	40ml	80ml	120ml	80ml	120ml
5kg	50ml	100ml	150ml	100ml	150ml
6kg	60ml	120ml	180ml	120ml	180ml
7kg	70ml	140ml	210ml	140ml	210ml
8kg	80ml	160ml	240ml	160ml	240ml
9kg	90ml	180ml	270ml	180ml	270ml
10kg	100ml	200ml	300ml	200ml	300ml
11kg	110ml	220ml	330ml	220ml	330ml
12kg	120ml	240ml	360ml	240ml	360ml
13kg	130ml	260ml	390ml	260ml	390ml
14kg	140ml	280ml	420ml	280ml	420ml
15kg	150ml	300ml	450ml	300ml	450ml
16kg	160ml	320ml	480ml	320ml	480ml
17kg	170ml	340ml	510ml	340ml	510ml
18kg	180ml	360ml	540ml	360ml	540ml

\*NB: Whilst FIX-R GRP can be used in cold/dry conditions any work should be completed and cured before nightfall or before temperatures fall sharply.

**DO'S & DON'T'S**

- In hot weather, up to 40°C maximum, never go below 1% addition of standard catalyst, if still curing too quickly then mix up less resin/topcoat.
- Never use more than 3% of Winter Catalyst in cold weather as this can affect the performance of the system.
- Topcoat should not be laid in the height of the day in summer or late in the day in winter.
- It is advised to mix under 5Kg of GRP Resin or GRP Topcoat at a time to ensure the best working time is achieved. Larger amounts will result in the mixture getting hotter the longer you leave it in the mixing bucket, which result in a shorter application time window.
- If material has gelled and cannot be used it should be moved to a safe location away from flammable materials.
- Always stir every mix thoroughly to ensure a streak free finish and fully cured finish.

# MATERIAL USAGE GUIDE

**RESIN/TOPCOAT/CSM/CATALYST/TAPE/BOARDS & GLUE.**

Materials Usage Guide (NB guide does not account for any materials lost in mixing, dispensing or cutting).

Roof Size (M²)	FIX-R GRP Resin 450g Chopped Strand Mat & 600g Chopped Strand Mat	FIX-R GRP Topcoat	CSM (450g Chopped Strand Mat - 20 year Guarantee)	CSM (600g Chopped Strand Mat - 25 year Guarantee)	Catalyst ml (Based on 2% addition) 450g Chopped Strand Mat & 600g Chopped Strand Mat	Woven Glass Tape (Recommended 75mm x 50M)	OSB 3 Boards (2400 x 1200mm x 18mm)	Fix-All Trim Adhesive
5	6.25kg (450g) - 7.5kg (600g)	3.75kg	2.25kg	3kg	200ml (450g) - 225ml (600g)	1	2	1
10	12.50kg (450g) - 15kg (600g)	7.5kg	4.5kg	6kg	400ml (450g) - 450ml (600g)	1	4	1
15	18.75kg (450g) - 22.5kg (600g)	11.25kg	6.75kg	9kg	600ml (450g) - 675ml (600g)	1	6	1
20	25kg (450g) - 30kg (600g)	15kg	9kg	12kg	800ml (450g) - 900ml (600g)	1	7	2
25	31.25kg (450g) - 37.5kg (600g)	18.75kg	11.25kg	15kg	1000ml (450g) - 1125ml (600g)	1	9	2
30	37.5kg (450g) - 45kg (600g)	22.5kg	13.5kg	18kg	1200ml (450g) - 1350ml (600g)	1	11	2
35	43.75kg (450g) - 52.5kg (600g)	26.25kg	15.75kg	21kg	1400ml (450g) - 1575ml (600g)	1	13	3
40	50kg (450g) - 60kg (600g)	30kg	18kg	24kg	1600ml (450g) - 1800ml (600g)	2	14	3
45	56.25kg (450g) - 67.5kg (600g)	33.75kg	20.25kg	27kg	1800ml (450g) - 2025ml (600g)	2	16	3
50	62.50kg (450g) - 75kg (600g)	37.5kg	22.5kg	30kg	2000ml (450g) - 2250ml (600g)	2	18	4
60	68.75kg (450g) - 82.50kg (600g)	45kg	27kg	36kg	2400ml (450g) - 2700ml (600g)	2	21	4
65	75kg (450g) - 90kg (600g)	48.75kg	29.25kg	39kg	2600ml (450g) - 2925ml (600g)	2	23	5
70	81.25kg (450g) - 97.5kg (600g)	52.5kg	31.5kg	42kg	2800ml (450g) - 3150ml (600g)	2	25	5
75	87.5kg (450g) - 105kg (600g)	56.25kg	33.75kg	45kg	3000ml (450g) - 3375ml (600g)	2	27	5
80	93.75kg (450g) - 112.50kg (600g)	60kg	36kg	48kg	3200ml (450g) - 3600ml (600g)	3	28	6
85	100kg (450g) - 120kg (600g)	63.75kg	38.25kg	51kg	3400ml (450g) - 3825ml (600g)	3	30	6
90	106.25kg (450g) - 127.5kg (600g)	67.50kg	40.5kg	54kg	3600ml (450g) - 4050ml (600g)	3	32	6
95	112.50kg (450g) - 135kg (600g)	71.25kg	42.75kg	57kg	3800ml (450g) - 4275g (600g)	3	33	7
100	118.75kg (450g) - 142.5kg (600g)	75kg	45kg	60kg	4000ml (450g) - 4500g (600g)	3	35	7

ROLLERS/TOOLS/BRUSHES/BUCKETS/ACETONE.

Roof Size (M²)	3" Resin Roller (18mm Fluffy)	6" or 9" Resin Roller (18mm Fluffy)	3" Velour Roller (4mm Short pile)	6" or 9" Velour Roller (4mm Short pile)	3" Paddle/Fin Roller	6" or 9" Paddle/Fin Roller	2" Brush	4" Brush	5L Bucket	10L Bucket	Catalyst Measure/Dispenser	Acetone Cleaner
5	1	1	1	1	1	1	1	2	1	2	1	5ltrs
10	1	2	1	2	1	1	1	2	1	2	1	5ltrs
20	2	3	2	2	1	1	2	2	1	2	1	5ltrs
30	2	3	2	2	1	1	2	4	1	2	1	5ltrs
40	2	3	2	2	1	1	2	4	1	2	1	5ltrs
60	3	4	3	3	1	1	4	6	2	3	1	5ltrs
80	3	4	3	3	1	1	4	6	2	4	1	10ltrs
100	4	6	4	4	2	2	5	8	2	5	1	10ltrs
150	5	8	5	5	2	2	6	10	3	6	1	10ltrs
200	6	10	5	8	3	2	6	10	4	8	1	10ltrs

# FREQUENTLY ASKED QUESTIONS

Once installed FIX-R GRP system will remain watertight and look great for many years. The following Q&A's look to answer some of the common questions and highlight potential installation pitfalls to avoid.

## 1. DOES THE WEATHER/TEMPERATURE AFFECT FIX-R GRP WHEN INSTALLING?

Yes the temperature and weather are main reasons that GRP roof installations fail, so follow these steps to avoid problems.

- Always check local weather forecast.
- In the summer avoid using product above 35°C and in winter below 5°C. Check the temperature of the deck and materials with an infrared thermometer if unsure.
- Keep materials at an ambient temperature and avoid either leaving outside in cold/sun before commencing work (ideally around 15°C for best performance).
- In either winter or summer avoid mixing big amounts of resin/topcoat in one go, ideally 5kg maximum. This will give you the time to work with the product and avoid having to rush the finish and waste materials.
- Always avoid the boards from getting wet, NEVER lay the GRP System onto wet/damp boards, if it rains whilst applying always cover.
- Don't apply the topcoat at height of day in direct sunlight and avoid applying after 3pm in winter as it will take longer to cure as it gets colder and potentially remain tacky.

## 2. THE GRP LAYER LOOKS MILKY WHITE

If this happens, it has been caused by water which has affected the product hardening properly. Cut away the affected area and sand edges, wipe with acetone and overlay the Chopped Strand Mat with an overlap of around 75mm onto unaffected area fresh resin/CSM.

## 3. THE TOPCOAT IS STAYING TACKY AND NOT GOING HARD OR I HAVE STREAKS OF SOFT TOPCOAT?

It is essential you always add Catalyst to every mix, get into a routine of double checking that you've added the catalyst and mixed it thoroughly, most issues are due to incorrect addition or forgetting to add it before applying. Never confuse Acetone cleaner for catalyst.

## 4. THE RESIN/TOPCOAT HAS GELLED OR HARDENED IN THE BUCKET BEFORE I COULD USE IT?

This is a common problem from either adding too much catalyst and not changing it to suit the temperature or from mixing too much in one go, the more you mix the hotter it gets if left in the bucket. Never mix a full keg.

## 5. THERE ARE WHITE FIBRES OF THE CHOPPED STRAND MAT SHOWING?

This is due to not applying the correct amount of resin and 'wetting' out the CSM, always ensure that all fibres are coated with resin and consolidated with the paddle or fin roller before laying the next row.

## 6. THERE ARE WINDOWS, VEHICLES OR VEGETATION CLOSE TO THE ROOF, WHAT SHOULD I DO?

Try to cover any area that may be affected by spills, splashes or drips with polythene sheeting or similar, when using the paddle/fin roller vigorously this can lead to resin spray that can go beyond the perimeter of the roof. Work the roller steadily and systematically to avoid this and if you do get liquid resin on surfaces it can be wiped clean with a clean cloth with a small amount of acetone on. Hardened resin/topcoat will bond to a lot of surfaces and will require mechanical removal, so this is best avoided.

## 7. THE TOPCOAT IS COMING AWAY FROM THE RESIN LAYER OR CRACKING?

Normally this occurs if the topcoat has been laid on a wet surface or too thickly. You should remove any loose topcoat, abrade, acetone wipe and then reapply topcoat in the affected area to the recommended thickness of between 0.5 - 0.6mm taking care not to overcoat the surrounding area too much.

## 8. THE CUSTOMER IS COMPLAINING OF A CRACKING NOISES OR SHARP/SUDDEN BANGS

Due to the nature of GRP it will expand/contract with the hot and cold weather as well as the OSB 3 boards and as such if the OSB 3 hasn't been fitted with the correct expansion gaps or boards butted up or no expansion joint above 50m² this will give rise to these noises. Whilst this may not lead to the roof failing it can often be the source of ongoing complaints from the customer.

## 9. THERE IS STANDING WATER/PONDING ON THE ROOF?

The roof has either not been fitted with adequate fall to allow for drainage or the boards have been laid incorrectly, ponding doesn't affect the performance of the roof but can be unsightly and should be avoided.



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