FIX-R

PITCHED AND FLAT ROOFING SOLUTIONS

FLEXI-GRP

INSTALLATION GUIDE

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FIX-R
PITCHED AND FLAT ROOFING SOLUTIONS

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.

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

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FIX-R
PITCHED AND FLAT ROOFING SOLUTIONS

FIX-R FLEXI 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.

FLEXI-GRP PRIMER

This multi surface primer is for use when overlaying existing roofing substrates or on new surfaces to promote the adhesion of Flexi-GRP to the surface.

Available in 5kg ℮.

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

GRP ROOF CATALYST

The Catalyst is mixed with the Flexi-GRP Primer to start the reactive curing process before the mixture is then applied to the timber deck.

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:

300GSM | 110m Roll Lengths | 15 Year Material Warranty*
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

FLEXI-GRP

The basecoat and 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 18kg ℮

Colour: Grey

Hazard Classification: H226, H315, H319, H317, H361d, H335, H372, H350, H340

GRP ROOF CATALYST

Catalyst is added to the Flexi-GRP to start the reactive curing process and the mixture is applied to the roof giving excellent coverage and application viscosity, designed not to run and sag whilst applying.

Available in 1kg and 5kg ℮.

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

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 tools.

Available in 1L, 5L and 25L ℮.

Hazard Classification: H225, H319, H336

Safety Data Sheets are available on request

FIX-R FLEXI GRP SYSTEM

IDEAL FOR

- ASPHALT / FELT ROOFS ✓
- BALCONIES ✓
- CEMENT FIBRE ROOFS
- COMMERCIAL ✓
- COMPLEX DETAILING ✓
- CORRUGATED METAL ROOFS
- DOMESTIC ✓
- DORMER ROOFS ✓
- EXTENSIONS ✓
- FLASHINGS
- GARAGES ✓
- GREEN ROOFS
- HOSPITALS
- LARGE ROOFS ✓
- NEW BUILD
- RECOATING FAILED SINGLE PLY ROOFS ✓
- REPAIR / REFURBISHMENTS ✓
- SCHOOLS
- SMALL ROOFS ✓
- WALKWAYS ✓
- WINTER APPLICATION ✓

SCAN ME

To find out more about FIX-R FLEXI GRP SYSTEM

PREPARATION

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

Storage instructions can be found on the product label.

APPRAISING TYPE OF INSTALLATION

FIX-R FLEXI-GRP system can be applied to a range of surfaces. Existing roofs deemed to be sound (see Overlaying Existing Roof Appraising Roof Condition) can be overlaid with FLEXI-GRP.

Not all roofs will be suitable without remedy first, the guide Overlaying Existing Roof Appraising Roof Condition details suitability. The FLEXI-GRP system can also be laid onto new OSB 3 where the roof deck requires replacement.

OVERLAYING EXISTING ROOF APPRAISING ROOF CONDITION

When appraising an existing roof, care must be taken to identify potential defects and points of failure prior to installation, all defects or points of failure should be remedied before commencing further. It is strongly recommended that core samples are taken to ascertain the existing structure and the condition of the underlying substrate as this forms part of the system warranty. Where roofs are completely sodden or saturated it would be recommended that the affected areas are removed and replaced with suitable materials to make the roof sound. When an area is defective through decay or wear it must be cut out and repaired to form a solid surface for the application of FLEXI-GRP. Please refer to the separate guide on preparation of different surface materials that are in common use.

Part of the appraisal should take into account the existing detailing such as upstands, drip trims and outlets, these will form part of the overall system and need to be in suitable condition to avoid a system failure, any redundant or failed details need to be either removed or replaced prior to application.

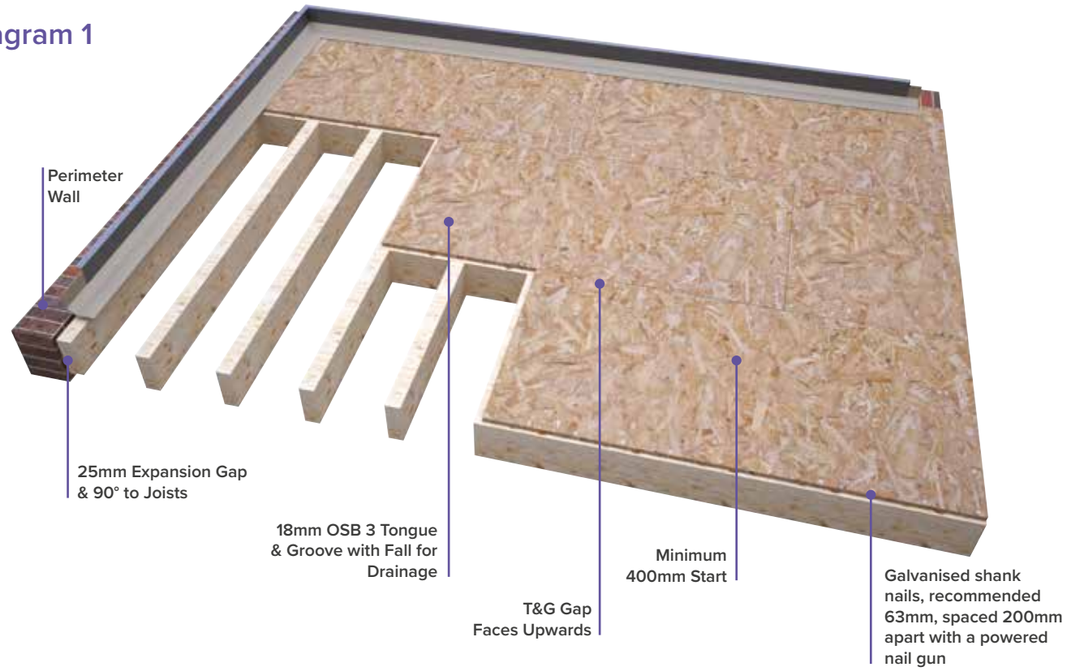
Please read through this guide fully to understand the suitability of surfaces that can be overlaid, FLEXI-GRP has been designed to perform on a range of roofing materials however due to a wide variety of seemingly similar materials that vary in manufacture and quality, it is recommended that a small area is tested for the strength of bond before commencing the main body of work.

FLEXI-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 pages 22-23 to make sure you have everything you need to do the job.
7. Read the catalyst addition guide on page 21 to take account of the temperature on the day of installation.

Diagram 1



B. PREPARING THE DECK

Like any good construction it's only as good as its foundations and the same is true for FLEXI-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.

1. The boards must be laid at 90° to the joists or existing boards i.e. 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 to reduce the possibility of damaging the ceiling below. Standard hammers can be used in areas that have no ceiling below.
3. It is vital to note that any one flat area above 50m^2 must include an expansion joint (see GRP Trim Installation Guide from page 14-15).

SURFACE PREPARATION FOR OVERLAY

1. The vital part of the installation is to ensure that the surface and the substrates beneath are not wet, laying on wet materials will lead to a failure of the system through lack of bond between materials, this should be the case for virtually all liquid systems and not just in the case of FLEXI-GRP. This point cannot be over emphasised as in the majority of cases, roof failure is caused by poor preparation prior to application.
2. Check the moisture content of the surface and underlaying substrates with a core sample and a good quality moisture meter. The moisture content reading should be no more than 20% WME (Wood Measurement Equivalent), above this level the moisture is considered problematic, especially with wood as this is considered the point of where wood starts to rot and will require further investigation.
3. Surface water must be removed and it is recommended to address areas that show ponding as this will also pond on the finished surface once completed. Ponding may indicate that either the roof deck has started to fail, that the supporting trusses are bowed or that the original roof was not designed with sufficient fall in the first place. If the substrates are showing a higher than 20% WME reading then it must either be allowed to dry out naturally or with the use of forced drying using warm air dryers. Direct flame drying should be avoided due to the risk of fire.
4. All surfaces must have the following treatment prior to application (individual preparation set out in addition).
    - Remove all loose surface materials such as chippings, any embedded chippings must be removed by mechanical means.
    - All areas should be cleaned, removing dirt, debris, organic growth such as moss and lichen.
    - Asbestos Containing Materials (ACM) or suspected Asbestos sheeting should be investigated and remediated by specialist contractor before any works are conducted that may disturb the existing item.
    - Areas that have had organic growth should be treated with an antifungal spray or distilled vinegar, allow moss and lichen to die back and remove with a stiff bristle broom or similar.
    - **Felt**: Remove damaged or badly decayed areas to ensure a sound surface is achieved to lay FLEXI-GRP on. Blisters should be star cut, peeled back, allowed to dry then rebonded to the substrate before further application, this also applies to loose felt if in good condition. Prime with FLEXI-GRP Primer before applying the FLEXI-GRP.
    - **Asphalt**: Areas with cracks above 5mm should be cleaned and made good with a suitable repair adhesive/compound, areas that have blown/blistered should be assessed and repaired as appropriate. Allow all repairs to properly cure before applying FLEXI-GRP Primer.
    - **GRP/Fibreglass**: Remove any flaking, cracked or loose topcoat and sand back to a firm base. For best results it is recommended that a light surface sanding is carried out followed by an acetone wipe using FIX-R GRP Acetone, this should include any existing trims that also need to be laminated in the same way as the main roof. Primer is not required but would be recommended if a higher strength bond was required.
    - **Concrete/Brick & Screed**: Smooth concrete should be lightly abraded to achieve a clean dry surface. Remove any loose debris and any cracks or areas that have broken out should be repaired with a suitable compound and allowed to cure prior to application. Wet surfaces must be dried thoroughly before application, application to fresh concrete/screed (under 30 days) is not recommended unless full cure of the concrete is achieved. Prime surface with FLEXI-GRP Primer, failure to do so will lead to a system failure and invalidate the system warranty.
    - **Metals**: FLEXI-GRP can be used on common metals used in general construction of a combined roof. FLEXI-GRP should not be considered if laying on to an all metal surface, but can be used where fixtures and fittings form part of a standard roof construction. It is not recommended to overlay onto rusting metal, if it is not possible to remove/replace it would require a rust convertor based on phosphoric acid that would need to be cleaned and dried as per manufacturers instructions. Clean, abrade and acetone wipe prior to application of FLEXI-GRP Primer, ensure PPE is correctly used when handling lead in particular. Once primer has lost most of it's tack then the FLEXI-GRP can be applied. Primer will be active for approximately 1 hour, if left for longer then a second coat of FLEXI-GRP Primer should be applied.

C. APPLYING THE GRP TRIMS

GRP trims are essential for giving the finished roof its performance and appearance to your customer.

1. There are a full range of trims and each have a different use (see GRP Trim Installation Guide on pages 14-20 for sizes and use). When you have selected the correct trims for the job the same application details apply to the range.

2. The trims should be fixed to the perimeter of the roof (diagram 2), apply a 6-8mm bead of suitable adhesive/sealer on the perimeter of the OSB 3 for the trim to bed in, then 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 Flexi-GRP and CSM.

3. 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.

4. Apply the GRP Woven Glassfibre Tape embeded in a coat of Flexi-GRP with approximately half on the trim edge and half on the OSB 3, in preparation for Flexi-GRP and CSM layer (See diagram 3).

5. 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.

6. 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

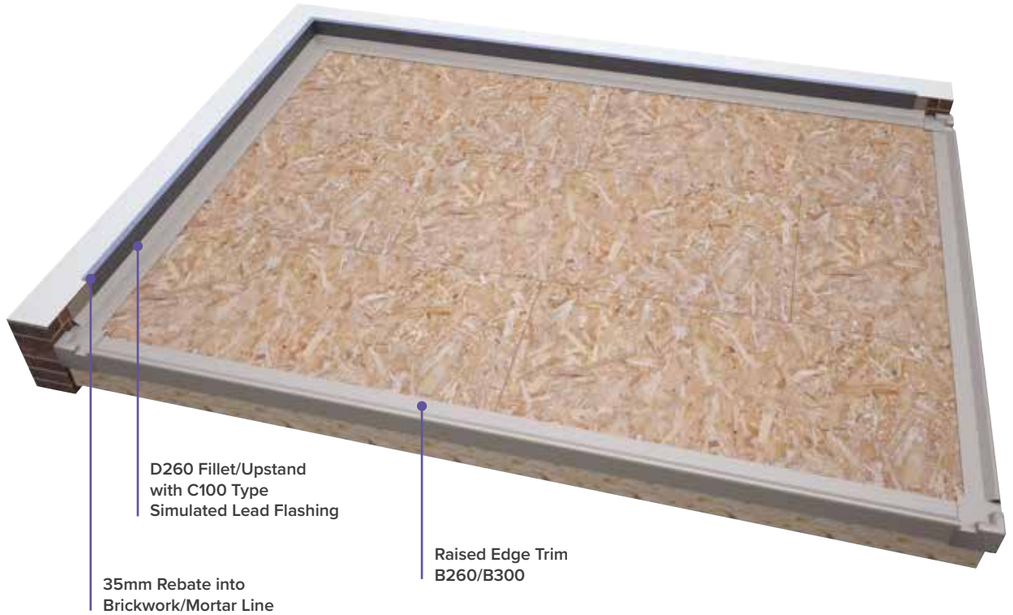


Diagram 3

APPLYING FLEXI-GRP

Prior to commencing the main field area installation (after the primer has been applied) mix up the quantity of FIX-R Flexi-GRP that you require to laminate the FIX-R GRP Woven Glassfibre Tape onto any perimeter 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 FIX-R Flexi-GRP 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. Use the FLEXI-GRP coverage guides on page 21 to calculate how much FLEXI-GRP Primer and FLEXI-GRP will be required to complete the installation. This will be determined on the weight of the CSM chosen and surface finish. Using heavier weight matting achieves a longer materials warranty. Also ensure you have sufficient FIX-R GRP Roof Catalyst and the correct grade for the time of year (Standard or Winter).

2. Once all of the relevant surface preparation has been carried out you are ready to start installing the system. The CSM should be laid in the direction of the fall of the roof to help drainage and avoid areas of standing water, you will be laying in rows of CSM which are approx. 975mm wide allowing for the feathered edge, CSM has a straight cut edge and opposite is the feathered edge which will be used to integrate the next row of CSM using a 50mm overlap. If this is done correctly you can achieve a virtually seamless joint that will look aesthetically better and aid drainage. Work should commence on the outer perimeter away from the main wall if one exists, start with the straight cut edge of the mat. Best practice is to pre-measure and cut the rows of CSM prior to applying the FLEXI-GRP, this will ensure you have the maximum working time of the materials.

3. Always fully stir the FLEXI-GRP in the original container. Use a plastic paint stirrer or similar ensuring the mixer is clean. Do not use an electrical stirrer/paddle mixer as this will introduce excessive air into the mixture that could lead to pinholes in the cured product. Once completely stirred the FLEXI-GRP can be poured into an appropriate bucket or scuttle, to get the best accuracy and to ensure a consistent cure rate the material should be weighed using either portable battery operated scales or hand scales. Using a dosimeter measure the correct amount of appropriate FIX-R GRP Roof Catalyst, mix into the container (using a separate stirrer to avoid introducing catalysed material into the original container), ensuring the catalyst is stirred in fully to the bottom of the container. Handle catalyst with care and store in shade when not in use, use the correct PPE.

4. Having calculated what you will need for each run mix in batches of no more than 5kg lots, you should calculate that you will need 600g/m^2 as the finishing coat, this applies to all weights of CSM and surface finish, e.g. 1m^2 300gsm smooth = 900g + 600g finishing coat - Total 1.5kg/m^2. Roller apply the FLEXI-GRP to the surface using a short pile velour roller then roll out the CSM into the FLEXI-GRP using the same velour roller to consolidate the CSM making sure there are no pockets of air and that the CSM is fully wetted with no white fibres remaining. On smooth surfaces and especially on new OSB 3 decks it is recommend that a bubble buster or fin consolidating roller is used as well after the use of the velour.

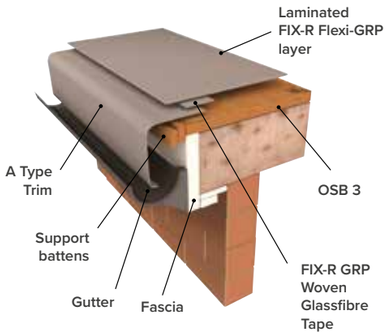
5. Once the row is completed you have the choice to either finish the row wet on wet using the coverage rate at 600g/m^2 or for the best finish you should continue onto the next row. To do this apply the FLEXI-GRP as for the first row and again roll the CSM down into it, this time making sure the straight cut edge is laid into the feather edge of the previous row by 50mm. Consolidate the joint with the velour roller or if onto a smooth surface use a fin roller to achieve the ultimate joint with low print through on the finished surface. Continue this process until meeting the end of the surface, i.e. a wall upstand or opposite side of roof edge, allow to cure for 45-60 minutes (dependant on weather conditions) then apply the 600g/m^2 finish coat across the entire surface including perimeter trims etc, this will give the best aesthetic finish to the roof however both methods will achieve a fully waterproofed envelope once cured.

6. For areas that require a slip inhibiting surface, such as walkways you will need to apply a suitable Carborundum grit. This can either be broadcast into a an additional 300g/m^2 of layer of FIX-R Flexi-GRP to bed the grit into, which acts as an adhesive, is applied after the main roof has cured by mask taping the area that is to have the FLEXI-GRP applied then the Scangrit is broadcast by hand onto the wet FLEXI-GRP and allowed to cure (Note: remove the mask tape whilst the FLEXI-GRP is still soft) or you can mix the Scangrit directly (using 10-15% by weight) into the FLEXI-GRP and then apply onto the surface in the area marked by the masking tape.

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.

GRP TRIM INSTALLATION GUIDE



A170/A200 & A250 DRIP TRIMS IN SITU

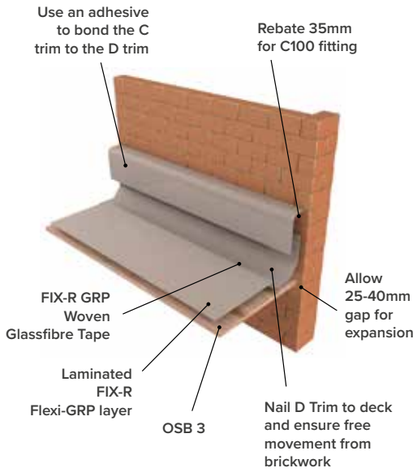
These trims should be fitted to the lowest point of the roof to allow for the flow of water into the gutter. Support battens should be used to create a gap from the gutter to stop the trim flexing out of position - fix in place with an appropriate adhesive. Clout nails should be used to fix the trim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

To create a continuous run, overlap the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Flexi-GRP.

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. 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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Flexi-GRP.

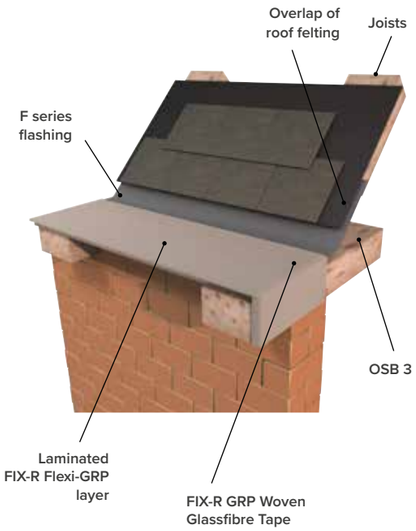


D260/C100 & C150 WALL FILLET AND SIMULATED LEAD FLASHING IN SITU

D260 trims should be fitted against walls to provide an upstand and to allow for a 25-40mm 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 an appropriate adhesive. 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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Flexi-GRP. Do not topcoat the C trim as it is not required.

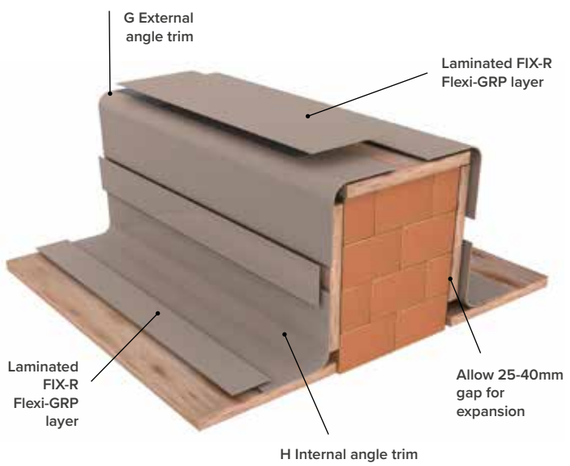


F300/F600 & F900 FLAT FLASHING IN SITU

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, tiles or slates.

The F series flat flashing can also be used to form around vertical surfaces air vents and protruding pipes.

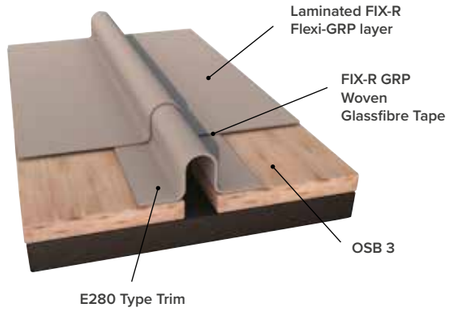
To create a continuous run, overlap the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Flexi-GRP.



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 around a square edge detail. Allow for a minimum 25mm - 40mm gap between the OSB3 deck and the wall. 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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP. Allow to go hard and then lightly sand before finishing with catalysed FIX-R Flexi-GRP.

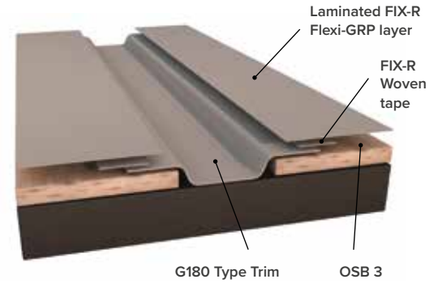


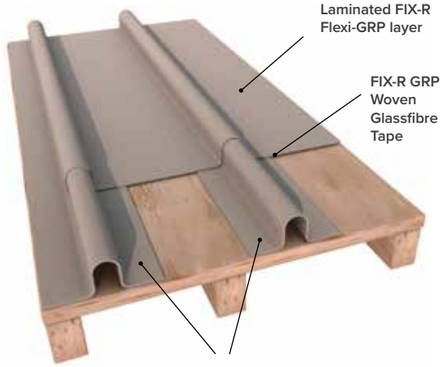
E280 & G180 EXPANSION JOINTS IN SITU

Use either the E280 or G180 gulley trim to form expansion joints on single formed areas over 50m^2. 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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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





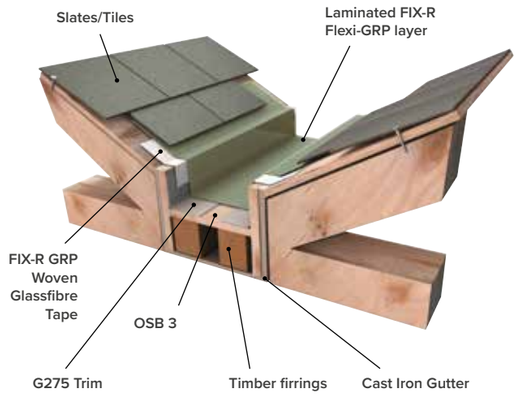
ER40/30 PRE-FORMED RIB DETAIL IN SITU

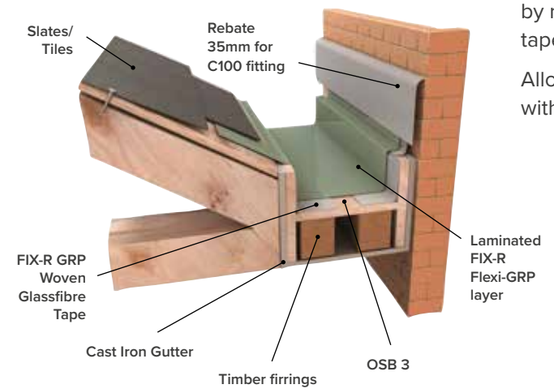
The ER40/30 trim is used to create the simulation of raised lead roll effect joints. Clout nails should be used to fix the trim to the deck - do not nail the trim to the battens.

To create a continuous run, overlap the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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

Use C6 closures to finish the ends.





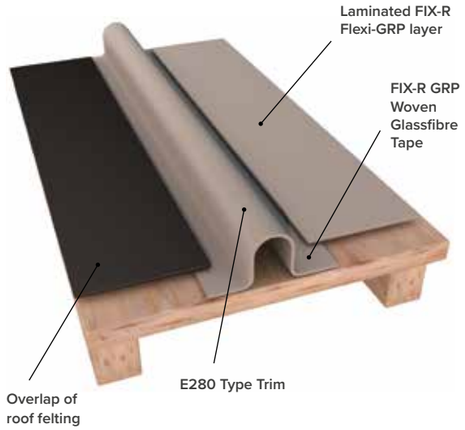
REPAIRING BOX GUTTERS BETWEEN PITCHED AND PITCHED/WALLED ROOFS

To raise the slates/tiles lay an OSB 3 the length of the roof and then use cut lengths into the box gutter supported by timber firrings to create a surface to form a sealed surface with the appropriate trims and laminated Flexi-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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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



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

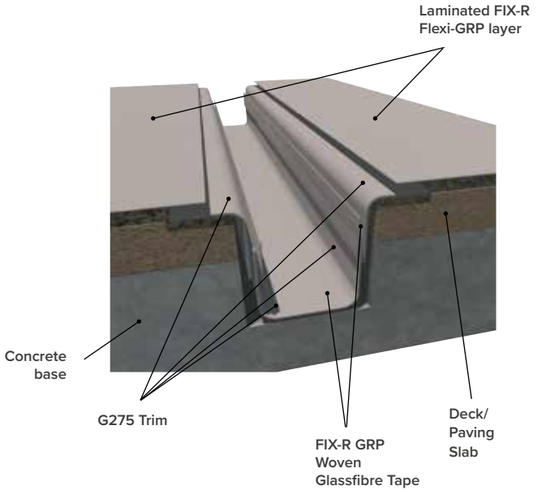
The E280 can be also used to form a joint between an existing felt roof and the GRP roof, by lifting the adjoining felt and bond the trim with a suitable adhesive both to the felt and the deck, use an additional bead where the lip of the felt meets the trim to form a watertight seal.

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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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

Use C5 closures to finish the ends.

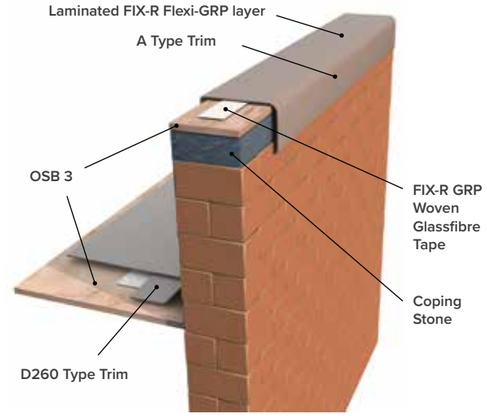


G275 TRIM TO FORM GULLEY DETAIL IN SITU

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

To create a continuous run, overlap the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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



FORMING GRP OVER PARAPET WALL WITH COPING STONE IN SITU

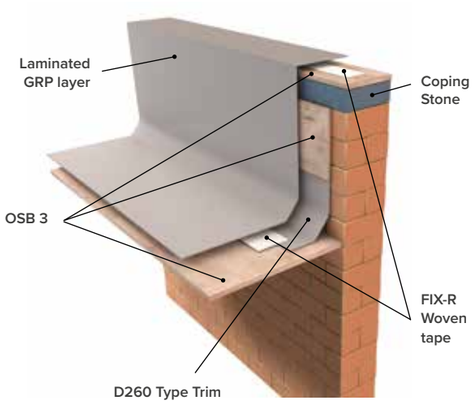
To ensure a fully sealed system is achieved when laying roofs with parapet walls it is strongly advised to form the FIX-R Flexi-GRP up the vertical of the wall over the coping stone and terminating in a A type drip trim

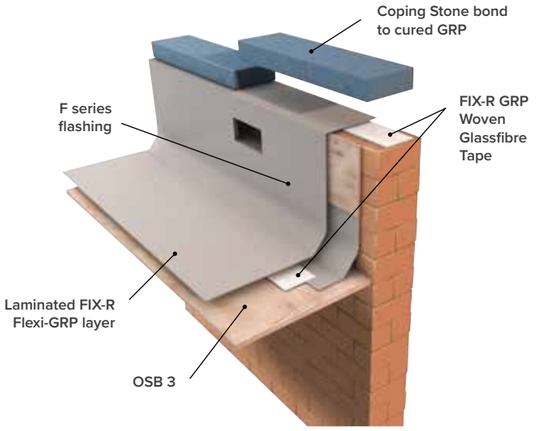
Lay the GRP in the normal manner using a D260 upstand then use the F series flashing up the wall and an A type drip trim to finish the drop on the back face of the parapet.

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 the drip trims by 50mm onto the next and bond with an adhesive. Finish off by reinforcing the joints with FIX-R GRP woven glassfibre tape and catalysed FIX-R Flexi-GRP.

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





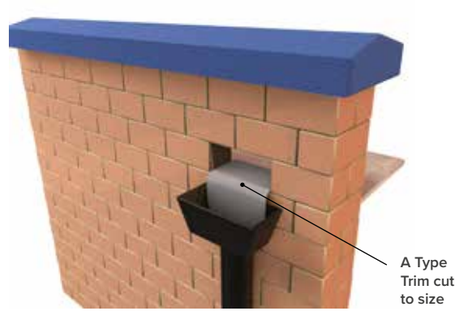
FORMING GRP OUTLET THROUGH A PARAPET WALL WITH COPING STONE

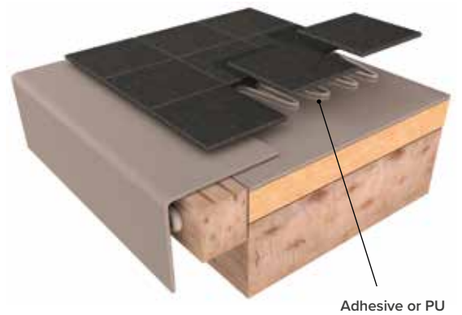
To form a lined outlet it is recommended that this is formed in conjunction with the trims being fixed. Lay the FIX-R Flexi-GRP in the normal manner using a D260 upstand then use the F series flashing up the wall and cut the F trim to form the outlet, trim an A type trim on the back face of the wall 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 an appropriate adhesive. Finish off by applying the FIX-R GRP Woven Glassfibre Tape with catalysed FIX-R Flexi-GRP.

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



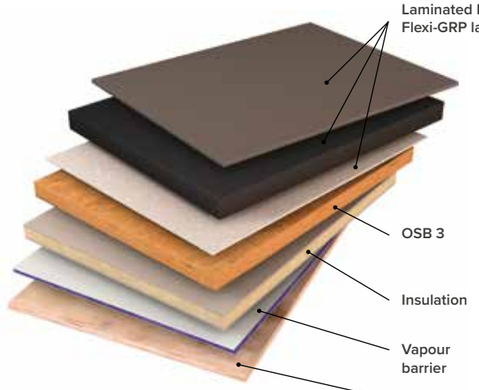


LAYING RUBBER & PROMENADE TILES

When laying tiles onto the formed FIX-R Flexi-GRP roof it is strongly recommended that this is done within a short time of the FIX-R Flexi-GRP curing to achieve the best bond, if this is done post installation then the FIX-R Flexi-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 with a zig-zag pattern with a bead size of 8-10mm or an expanding PU adhesive.

FORMING GRP ON UPVC PIPE

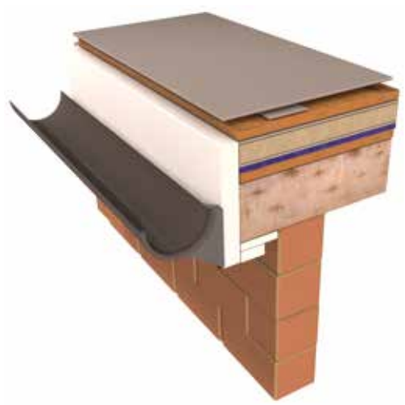
FIX-R Flexi-GRP can be formed around and into UPVC pipes by abrading the UPVC first, in addition any cementitious collars should be primed along with the UPVC using KoverTek G40 Sealer prior to forming the FIX-R Flexi-GRP around the pipe. To finish the pipe correctly it is recommend wrapping the uppermost part in the FIX-R GRP Woven Glassfibre Tape and FIX-R Flexi-GRP to form a neat collar, finish with FIX-R Flexi-GRP in the normal manner.



WARM ROOF CONSTRUCTION IN SITU

Forming a warm roof with FIX-R Flexi-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.

Mechanically fix the OSB 3 to the joists below.



CATALYST ADDITION CHART FOR FLEXI-GRP PRIMER & FLEXI-GRP

Surface/FLEXI-GRP 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 Primer/Flexi-GRP	**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
15kg	150ml	300ml	450ml	300ml	450ml
18kg	180ml	360ml	540ml	360ml	540ml

*NB: Whilst FLEXI-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

- To achieve the most accurate catalyst addition always weigh the FLEXI-GRP Primer or FLEXI-GRP in a bucket and then add the correct amount of catalyst using a dosimeter
- In hot weather, up to 40°C maximum, never go below 1% addition of standard catalyst, if still too quick mix up less FLEXI-GRP Primer or FLEXI-GRP
- Never use more than 3% of Winter Catalyst in cold weather, as indicated in the above Catalyst Addition Chart, as this can affect the performance of the system
- It is advised to mix under 5Kg of FLEXI-GRP Primer or FLEXI-GRP 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 move to a safe location away from flammable materials
- Always stir every mix thoroughly to ensure a streak free finish and fully cured finish.

FLEXI-GRP PRIMER COVERAGE GUIDE

FLEXI-GRP Primer is a high performance multi surface primer that promotes the adhesion between different surfaces and FLEXI-GRP, for use when overlaying existing roofing surfaces or new surfaces where primer is recommended. Refer to surface preparation section for specific surfaces and how to treat them prior to application of the FLEXI-GRP system. Use FLEXI-GRP in dry conditions and do not apply to wet or damp surfaces, care should be taken that rain is not imminent.

COVERAGE RATES & QUANTITIES

Materials Usage Guide (NB. guide does not account for materials lost in mixing or use of brushes/rollers etc.)			
Roof Size m²	**Smooth Surfaces 200g per m²**	**Medium Surfaces 250g per m²**	**Rough Surfaces 300g per m²**
5	1kg	1.25kg	1.5kg
10	2kg	2.5kg	3kg
15	3kg	3.75kg	4.5kg
20	4kg	5kg	6kg
25	5kg	6.25kg	7.5kg
30	6kg	7.5kg	9kg
35	7kg	8.75kg	10.5kg
40	8kg	10kg	12kg
45	9kg	11.25kg	13.5kg
50	10kg	12.5kg	15kg
75	15kg	18.75kg	22.5kg
100	20kg	25kg	30kg

NB: FLEXI-GRP Primer uses the same catalyst as the FLEXI-GRP and the same addition rates making it easier to calculate. Please refer to the Catalyst Addition Chart on page 19 for the addition rate for both.

Calculate the area and amount required to cover the surface and all associated fixtures and fittings that will be covered in FLEXI-GRP and allow for approx. 5% waste that is lost in the mixing and application process. Working times can be adjusted depending upon changing weather conditions, the working time should be around 15-20 minutes per mix. Allow 30-40 minutes to cure before applying the FLEXI-GRP. It is not recommended to leave the application of the FLEXI-GRP longer than 48 hours after the FLEXI-GRP Primer has been applied. If longer than 48 hours, the surface will need to be re-primed with Flexi-GRP Primer.

FLEXI-GRP COVERAGE GUIDE

COVERAGE RATES & QUANTITIES

NB: Coverage figure quoted should only be seen as a guide due to variances in surface type and waste when using buckets, brushes, rollers etc

Roof Size m²	300g Smooth surface 15 Year	450g Smooth surface 20 Year	600g Smooth surface 25 Year*	300g Medium surface 15 Year	450g Medium surface 20 Year	600g Medium surface 25 Year*	300g Rough surface 15 Year	450g Rough surface 20 Year	600g Rough surface 25 Year*
5	7.5kg	9.75kg	12kg	8.25kg	10.9kg	13.5kg	9kg	12kg	15kg
10	15kg	19.5kg	24kg	16.5kg	21.8kg	27kg	18kg	24kg	30kg
15	22.5kg	29.25kg	36kg	24.75kg	32.7kg	40.5kg	27kg	36kg	45kg
20	30kg	39kg	48kg	33kg	43.6kg	54kg	36kg	48kg	60kg
25	37.5kg	48.75kg	60kg	41.25kg	54.5kg	67.5kg	45kg	60kg	75kg
30	45kg	58.5kg	72kg	49.5kg	65.4kg	81kg	54kg	72kg	90kg
35	52.5kg	68.25kg	84kg	57.75kg	76.3kg	94.5kg	63kg	84kg	105kg
40	60kg	78kg	96kg	66kg	87.2kg	108kg	72kg	96kg	120kg
45	67.5kg	87.75kg	108kg	74.25kg	98.1kg	121.5kg	81kg	108kg	135kg
50	75kg	97.5kg	120kg	82.5kg	109kg	135kg	90kg	120kg	150kg
60	90kg	117kg	144kg	99kg	130.8kg	162kg	108kg	144kg	180kg
65	97.5kg	126.75kg	156kg	107.25kg	141.7kg	175.5kg	117kg	156kg	195kg
70	105kg	136.5kg	168kg	115.5kg	152.6kg	189kg	126kg	168kg	210kg
75	112.5kg	146.25kg	180kg	123.75kg	163.5kg	200.5kg	135kg	180kg	225kg
80	120kg	156kg	192kg	132kg	174.4kg	216kg	144kg	192kg	240kg
85	127.5kg	165.75kg	204kg	140.25kg	185.3kg	229.5kg	153kg	204kg	255kg
90	135kg	175.5kg	216kg	148.5kg	196.2kg	243kg	162kg	216kg	270kg

PITCHED AND FLAT ROOFING SOLUTIONS

ROLLERS/TOOLS/BRUSHES/BUCKETS/ACETONE.

Roof Size (M^2)	3" Velour Roller (4mm Short pile)	6" or 9" Velour Roller (4mm Short pile)	3" Bubble Buster Roller	6" or 9" Bubble Buster Roller	2" Brush	4" Brush	5L Bucket	10L Bucket	Catalyst Measure/ Dispenser	Acetone Cleaner
5	1	1	1	1	1	2	1	2	1	5ltrs
10	1	2	1	1	1	2	1	2	1	5ltrs
20	2	2	1	1	2	2	1	2	1	5ltrs
30	2	2	1	1	2	4	1	2	1	5ltrs
40	2	2	1	1	2	4	1	2	1	5ltrs
60	3	3	1	1	4	6	2	3	1	5ltrs
80	3	3	1	1	4	6	2	4	1	10ltrs
100	4	4	2	2	5	8	2	5	1	10ltrs
150	5	5	2	2	6	10	3	6	1	10ltrs
200	5	8	3	2	6	10	4	8	1	10ltrs

FREQUENTLY ASKED QUESTIONS

Once correctly installed, the FIX-R Flexi-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 FLEXI-GRP WHEN INSTALLING?

- Yes, high temperature and adverse weather are main reasons that liquid roof installations can 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).
- Avoid catalysing large amounts of FIX-R Flexi-GRP Primer or FIX-R Flexi-GRP. Ideally 1-2kg for FIX-R Flexi-GRP Primer and 2-5kg max for FIX-R Flexi-GRP This avoids the product being incorrectly mixed when catalysing (leading to undercure or uncured streaks, also this will give you the best working time required and avoid having to rush due to mixed product curing in the bucket, leading to costly waste.
- Always avoid the surface/boards from getting wet, NEVER lay onto wet/damp surfaces, if it rains whilst installing always cover.

2. THE FIX-R FLEXI-GRP IS STAYING TACKY AND NOT GOING HARD OR I HAVE STREAKS OF SOFT AREAS?

- 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 the incorrect % addition, not fully mixing to the bottom of the container or forgetting to add catalyst in before applying. Never confuse Acetone cleaner for catalyst. Also always use weight as a measure and not volume i.e litres, as this will under calculate the amount of catalyst required.
- To make sure you have the best mix you can pour half of your full mix (ie 2.5kg if mixing a 5kg batch of FIX-R Flexi-GRP) adding the correct amount of catalyst for the full mix then pour in the remaining 2.5kg and stir thoroughly. This means the catalyst is more evenly dispersed in the mix and not splashed up the sides of the container when poured on top.

3. THE FIX-R FLEXI-GRP PRIMER/FIX-R FLEXI-GRP HAS GELLED OR HARDENED IN THE BUCKET BEFORE I COULD USE IT?

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

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

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

5. 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 any liquid on surfaces it can be wiped clean with a clean cloth with a small amount of acetone on. Hardened material will bond to a lot of surfaces and will require mechanical removal, so this is best avoided.

6. 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.

For all technical enquires please contact the FIX-R team on **fix-rtechnical@sigroofing.co.uk**

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