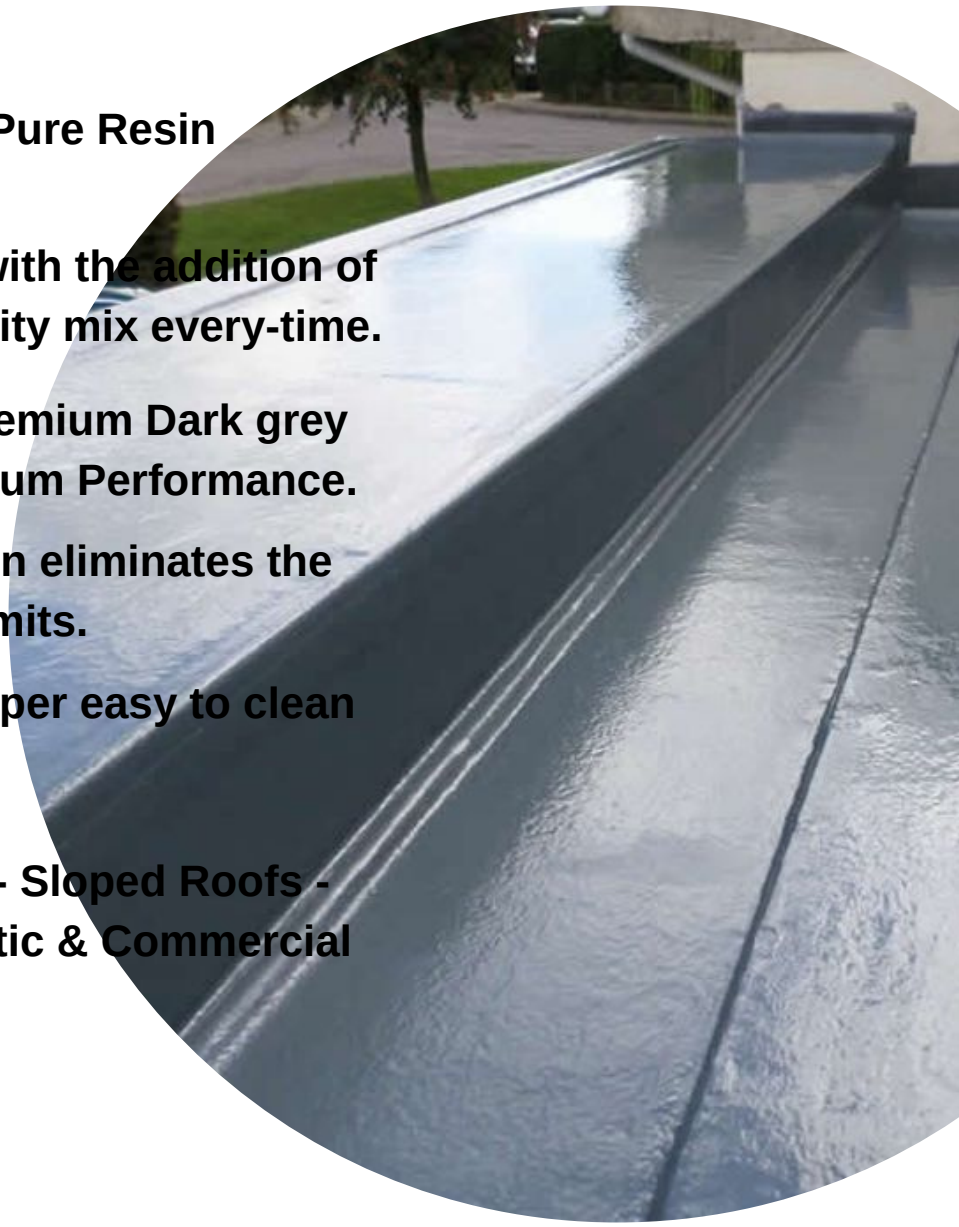
GRP ROOFING USER GUIDE

LEADING THE WAY IN GRP ROOFING

KEY BENEFITS



- **Premium virgin Grade Pure Resin improving longevity.**
- **Colour Change Resin with the addition of catalyst ensures a quality mix every-time.**
- **Sag & Run resistant Premium Dark grey Topcoat ensures optimum Performance.**
- **Cold Applied application eliminates the need for hot works permits.**
- **Maintenance Free & Super easy to clean with hot soapy water**
- **Suitable for Flat Roofs - Sloped Roofs - Pitched Roofs - Domestic & Commercial**
- **Super Easy to apply**

CONTENTS

Introduction

CRS GRP Roofing System

Welcome to the CRS GRP Fibreglass Roofing System.

Composite Roof Supplies Ltd are a leading supplier of GRP Roofing Kits in the UK, there aim was to launch a complete system to both Trade and DIY users.
By offering clarity on this system it's easy to understand what's required when making a purchase.

We kept things simple with a Premier base model 450g/m² Dark Grey Fibreglass roof kit alongside our Premier 600g/m² Roof Kit, both kits have either a 10 - year or 15-year manufacturer's warranty.

The design aspect of this system ensures any one of our customers can easily understand which component is used at each stage of construction with very little experience. Each product will show base instructions with key factors to take into consideration for a successful finish which when complete looks superior and will last our lifetime.

Grp (Glass Reinforced Plastic) can be used for almost any roof type, Flat or vertical GRP has a history of great success when keeping the rain outside OUTSIDE!.

Ask your distributor for more information on details and costs

KEY Kit Components

- RESIN

10KG & 20KG Tins used for the main laminate with the chopped strand matting.

- TOPCOAT

5KG 10KG & 20KG Tins used for the final topcoat UV layer.

- HARDENER

100G 500G & 1000G Bottles used the harden Topcoat & Resin.

- MATTING & Tapes

450gsm/600gsm used to reinforce resin to form a solid membrane, Tapes are used to reinforce joints on square edge boards or for trim to deck bonding.

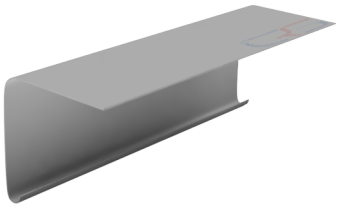
- Acetone

5l Tins of acetone will keep your tools clean and in good working order, Acetone is used to clean any surface dust between sanding layers of glass matting

KEY Ancillary Components *Added seperately

- Fibreglass Trims

  Fibreglass edge trims are required to create a professional finish and are sold separately



- Trim adhesive

  Soudal fix all PU based adhesive is used to bond trims to each other and the face of the trims to your roof baton as well as sealing c100 flashings to brickwork.

- Nails

  30mm clout nails are required when fixing trims to the roof deck.

- Anti-slip Grit

  Scan grit or kiln dried sand is added to Topcoat to create a non -slip surface for pathways. Kiln Dried sand be purchased from your local builders merchant

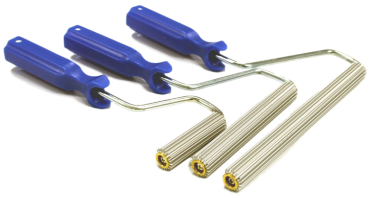
- Resin Primer

  Resin can be used to prime WBP Plywood at a ratio of 0.3kg/m².

KEY Ancillary Components *Add a toolpack

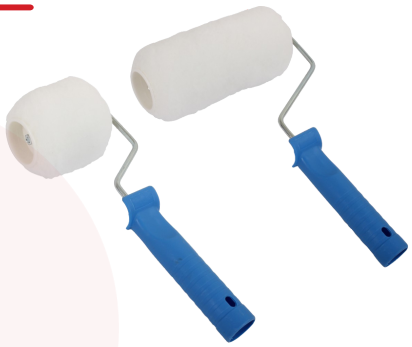
- Consolidating rollers

  Metal Paddle or consolidating Rollers are required for a successful application of the Resin & Matting.



- Resin/Topcoat Applicators

  Resin & Topcoat applicators are used for applying both Resin and Topcoat, These tools are disposed of or can be washed with acetone.



- Catalyst Measuring Cup

  Mixing cups are supplied with each kit purchase for measuring exact amounts of catalyst.

- Typical ToolPack

  Typically our tool packs will have each component required to complete any size roof.

KEY Other Ancillary Components *Contact your local builders merchant

- 18mm OSB Tongue & Groove decking boards

  18mm OSB boards with tongue and groove edges must be used with ResiRoof GRP System to validate any warranty

- Deck Fixings

  Minimum 65mm ring shank nails, or Bullet wood screws for solid fixing of the boards into the rafters

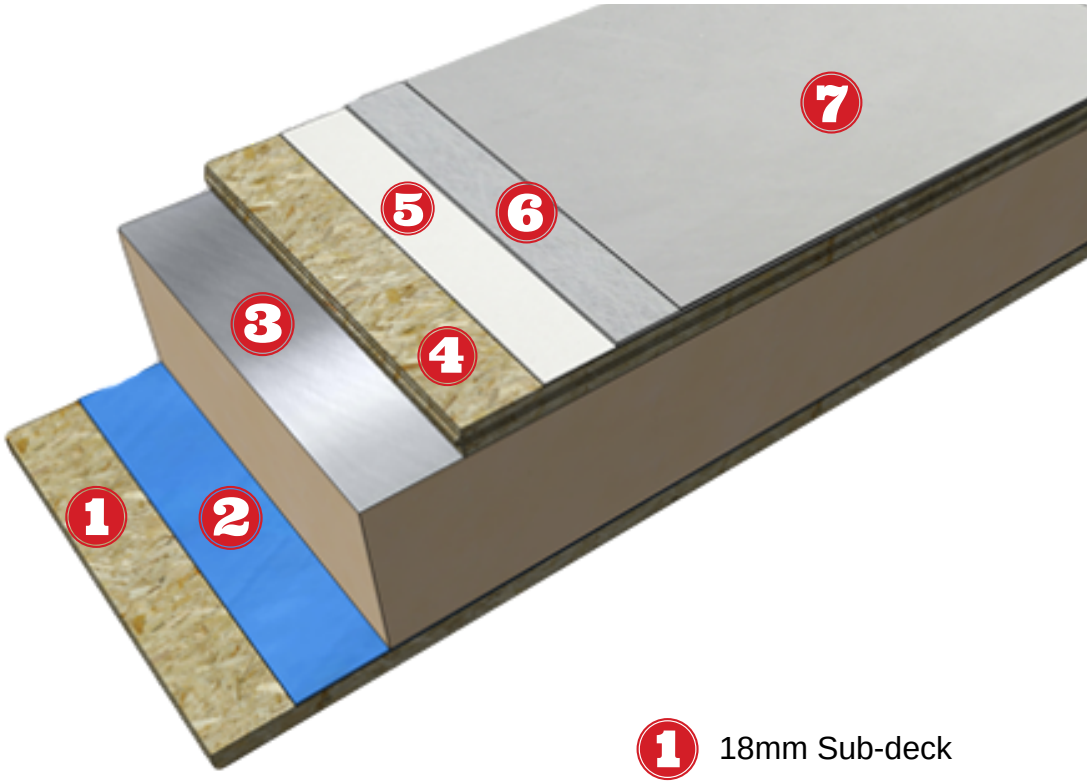
- Treated timber battens

  25mm x 50mm Batten to the perimetre edges for securing edge trims

Composite Roof Supplies have tried and tested the products mentioned in the ResiRoof user guide, unfortunately we do not hold stock for all the products mentioned, for help sourcing products contact your local stockist or builders merchant

WARM ROOF

Warm Roof Insulation.
Installing a warm roof can be extremely straightforward. Warm roofs offer a superior thermal performance and therefore come with a higher cost.
With a warm roof, the insulation is installed on top of the existing surface or onto a sub-deck which is newly fitted, rather than in between the rafters. The great thing about a warm roof is that if your existing roof surface is in good condition, you don't need to do much to it. Simply brush off any debris that is present, install a good quality Vapour barrier, secure insulation boards to the surface and then lay down your flat roof covering over the top of 18mm OSB Fixed directly through the layer into the rafters..
Because the warm roof method makes sure all of the roof structure is insulated, it's a more energy efficient option over a cold roof.



1. 18mm Sub-deck
2. Vapour Control layer
3. 120mm Rigid Insulation
4. 18mm Tongue & Groove OSB
5. Resin Layer
6. Matting Layer
7. Topcoat Layer

KEY POINT
150mm X 75mm Timber Frame work should be fitted to outer edges, this ensures theres a hard edge for fascias and the upper deck to be fitted securely. Vapour barriers should lap up back over the insulation at least 100mm around all edges, then secured will metal tape

Laying Boards

OSB3 Tongue & Groove (Oriented Strand Board) is the roof deck of choice for laying a new fibreglass roof. It's rough textured surface allows the resin to get a firm grip and key into the board, meaning there is very little chance of de-lamination (the matting peeling away form the surface of the wood).

When using square edge be prepared to leave a 3mm gap between each board edge (for internal movement and expansion)
Vigorously abrade HDF OR WBP plywood to improve a Resin bond, use 40-60 grit red aluminium oxide paper. *Note using Tongue & Groove Validates your ResiRoof Warranty.
Apply masking tape to all joints to prevent resin ingress when the bandage is applied *ensure resin can soak into the tape do not use duct tape this is an old style method.
Apply an additional glass bandage on the joints (450g x 75mm) prior to the main laminate or during the main laminate process.

T&G – The best is tongue and groove OSB3 but this can be tricky to get hold of. Some fibreglass suppliers and timber yards will deliver T&G (tongue & groove) but this can make costs spiral upwards which can be a problem in a competitive market. For any medium to large roof though make the effort to acquire OSB T&G as it has expansion gaps built in by design, which is nice and will make for a better job.

-T&G profile prevents the boards from distorting (or"dishing") as the laminate cures.
-T&G boards do not require an additional WOVEN 'bandage' on the joints.
-T&G boarding saves time and materials.
-T&G boards do not have to be joined on beams or noggins.

Used writing side up the fibreglass bond is much stronger than onto plywood.
No surface preparation is required (plywood must be sanded before applying laminate)
8x2 boards are easier to handle and to transport.

Note the small gap formed along the joints - resin will run into the gap and bond the boards together when the laminate is applied if you choose OSB Tongue & Groove. The correct boards must be used based on the application areas. The boards are laid 90o lengthways to the roof support to form the base. The fibreglass flat roofing mainly depends on the correct laying of the deck as incorrect or faulty deck preparation can affect the quality of the fibreglass installation.

Composite Roof Supplies recommends using OSB Tongue & Groove for best results.

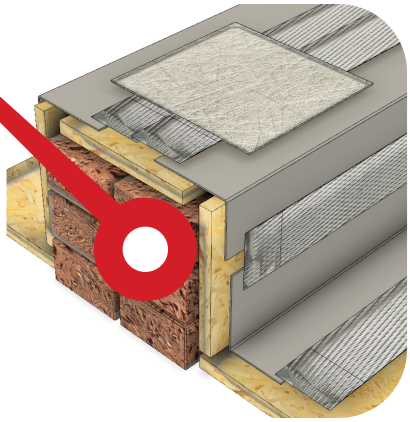
Laying Boards

Additional points to consider

- Leave a 10-20mm Gap to wall edges for expansion

- Ensure a 50mm break in the board for roofs over 50m²

- Cap Parapet walls with OSB, do not lay fibreglass to bricks



Take your time during the board stage, paying particular attention to details like joints, this stage will ensure a nice smooth finish on the GRP layer.
All square edge boards must be taped using 75mm Woven bandage, this ensures the joints will not crack during thermal expansion and contraction.
Additional Tape and Resin & 100g Catalyst will be required at a rate of 0.3kg/m²
SEE JOINTS & TAPES SECTION

Fitting Edge Trims.

GRP TRIMS - Edge trims are manufactured in GRP. One side has a high adhesion finish (matt finish), the other side has a glossy finish, always bond to the matt finish.
All trims must be fixed with nails or staples to the decking board. With the exception of the F300 Flat flashing and the D260 Angle fillet, the trims must be bonded in place using the Polyurethane Adhesive. Silicone sealant or general-purpose mastics are not suitable adhesives for the fixing of trims. Polyurethane Adhesive (PU) PU adhesive is applied with a skeleton gun to the batten around the perimeter of the roof. A 30mm bead at 300mm centres is sufficient to hold the trims in place. The trims should be 'rubbed' into place to ensure good bonding. Joining Trims Trims are either nailed to the decking boards using a 30mm galvanised clout nails or stapled in place with a gas powered or compressed air stapler. Hold the trim in place ensuring the face is vertical. Drive fixings in at each end, then the middle and then at 200mm centres thereafter

These trims are supplied in 2.5 metre lengths in 600g Premium Quality as standard

1. A170/200/250 Drip Trims
2. B230/260/300 Raised Trims
3. C100/150 Flashing Trims
4. E280 Expansion Trims + Additional information
5. D260 Wall Fillet Trims
6. H150 INT/EXT Capping Trims
7. F300/900 Under Tile Trims

Drip edge Detailing.

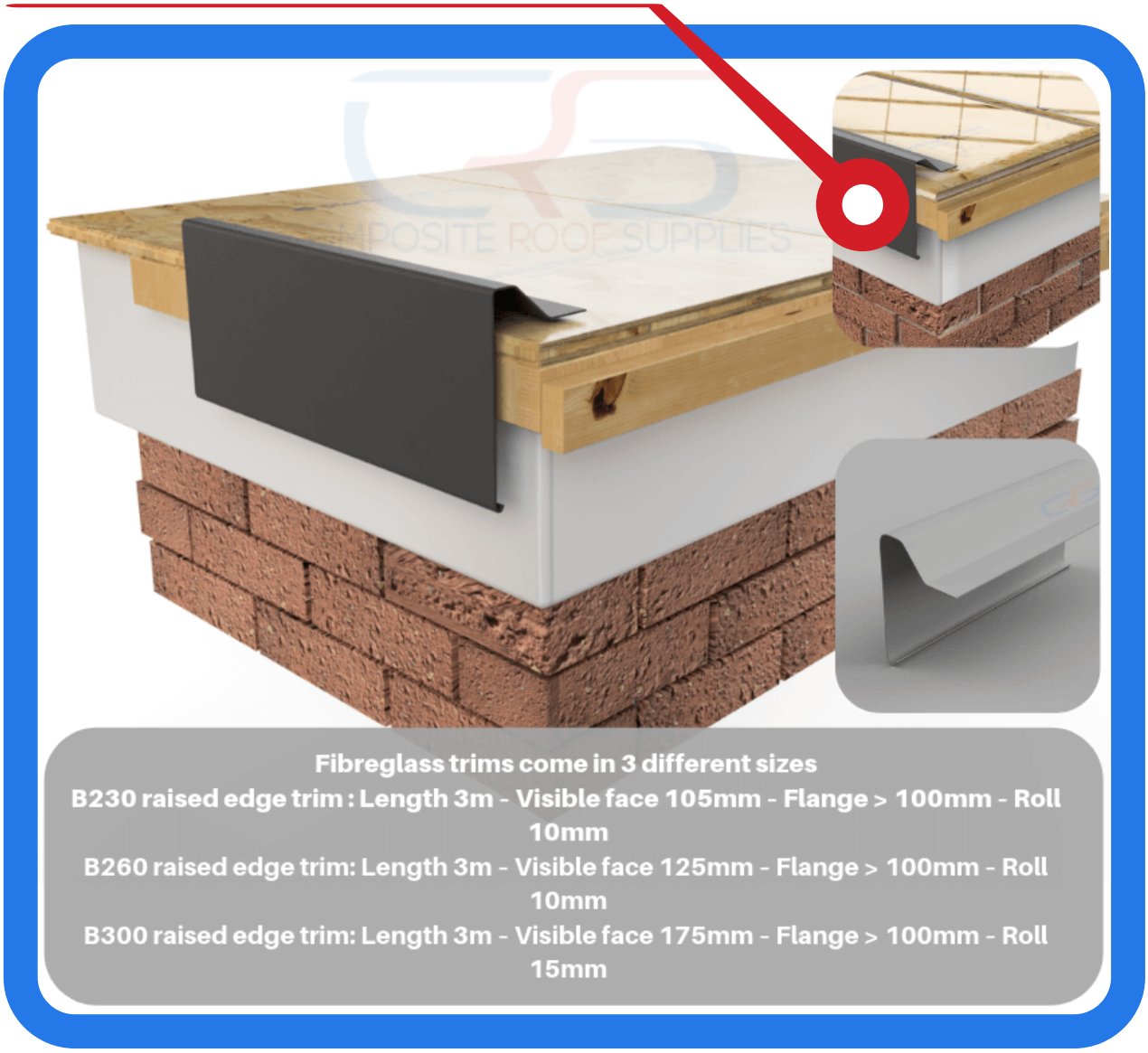
1 A170/200/250 Drip Trims

The A type trim is a drip trim, fitted to the lowest edge of the roof usually where the rainwater flows into the gutter. Two support battens should be fixed to the perimeter of the roof to provide space for the gutter to fit behind the trim, with the outer batten attached 10mm lower than the inner batten to allow the trim to sit flush with the roof. Apply PU adhesive to the batten in 30mm beads at 300mm centres, rub the trim into place and nail to the decking. Do not nail through the front of the trim. If the pitch of the roof is only minimal, rainwater is likely to hold behind the trim. A planning machine can be used to take 2mm off the deck to allow the trim to lay flush with the board.

TRIM DETAILS: A170: This is designed for applications where it is not possible to use the larger A200 This is the standard size drip trim. A250: This drip trim is ideally suited for use on warm roofs. These trims are supplied in 2.5 metre lengths as standard.

Raised edge Detailing.

2 B230/260/300 Raised Trims

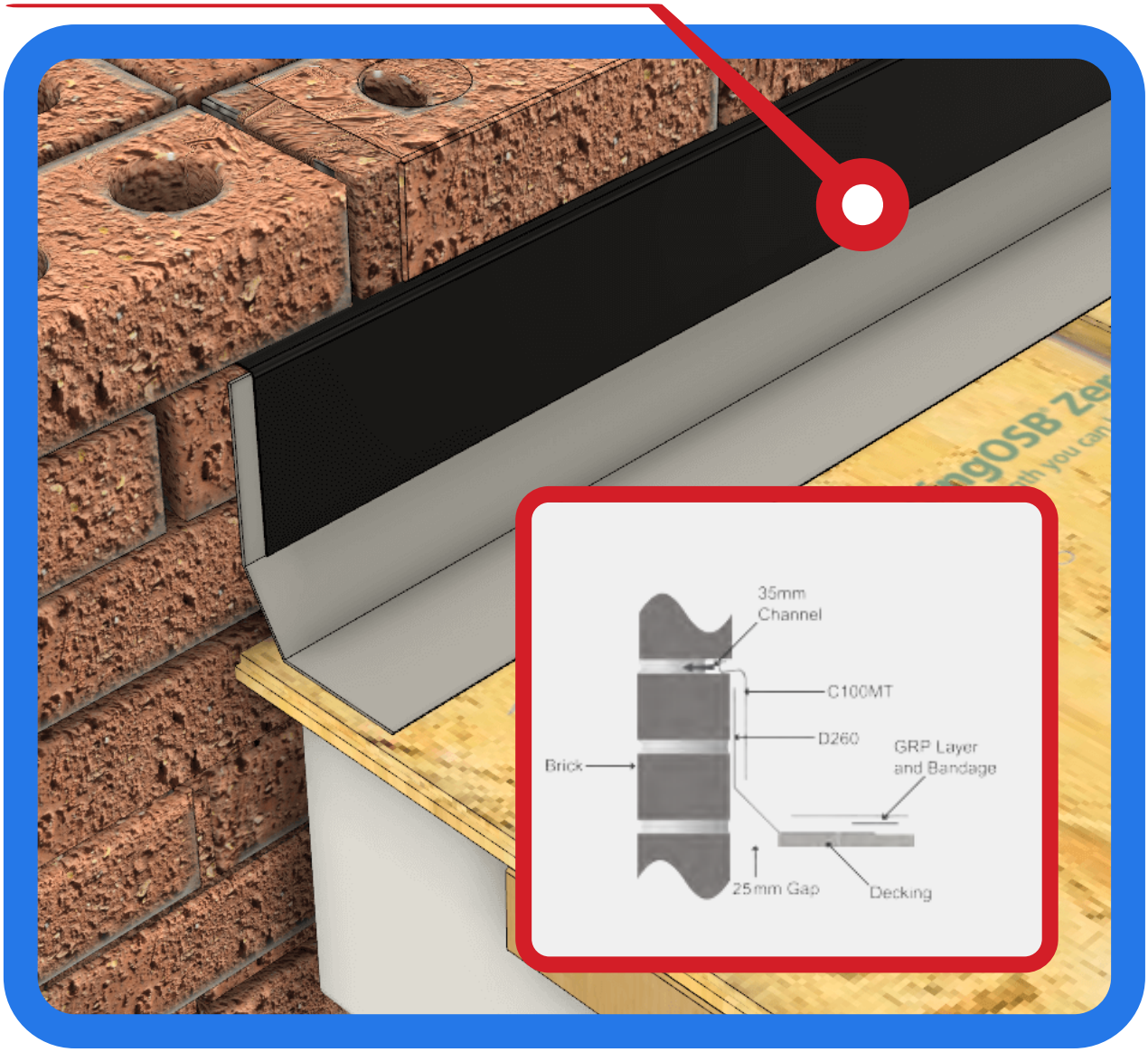


A single batten is fixed level with the top edge of the deck. Apply 30mm beads of PU adhesive to the batten every 300mm, rub the trim into place and nail through the top of the trim into the decking. Do not nail through the front of the trim. If a ladder is likely to be leant against a B type trim for regular access to the roof, the trim will need to be reinforced to avoid deformation. The trim can either be doubled up by slotting a section of extra trim within the section where the ladder will be used or it can be reinforced with an extra layer of GRP laminate and then tissue to maintain a smooth finish. Alternately, a wooden batten can be shaped and fitted into the ridge of the trim to ensure that it remains rigid.

TRIM DETAILS: B230: The smallest size of raised edge trim fitted to the edges of the roof to contain and direct the flow of water. B260: The standard size raised edge trim. B300: Larger raised edge trim for use on warm roofs. These trims are supplied in 2.5 metre lengths as standard.

Flashing Detailing.

3 C100/150 Flashing Trims

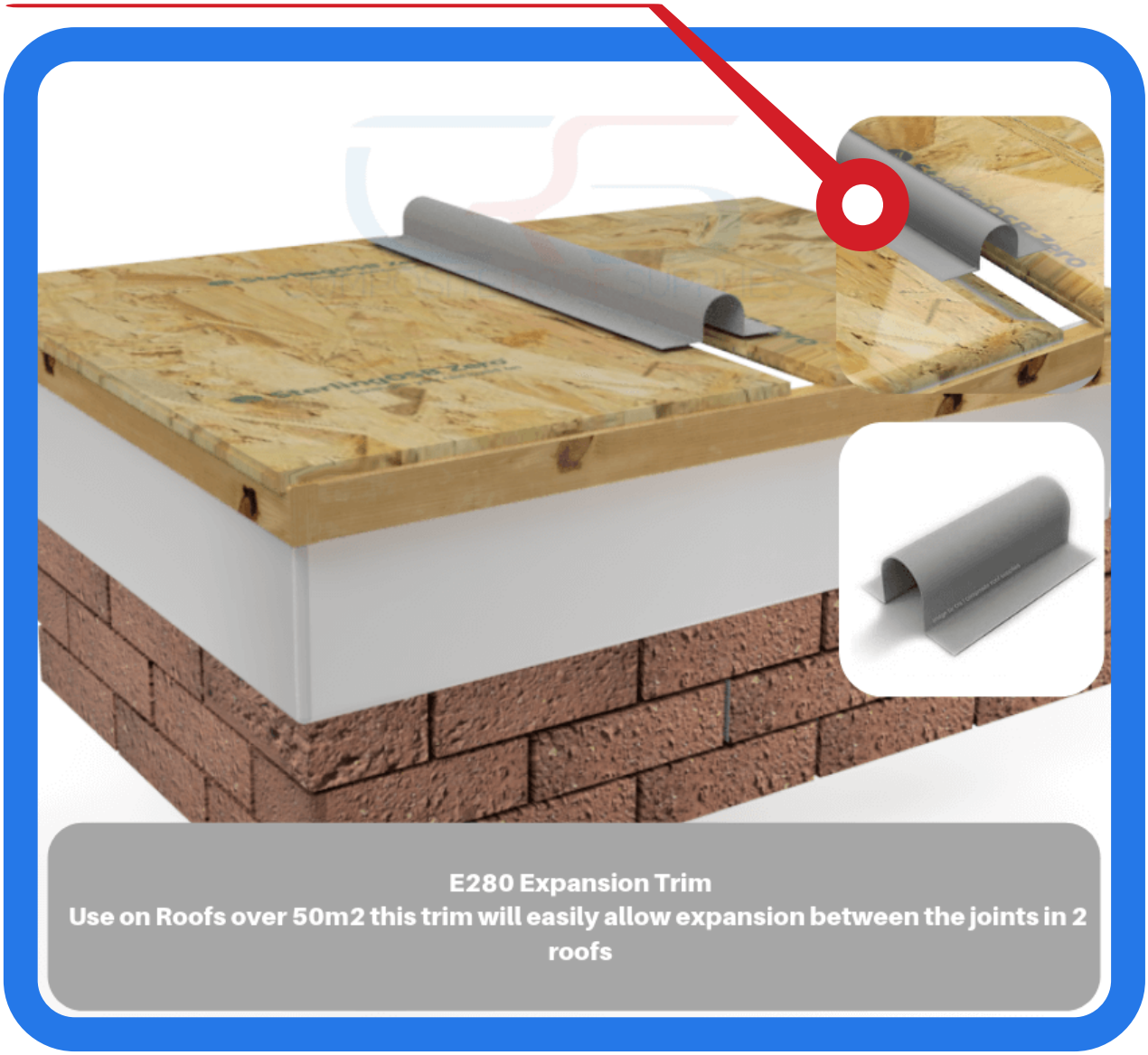


The C trim is usually fitted into a bed joint of the brickwork or a 35/50mm (depending on the trim type) deep chase cut out with an angle grinder fitted with a mortar chase disc. Apply polyurethane adhesive to the back of the C trim every 300mm. Fit the trim into the slot and press firmly back to the wall to overlap the D trim. Apply a clear silicone sealant along the length of the trim into the slot to seal the trim in. A smooth finish can be obtained by wiping the sealant with a moistened finger.

TRIM DETAILS: C100: Standard simulated lead flashing with 100mm vertical face and 35mm wall penetration. Do not topcoat. As C100 with 50mm wall penetration. These trims are supplied in 2.5 metre lengths as standard.

Expansion Detailing.

4 E280 Expansion Trims



E280 Expansion Trim
Use on Roofs over 50m2 this trim will easily allow expansion between the joints in 2 roofs

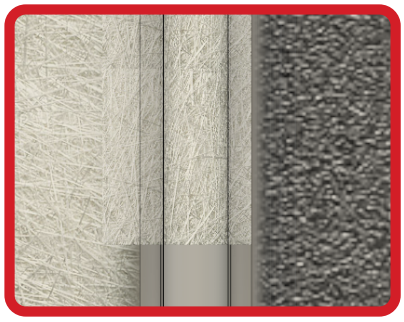
E280 is used both to create expansion joints on large roofs (over 50m2) and create rolls on any ridge details. It is compatible with C5 closures. An adequate gap in the deck should be cut if necessary, the trim should then be nailed to each end of the decking at 300mm centres. The join over the nails should then be bandaged and the laminate can be applied over the trim. To bond these trims together, or to cap with C5 closures, apply a thin strip of PU adhesive to the inside edge of the overlapping trim and rub into place.
TRIM DETAILS:. E280: Expansion joint and ridge roll for pitched roofs. These trims are supplied in 2.5 metre lengths as standard.

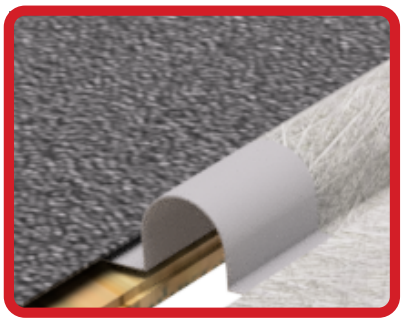
Additional E280 Detailing.

4 E280 Expansion Trims

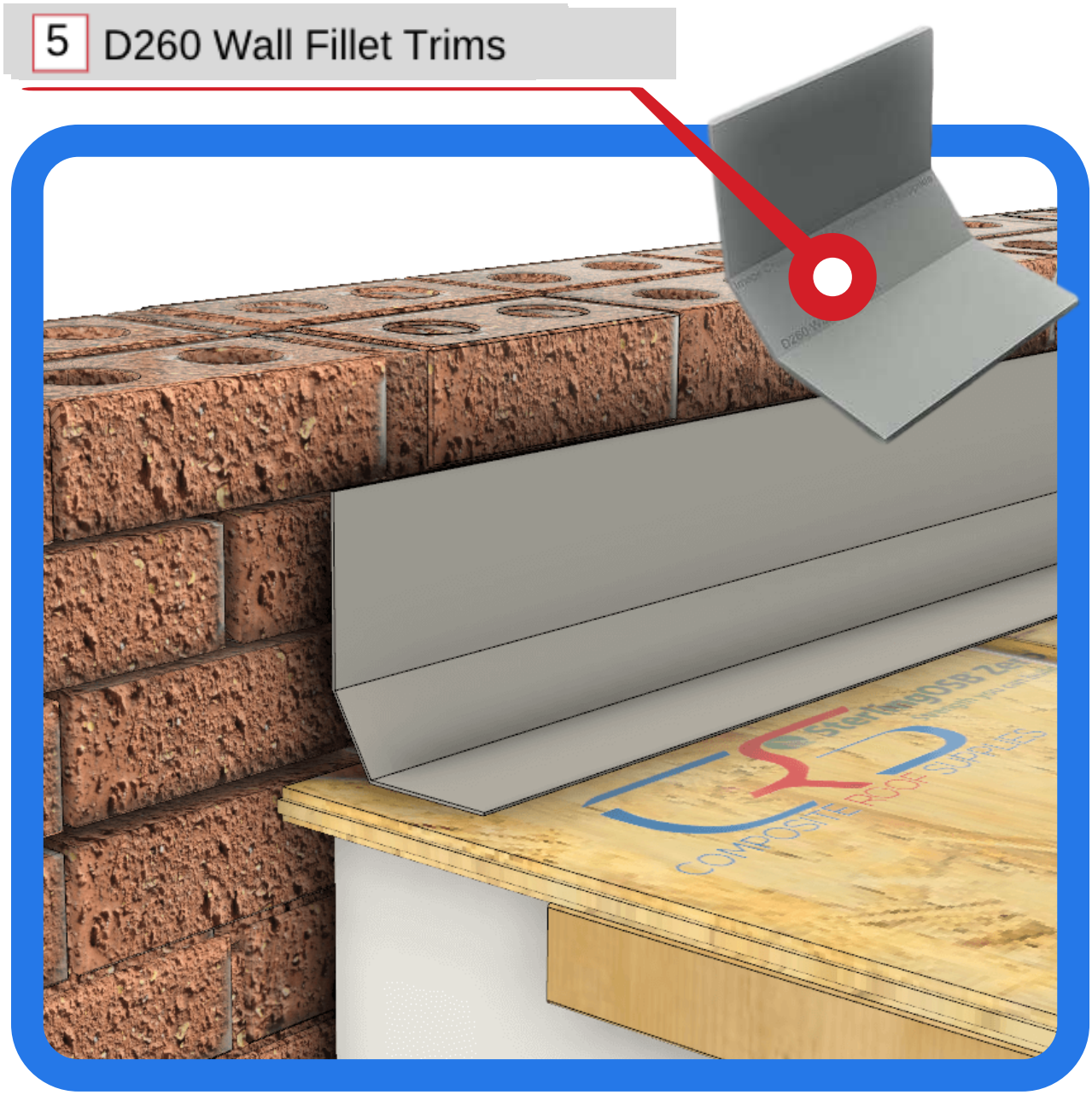
E280 is also used to join two roof types together, such as a garage roof joining a neighbour or block, the existing felt cant be peeled back and bonded back in place over the flange on the E280 as shown in the diagram above. These trims are supplied in 2.5 metre lengths as standard.

We strongly advise contacting the owner of any joining roofs to avoid any potential problems.





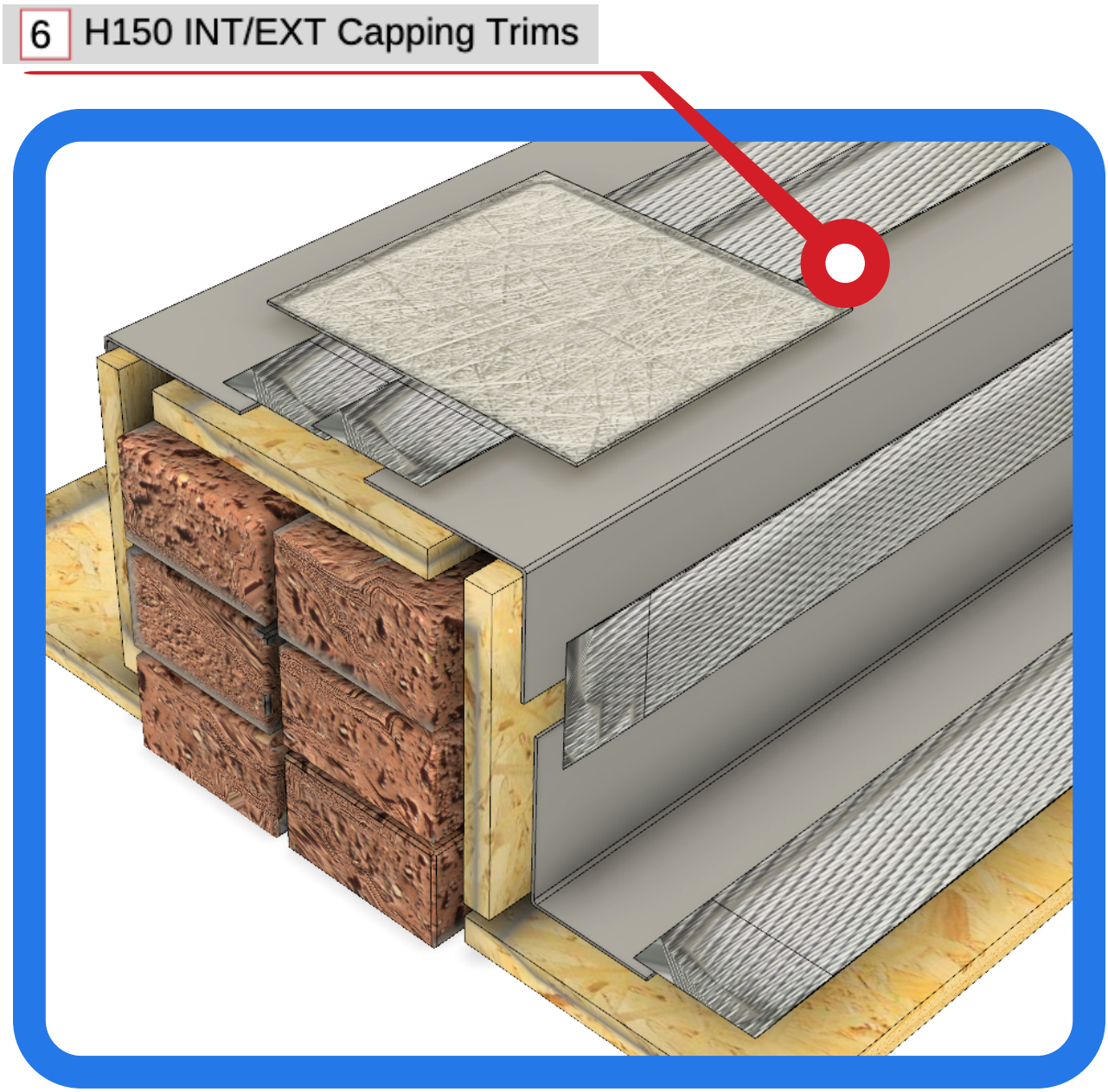
D260 Detailing.



The D trim is a fillet trim for use against abutting walls. It will also provide expansion and perimeter ventilation and is compatible with C2 and C3 universal corners. Place the D trim against the vertical face and push down diagonally into the corner until the trim fits snugly. Where the D trim needs to be joined it should be bonded with a strip polyurethane adhesive and bandaged together.

TRIM DETAILS: D260: Angle fillet trim with 135 and 70mm flanges. These trims are supplied in 2.5 metre lengths as standard.

Capping Trim Detailing.



The H150 Internal and External trim is used wherever the laminate needs to cover an area which continues perpendicular to another laminated surface. The H150 Ext is supplied with a high-adhesion finish on its outer fascia and should be used for capping applications. The H150 Int trim is supplied with a high adhesion finish on its outer fascia and should be used for internal corners. The trim should be nailed at both edges if possible. Always bandage over the join between where the nails penetrate the trim and the decking before applying the laminate. These trims are supplied in 2.5 metre lengths as standard.

TRIM DETAILS: H150 Ext: External angle trim. HG150 Int: Internal angle trim.

Under Tile Trim Detailing.

7 F300/900 Under Tile Trims

The F trim is a flat flashing, mainly used at the intersection of a pitched roof and flat roof often found on dormers. The F trim should not be laminated over completely as it will crack. It is nailed or stapled to the deck and bent up the roof slope. In this situation, the F trim also acts as an expansion facility and must only be fixed to the deck along the bottom edge. There are many other applications for F trim including vertical details where laminating would be time consuming, under the feet of air conditioning units to enable re-roofing without disconnecting and use on some parapet wall details etc. The trim should be nailed to the deck around its edges and bandaged over any joins or nail penetrations. Any unlaminated trim can be topcoated with the rest of the roof.

TRIM DETAILS: F300//900: Flat sheeting supplied in 300, and 900mm widths in 20M rolls.
This trim is ordered by the metre

Joints & Tapes

Bandaging Where the trims meet the deck 75mm bandage can be applied. The bandage is supplied in rolls approximately 50m long and can be applied directly from the roll. Dip the 3” application roller into the catalyzed resin and run it down the trim/ deck join, half on the trim and half on the deck approximately 1 meter at a time. Unroll the bandage into the resin and then repeat the process until that ‘run’ of trim has the bandage in place. Return to the start and impregnate the bandage with a further coat of resin. Once again, when complete, return to the start and using the laminating roller (3”) consolidate and distribute the resin through the bandage using light pressure until the bandage is transparent (wet out). Any white areas will need further resin added. Always ensure the bandage covers the nail heads on the trims and check that where the trim edge meets the deck there is no pin holing due to lack of resin. When changing direction, tear the bandage and overlap it but not until the first bandage is wet out. Never apply ‘dry on dry’. Any joins in the trims should be bandaged in the same way. When using the laminating rollers, it is possible to generate a ‘spray’ of resin if used too vigorously. The slower the roller turns equals less spray. On a windy day, this spray can be carried significant distances so care needs to be taken. ‘Spray’ can usually be removed from glass and window frames but not from cars!

Tip: We highly suggest applying the bandage whilst completing the main laminate this avoids and rough stickups, saves time and Resin as well as creates an overall better finish. Only square edge boards require bandage on the joints

Main laminate

1) Cut the membrane FROM END TO END ideally following the fall of the roof this ensures any overlaps are falling in the direction of the water run off

2) Mix approx. 2.5 to 5l of resin and start to wet the matting with the medium pile roller, This is easier with 2 people and the roller on a telescopic pole.

3) We suggest using 1kg on the deck and 0.2 or 0.5kg on the surface depending the matting type you have, after the resin has soaked you will start to see the boards . Proceed to step 4

4) At this stage use the metal roller and consolidate the matting, your aim here is to draw resin to the surface, push the matting to the deck and remove all trapped air bubbles, the overall finish should be opaque, smooth and a nice wet film of resin on the top layer

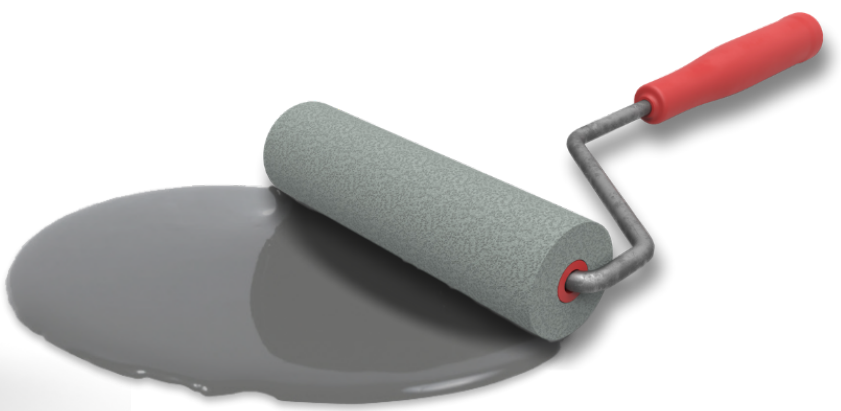
Main laminate

Consolidating Let the resin soak into the mat to break down the emulsion binder for 2 to 3 minutes. Using the paddle roller and applying a little pressure, roll back and forth along the 2 edges and the end of the wetted out mat, feathering them in as you go. Now roll the paddle roller over the whole of the wet out mat, ensuring the paddle roller makes at least 2 passes over the whole area. In colder weather the resin will be thicker and will take a little longer to wet out. When a laminate is correctly wetted out it should be transparent, there should be no white or opaque areas. Take care near the edge of the roof and in windy conditions as a fine spray will be emitted from the roller. Make regular close inspections of the laminate as it is consolidated, checking for ‘pin holes’ and areas short of resin. Pinholes in the laminate will lead to porosity and water penetration. On all overlaps of the mat, pay extra attention to the ‘feathering in’ as this will improve the overall appearance of the finished roof.

Pre Topcoat Application

Taking care and paying attention at this stage will produce a roof of superb appearance. Using a sanding pad with 40 grit sandpaper, lightly sand the corners and trim bandages. Sand off any unsightly fibres, taking care not to sand too heavily on the corner itself as this may lead to holes appearing. Cut any excess cured mat protruding beyond the trim with a sharp Stanley knife.

Techniques: • A number of different finishes can be achieved using slate granules. they can either be sprinkled over the top of curing topcoat for the appearance of mineral felt. Alternatively, a fine sprinkling of granules can be rolled into the top coated roof for a color non-slip finish. *DO NOT USE IN DIRECT SUN



Resin Explained (laying)

BONDING SURFACE - Whether laminating or casting you should work in an ambient temperature NO LESS than 5ºC, as this ensures that the resin will cure correctly. Resin will not cure adequately below 5ºC, and at temperatures above 30ºC, they will cure too quickly! We suggest using 18mm OSB tongue and groove boards. Ply boards or any square edge will need additional bandage for the joints and resin at a ratio of 0.2kg per m2 or linear metre approx. The surface MUST be clean and dry at all times Ensure that you do not exceed the weight limitations of the roof structure when loading

ROOF PITCH materials. - Good roofing practice dictates that ponding water be prevented. The roof surface should have a positive slope of at least 1:80 to prevent ponding water conditions. Ponding water is defined as the presence of standing water within 24 hours of precipitation. The laminate cures fast it’s a good idea to have some acetone ready to keep the tools clean, about a lire in a clean bucket is ideal

APPLYING THE LAMINATE- Until you have experience do not mix up too much resin at a time certainly no more than 2kgs, enough for between 1 and 1.5 m2 of fibreglass. For large flat areas it is quicker and easier to apply the resin using a medium pile roller. Roll on a coat of catalysed resin to the surface and then lay on the first section of fibreglass, apply more resin to “wet out” (saturate) the fibreglass. As the binder holding the fibreglass dissolves it will become translucent. Then apply the next layer which should be cut slightly smaller to create a built in staggered overlap and again apply more resin. Once the fibreglass has been ‘wetted out’ it is necessary to consolidate the two layers of fibreglass and this is done using a metal roller. The roller can either be of the aluminium ridged variety, “paddle roller” or a metal “washer roller” but used vigorously it not only forces the two layers of fibreglass together but it removes any trapped air, this appears in a laminate as a white blister, and care must be taken to ensure that this is done. Having completed this section move on to the next and with the overlap built in Full widths.

Unless the corners are a radius do not attempt to take the fibreglass around the corner since it is difficult to “persuade” fibreglass to lay into right angled bends, start again with a built in overlap. Since there will be a butt joint at the corner it is then recommended that a strip of fibreglass some 200mm is cut with the edges frayed out and then applied as a tape would into the corner. You will find that this is easier since the fibreglass can be bent into shape. Once the fibreglass has been “wetted out” it is easier to work into corners and around more complicated and compound shapes. For this purpose a brush is used with a stippling action and if required the fibreglass can be pre wetted out on a flat board before being stippled into position.

Topcoat Explained

TOPCOAT– Top coating the roof The Topcoat is a resin and should be treated in the same way as the base resin. It requires the addition of catalyst for it to cure. Always try to apply the topcoat immediately after the laminate is semi-cured (can be walked on, no stickiness) If this is not possible then ensure top coating is carried out within 24 hours to gain good bonding with the laminate. If the top coating is left longer than 24 hours then wash down the laminate with acetone to gain a good cross-polymerisation of the topcoat to the laminate. Remove the lid and stir the topcoat well before use. Ensure the styrene and wax at the bottom of the tin is fully mixed in. Pour out into the mixing buckets enough topcoat to cover the perimeter of the roof (including the edge trims.) Use a 2½ Polyester roller to coat the trims. A roller will get a better and more even finish than a paintbrush. Roll the topcoat along the face of the trim. Hold the roller at an angle to the bottom of the trim to cover half of the radius return on the front of the trim. To protect the fascia from the topcoat, hold a piece of flashing trim against it as you topcoat the radius on the underside of the trim. Calculate how much topcoat you will need to use to cover the main body of the roof.

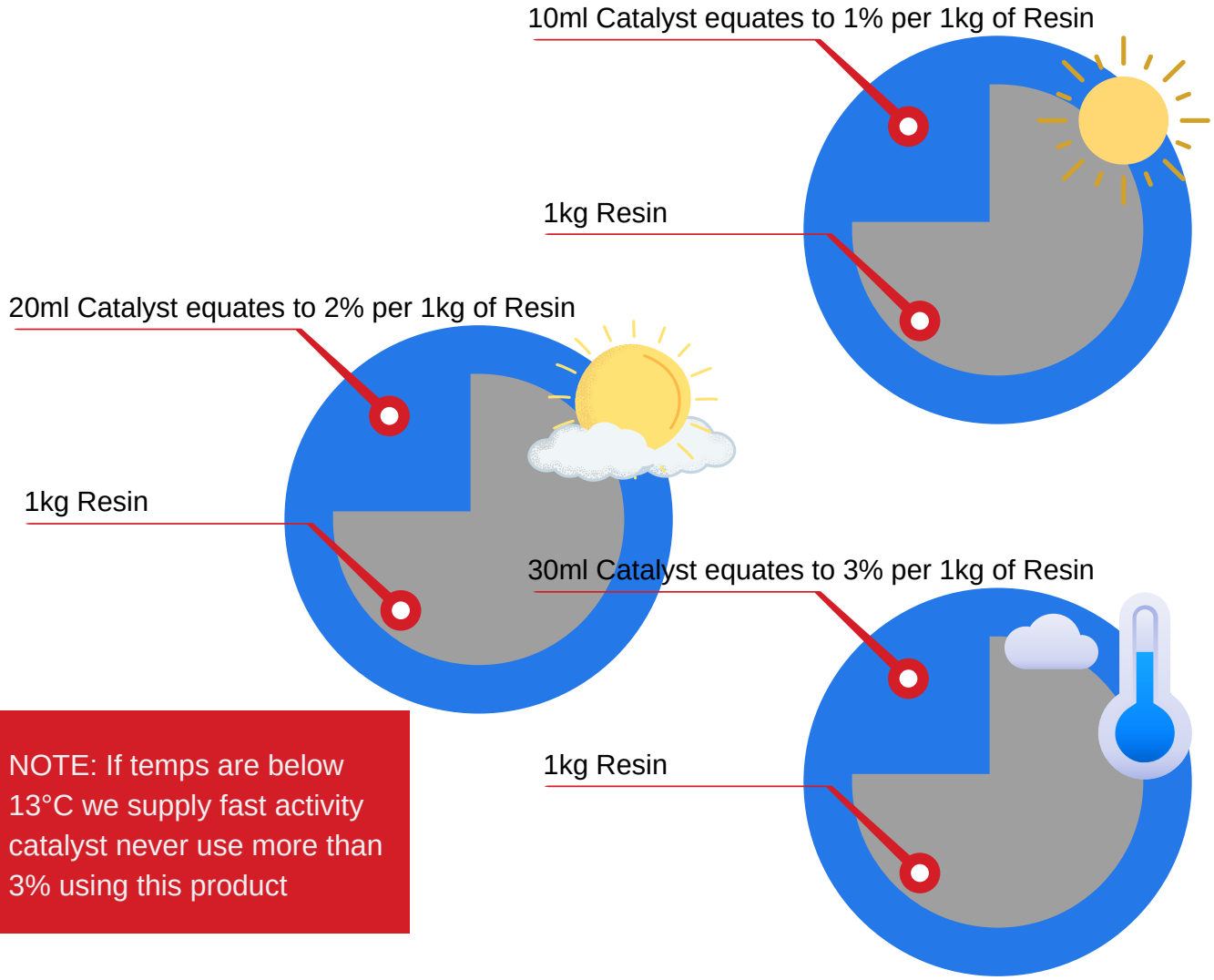
Add the required amount of catalyst and stir well. Using the 7” polyester roller, cover the remaining laminate with just enough topcoat for the fibre pattern to be visible. Do not coat the roof too thickly or the topcoat will crack. If a coloured topcoat is needed rather than the standard dark iron grey, a colour pigment will need to be added to a clear topcoat. A 20 kg tin of topcoat requires 2 kg of colour pigment. It is essential to mix the pigment thoroughly into the topcoat to avoid patchiness and uneven colour.

Always try to apply the topcoat immediately after the laminate is semi-cured (can be walked on, no stickiness) If this is not possible then ensure top coating is carried out within 24 hours to gain good bonding with the laminate.

Catalyst Explained

MIXING CATALYST Thorough mixing of catalyst into resins and gelcoat is very important. Also the correct additions should be observed to maintain good results. Dispensers are advised for accuracy. The table below gives the correct ratios of catalyst to resin and gelcoat by weight. 1% is considered a slow mix, 2% is ideal, 3% is a fast mix. Additions outside these bands in not advisable for proper curing, in fact adding more than 4% may result in a failure to cure. The pot life of these mixes is also determined by temperature. The higher the temperature the faster the cure. As a general guide 2% addition at 20ºC gives 15-20 mins pot life. The resin will always cure quicker if left in a mass such as the mixing bucket in direct sunlight.

Apply at temperatures of no less than 5'C and rising with no chance of freezing in 48 hr window, Avoid rain at all costs. Minimum 2 day window



NOTE: If temps are below 13°C we supply fast activity catalyst never use more than 3% using this product

Working Conditions

Note:

• Never attempt to lay a roof in wet weather or when wet weather is forecast.

• If it starts to rain while you are laying a roof, the roof must be covered and must not get wet, always keep a large visqueen sheet on site to cover the roof. The visqueen will not bond to the curing laminate.

• If rain is forecast while laying boards, the boards can be temporarily sealed with a coating of catalyzed resin. Always ensure that as much of the roof is covered as possible, ensure that edges, or areas of possible water ingress are covered.

• If decking has become damp, do not attempt to lay laminate on top.

• Always ensure that the surface you are laying onto is completely dry and free from debris before you start. A wet surface can lead to delamination

Cleaning Tools and Equipment Buckets can be re-used for many jobs. When each mix is finished with, coat the inside of the bucket. When the resin has cured after approximately 30 minutes it can be peeled out, leaving the bucket like new and ready for the next job. Paintbrushes can be dropped into a re-sealable container of acetone and left for the next job. Use only paintbrushes that have unpainted or uncoated handles, as the coatings will come off and contaminate the resin. Polyester rollers have sleeves that are removable. It is too time consuming to clean the roller sleeves. Unscrew the nut with pliers and drop the used sleeve into the bucket of used resin. Either use disposable latex gloves when handling catalysts or resins or clean hands with hand cleaner. Do not clean hands with acetone. wipes are also a useful addition to your toolkit. As well as cleaning hands they are good for removing resin from windows and fascias.

Health & Safety.

Extreme care must be exercised when working on ladders & roofs. Surfaces can be slippery when wet, damp, or frost covered. Do not expose product to temperatures in excess of 180 degrees.

Please review this guide, any material safety sheets & product packaging prior to storage, handling or use of these products. Adhesives, primers, and sealants, as well as their fumes, contain distillates and are EXTREMELY FLAMMABLE, maintain proper ventilation. Store these products away from heat, flame or sparks.

Do not smoke near these materials. Containers should be closed when not in use. Care must be taken not to place open containers near fresh air intake ventilators. Avoid contact with eyes, glasses or goggles are recommended.

If contact is made with eyes, immediately flush with water for at least 15 minutes and contact a doctor or physician. Avoid contact with the skin, chemically resistant gloves should be worn. In case of skin contact wash the affected area with soap and water.

General advice

General Advice When Laying a GRP Roof Repairing a GRP roof If the roof surface becomes damaged by impact or has to be cut for any reason it can be easily repaired using the following procedure:
1. Clean off the damaged area with solvent and abrade the GRP surface with a hand grinder for a distance of 100mm from the damaged area or edge to be joined.

2. 2. Cut the 450/600gm2 glass to the correct size to cover the affected area and mix sufficient resin with catalyst as previously described.

3. 3. Brush resin onto the area to be laminated at the rate of 1 kilo per square metre. Place the glass over the area, wet out the glass with resin at the rate of 0.5 kilos per square metre. Stipple well with the brush or use a paddle wheel roller for larger areas.

4. 4. Ensure that the laminate is free from air and completely consolidated and allow to cure.

5. 5. Mix the Topcoat with catalyst as previously described and apply with a brush at the rate of 0.5 kilos per square metre.

6. 6. Allow to cure. This procedure will ensure that the patch or joining piece applied will bond to the original laminate and form a weatherproof patch over the damaged or cut laminate.

7. Advice when using GRP during Winter months

8. • Always check the local weather forecast (See Commercial Manual for details on how to obtain an accurate forecast.)

9. • During the Winter, avoid topcoating a roof after 2-3pm unless it is a clear bright day and not too cold. The heat from the sun contributes a great deal towards the curing of the laminate during colder months. After the sun has set, it is unlikely that the topcoat will cure over night. If left uncured, the topcoat may cure with debris and leaves stuck to the surface, or with an undesirable finish if it rains.

10. • Ensure that the surface temperature of the boards is checked before laying the resin or topcoat. • Ensure that the resin is warmed before use if the ambient temperature is below 10ºC. • Always ensure that the resin remains indoors the night before it is used.

General advice

11. • Do not use resin or topcoat in temperatures below 5ºC.
12. • If it begins to rain, cover the roof with a visqueen sheet.
13. • If you are unable to laminate over a prepared deck, then coat the decking with catalysed resin and cover any exposed edges. This will seal the deck and prevent moisture uptake until the laminate can be applied. Always cover the edges of the roof and uncoated boards with a polyethylene sheet.
14. • Always ensure the deck or substrate to be laid onto is completely dry before laying the laminate. Sweep off any excess water and mop up the excess with dry cloths before allowing the roof to dry naturally. Wiping the surface with acetone can speed up this process.

15. • Do not start to lay a roof if a period of rain is forecast. Advice when using GRP during Summer months • Always check the local weather forecast (See Commercial Manual for details on how to get an accurate forecast online and useful telephone numbers.)

16. • Do not use roofing resin or topcoat in temperatures above 35o C.

17. • Always mix smaller batches of resin then you normally would to give adequate time to apply it before it starts to catalyse.

18. • Always use LPT catalyst in hotter weather if the resin starts to cure too quickly.

19. • Always apply the laminate in the shortest runs possible across a roof. The shorter the length of laminate, the less likely it is that the resin will catalyse before it can be consolidated into the laminate.

20. • Use a temperature sensor to measure the surface temperature of the laminate before applying the topcoat. If topcoat is applied to surfaces above 50o C, the wax component of the topcoat will melt and the topcoat will remain tacky to the touch, this will usually mean that any loose debris will stick to the roof and the colour of the topcoat will also be impaired.

21. • If possible, topcoat the roof out of direct sunlight or wait until later in the day before applying it, it may mean that the roof will take you longer but it will save you time spent returning to the roof to re-topcoat it at a later date. Safe working practices It is always the installer's responsibility to ensure safe working practices for themselves and their employees and always pay attention to the risks for other members of the public that may be nearby at the time. The following notes are designed to help you ensure a safe working environment, but they are by no means comprehensive and any installers should always assess any potential risks when working on a contract and make sufficient means to address them. In addition to these notes, the installer should also be aware of the health and safety information that applies to most materials