



**COMPLETE GRP
ROOFING SYSTEM**

INSTALLATION MANUAL

tricelcomposites.co.uk/triroof/





SUMMARY OF FEATURES

- ✓ 25-year materials guarantee* (fire retardant products not included)
- ✓ Fire-retardant system options available to BROOF(t4) classification
- ✓ Long lasting
- ✓ Full training provided
- ✓ Full technical support available Monday to Friday
- ✓ Can be specified for walkways and balconies
- ✓ Anti-slip options available



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INTRODUCTION TO GRP ROOFING

TriRoof is a roofing system comprising a polyester resin and reinforcement mat over 18mm OSB3 T&G decking. The roof is finished with preformed GRP (Glass Reinforced Polyester) edge trims and a coat of topcoat.

This installation manual contains practical guidance for installing a GRP roofing system. Installers should attend a training course before attempting to lay a system. Only homeowners whose TriRoof has been installed by a Tricel Composites approved installer can avail of the 25-year guarantee.

The roofing system consists of roofing resin, roofing topcoat, GRP roofing edge trims, catalyst and glass mat. When installed in accordance with the TriRoof specification, the system is covered by a 25-year materials guarantee, subject to the terms, conditions and exclusions of the guarantee.

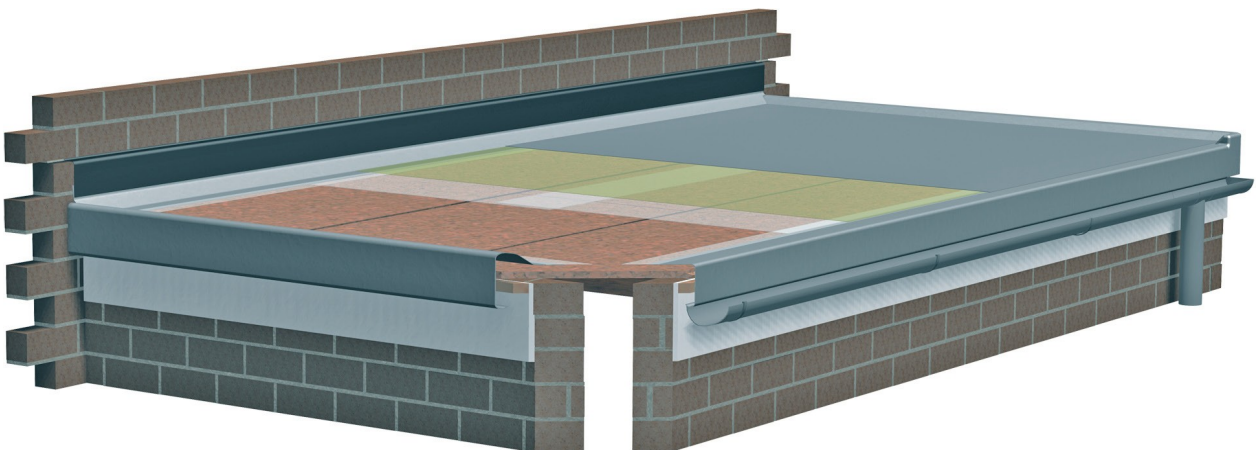
WINDPROOF

The system should be fully bonded to the roof substrate and installed in accordance with the recommended specification to provide resistance to wind uplift under normal design conditions.

The system is suitable for a wide range of waterproofing applications when correctly specified, designed and installed. For more information, contact the technical team or visit www.tricelcomposites.co.uk/triroof/.

FINISHING OPTIONS

Our standard installation includes 450g/m² chopped strand mat specification. We also offer a glass tissue for a premium finish and a 600g/m² or 900g/m² specification which can include a non-slip finish for an area with heavy foot traffic such as balconies or walkways.



WHAT IS GRP?

Glass Reinforced Polyester (GRP) is a composite material and is constructed using a resin reinforced with a glass fibre material, such as chopped strand mat.

Introduced in the late 1940's, GRP gained adoption adopted during the 1950's and 60's for a vast number of applications where its corrosion-resistant properties, allied to its high strength and ability to achieve an attractive finish soon proved to be invaluable. Today, this highly innovative material is in use throughout a range of industries, some examples include the manufacture of boats, planes, water tanks and wind turbines.

When used in roofing, GRP provides a complete weatherproof system helping to reduce many of the common issues associated with traditional roofing materials. GRP roofing has been widely used throughout the UK for many years and has demonstrated long-term performance across a wide range of roofing applications. Its durability and versatility make it a popular roofing solution; however, the quality and long-term performance of the roof remain dependent on correct specification, installation and maintenance. The performance of the roof is therefore reliant on the installer's ability to apply it.

THE GRP ROOFING MARKET

GRP has been used for roofing applications for over 50 years. Technological advances in resin production and the ability to alter its material properties have led to the manufacture of resins specially formulated for roofing. GRP roofing started to gain popularity in the mid-eighties and now accounts for millions of square metres of the UK's roofs.

WHAT IS A GRP ROOF?

The GRP roofing system is constructed using a single-ply GRP laminate applied in situ over the 18mm OSB3 deck and finished with GRP edge trims and a coat of topcoat.

INFORMATION AND COMPONENT PARTS OF A GRP ROOF

Main components of a GRP roof: A200 edge trim

- | | |
|----------------------|---|
| 1. B260 edge trim | 5. 450g/m ² chopped strand mat |
| 2. C100 edge trim | 6. Polyester resin |
| 3. D260 edge trim | 7. Topcoat |
| 4. 18mm OSB3 decking | 8. 75mm bandage |

Most roofing installations for domestic roofs incorporate the four most commonly used trims: A200, B260, C100 & D260.



THE ROOFING TOOLS REQUIRED TO COMPLETE A GRP ROOF:

- Mixing bucket
- Brushes
- 3" x 6" rollers
- Consolidating rollers/paddle rollers

OTHER TOOLS YOU MIGHT NEED:

- | | |
|--|---|
| • Snips | • Sanding head |
| • Strong shovel | • 40-grit sandpaper |
| • Wrecking bar | • Soft and stiff sweeping brushes |
| • Clawhammer | • Waterproof membrane/groundsheet (in case of rain) |
| • Circular saw/jig saw (cutting OSB3 board) | • Nail gun/staple gun |
| • Mastic gun/skeleton gun | • Hardener safety dispenser |
| • 4" grinder + stone blade for cutting trims | |
| • Extension pole | |

ROOFING MATERIALS REQUIRED:

- OSB3 Sterling board 18mm tongue and groove
- Roofing resin
- Roofing topcoat
- GRP edge trims
- Reinforcement mat
- Bandage
- Catalyst
- Acetone
- Trim adhesive
- Disposable gloves

OTHER MATERIALS YOU MIGHT NEED:

- Surface tissue
- 19mm x 38mm treated tile batten
- 63mm nails/screws – all nails or screws should be galvanised and at least 60mm
- TriGrip adhesive
- Bottles of eye wash
- Dust mask
- Rubbish bags/skip
- Resin resistant overalls and suitable footwear
- Safety goggles
- Sealant
- Masking tape
- Slate granules/carborundum grit/quartz (for the anti-slip finish)

ROOFING INSTALLATION

Installing a Fibreglass Roof can be divided into four stages:

1

Preparing and decking the roof - the old roof covering is removed if necessary, and the roof is re-decked with OSB3 18mm tongue and groove boards



2

Fixing the roofing trims - GRP edge trims and batons are fixed to the edge of the roof and can be used to adapt to the GRP laminate to almost any specification.



3

Laminating - joints between decking, gutters, GRP trims and protrusions, such as roof lights, would be bandaged at this point. The entire roof is then laminated with a layer of GRP.



4

Topcoating and finishing - the roof is then topcoated with your client's specification of colour and finish.



STAGE 1 – LAYING THE DECK

Preparing the deck

The OSB3 boards absorb moisture, which can cause board movement and possibly joint failure. Care should be taken to ensure conditions are suitable for laminating before starting. If replacing a flat roof, after removing the old decking, check that all roofing joists are sound and free of rot, replace if required. It is standard to build a fall (gradient) into the substrate so that the roof can drain completely and remain free from standing water.

**It is essential that the deck is laid correctly.
A poorly laid deck may result in porosity in the laminate.**

Laying the deck

Lay the 18mm OSB3 tongue and groove boards at 90° to the roof joists. The boards must be laid with the writing side up; this provides better adhesion between the board and the laminate and allows the resin to flow into the board joint to effectively glue the boards together.

Lay the boards starting at the furthest edge from the planned installation point of the drip trim. If laying the board against a wall, an expansion gap of 25mm should be left. Align the end of the board with the fascia. Stagger the joints in the boards to form a strong deck.

After the first two rows of decking are laid, fix them place. Fix each row after that as you go. When you reach the last row, just cut off in line with the fascia.

We recommend fixing the OSB3 boards to the timber joists using a gas or compressed air nail gun. Using a nail gun helps minimise the damage to the ceiling below. A 63mm – or longer – galvanised ring shank nail should be used at a 200mm gap (also known as centres) between nails along each joist, equating to four nails across a 600mm board per joist line. Ensure to drive the nails into the wooden joists.

Some installers may use screw guns; to be secure, we recommend all screws have a minimum of 40mm penetration into the joists. You can nail the boards using a hammer. However, this leads to internal damage to the ceiling and is much more time-consuming. All nails must be non-rusting (galvanised or sheradised).

STAGE 2 – GRP ROOF TRIMS

The following pages include instructions for attaching the most common type of roof trims. Roof trims are manufactured from GRP. One side has a matte finish and the other a glossy finish. You should always bond to the matte finish.

Fix all your trims to the decking boards with galvanised clout nails or staples, and when used at the perimeter, they should be adhered to the batten using the TriGrip adhesive. A full continuous bead should be used to hold the trims in place. The trims should then be rubbed into place to ensure a good bond.

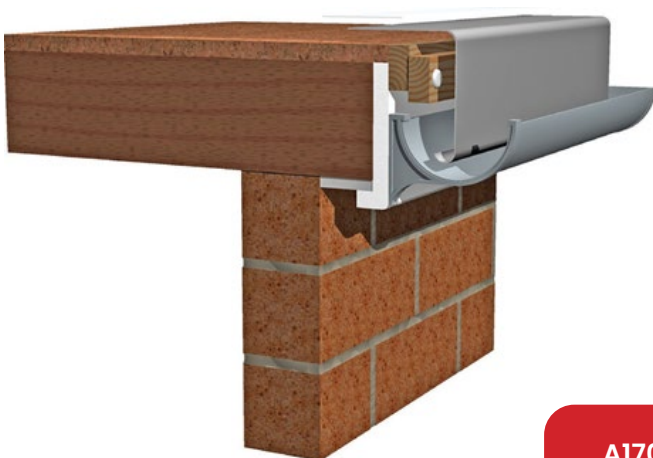
The exception to this is the F300 flat flashing and the D260 angle fillet. Trims are either nailed to your decking boards using a 20mm galvanised clout nail or stapled in place with a gas powered or compressed air stapler. Hold the trim in place to ensure that the face is vertical. Driving your fixings in at each end, then the middle, then 200mm centres after that. When joining two trims together, they must overlap by 50mm and join using trim adhesive.

A170 / A200 / A250 – DRIP TRIM

The 'A' type trim is a drip trim, fitted to the lowest edge of the roof to allow the rainwater to flow into the gutter. Two support battens should be fixed to this edge of the roof to provide space for the gutter to fit behind the trim.



The outer batten shall be attached 5mm-10mm lower than the inner batten to allow the trim to sit flush with the roof. Apply trim adhesive in a continuous bead to the wooden support batten, then press the trim into place and nail to the decking. Do not nail through the front of the trim as this affects the appearance of the roof.



If the pitch on the roof is only minimal, rainwater is likely to hold behind the trim; a power planer can be used to take 2mm off the deck to allow the trim to lay flush with the board. A170 – this trim is for applications where it is not possible to use the larger A200 which is the standard trim. The A250 is ideal for warm roofs or roofs with high footfall.

A170 – this trim is designed for applications where it is not possible to use the larger A200 which is the standard trim. The A250 is ideally used on warm roofs or roofs with high footfall.

B230 / B260 / B300 RAISED EDGE TRIM

A single batten is fixed flush with the top of the deck. Apply a continuous bead of adhesive to the batten, then put 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 leaning against this type of trim, it needs reinforcement to avoid any deformation.

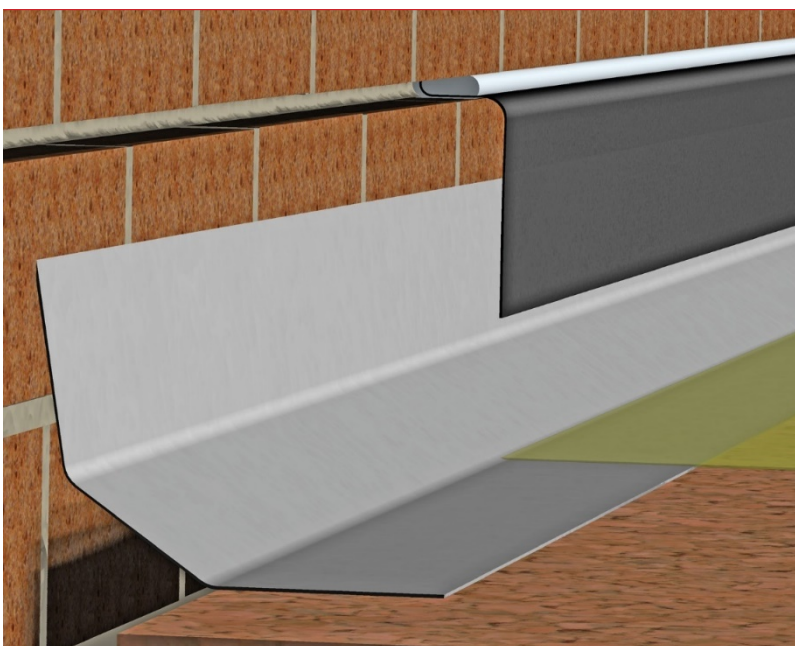


Achieve this reinforcement by doubling up on the trim in this section, to achieve this slot an extra section of trim over the area related to the ladder. Another option is to reinforce the area with an extra layer of laminate and then tissue to maintain a smooth finish. Alternatively, a wooden batten can be shaped and fitted to the ridge of the trim to ensure it remains rigid.

B230 is the smallest size of raised edge trim. This can be fitted to the edges of the roof to contain and direct the flow of water. The B260 is a standard sized raised edge trim and the B300 is the larger raised edge trim used for warm roofs or roofs with high footfall.

D260 / D300 FILLET TRIM

The 'D' trim is a fillet trim for use against abutting walls. These provide expansion and perimeter ventilation and are compatible with C2 and C3 universal corners. Place the 'D' trim against the vertical face and push down diagonally into the corner until the trims fit snugly. Where the 'D' trim needs joining, it should be bonded with a trim adhesive and bandaged together is ideal for warm roofs or roofs with high footfall.

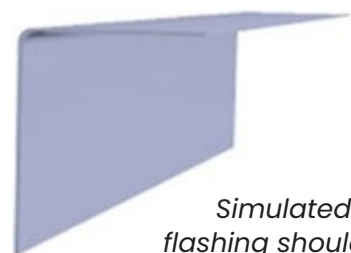


D260 is the standard angle fillet with 110mm and 70mm flanges while the D300 angle fillet trim has 170mm and 80mm flanges.



C100 / C100MT / C100L / C100LMT / C150 / C150MT / C150L SIMULATED LEAD FLASHING

Fit the 'C' trim into a bed joint of brickwork or a 35/50mm (depending on the trim type) deep chase cut out with an angle grinder with a mortar disc. Apply the trim adhesive in a continuous strip to the back of the 'C' trim. Fit the trim into the cut recess slowly and press firmly back against the wall to overlap the 'D' trim. Apply a lead sealant along the length of the trim into the slot to seal in. Do not topcoat.



Simulated lead flashing should not be topcoated.

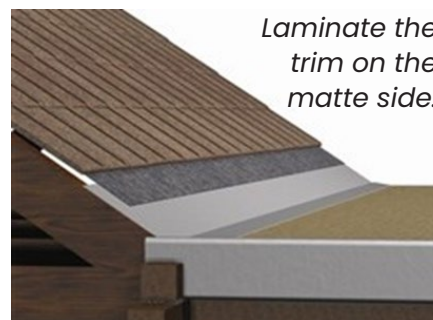
- C100 is the standard lead flashing with 100mm vertical face and 35mm wall penetration. Do not topcoat.
- C100MT (moisture trap) is the same size as the C100 but includes a self-securing moisture trap.
- C100L (long leg) has a long leg for deep wall penetration of 50mm. The vertical face is 100mm.
- C100LMT (long leg and moisture trap) has a 100mm vertical face with 50mm deep wall penetration and a moisture trap.
- C150 is the same as the C100 but with the vertical face is 150mm.
- C150MT (moisture trap) has the longer 150mm vertical face and wall penetration of 35mm and has a moisture trap.
- C150L (long leg) has a vertical face of 100mm and has a long leg for deep wall penetration of 50mm.

F300 / F600 / F900 FLAT FLASHING

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 result in cracks. It should be 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 should only be fixed to the deck along the bottom edge. There are many applications for an 'F' trim, including vertical details where laminating would be time-consuming. Such as under the feet of air conditioning units to enable re-roofing without disconnecting and also use on some parapet wall details. Your 'F' trims should be nailed to the deck around its edges and bandaged over any nail penetrations or joins. Any unlaminated trim can be top coated with the rest of the roof.

Flat sheets are supplied with 300mm, 600mm, and 900mm widths and in 20-meter rolls which can be cut down to a suitable length.



Laminate the trim on the matte side.

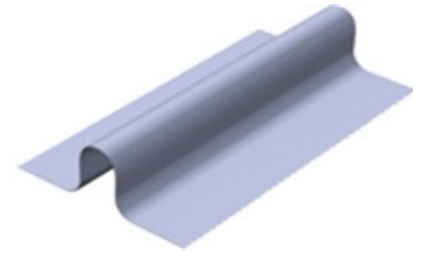
G180 GULLY TRIM

The G180 is used to redirect water, usually to an outlet. Applied to larger roofs to aid drainage and ensure proper gapping of underlying timber to facilitate necessary expansion



E280 ROLLER JOINT TRIM

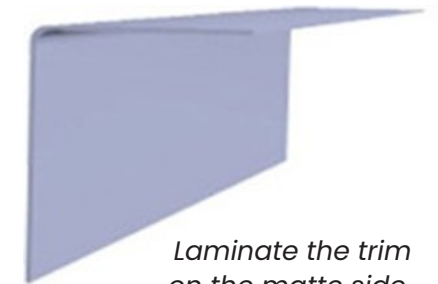
The E280 is used to create expansion joints on large roofs over 100m². Alternatively, on roofs longer than 12 linear metres to create rolls on any ridge details for decorative purposes. It is compatible with C5 closures. Cut an adequate gap in the deck if necessary, nail the trim to each end of the decking at 300mm centres (from nail centre to nail centre). Bandage the join over the nails, and then laminate over the trim. To bond these trims together, or to cap with the C5 closures, apply a strip of Polyurethane (PU) adhesive to the edge of the overlapping trim and press to secure into place.



Do not laminate over an expansion trim as this will hinder its movement.

C6 CLOSURE

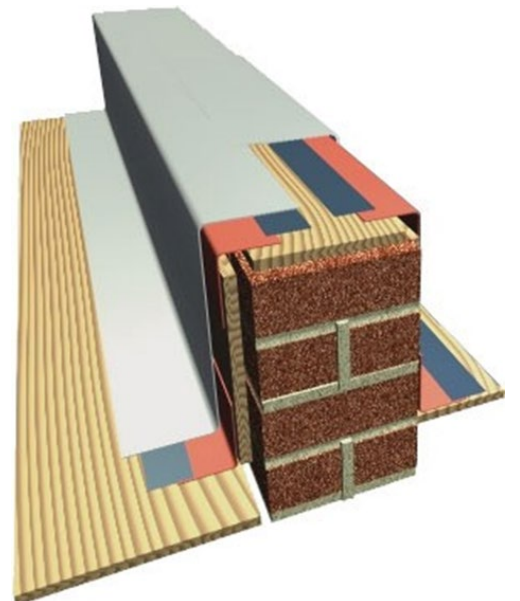
The C6 closure is used to close the end of an E280 rolled joint trim, the closure should be overlapped by 50mm with the trim and sealed with PU adhesive. Nail the closure to the decking, bandage around edges and over the joint.



Laminate the trim on the matte side.

AT195 INTERNAL AND EXTERNAL TRIMS

Use AT195 internal and external trims where the laminate is required to cover a 90° bend. The external trim is supplied with a matte finish on its inner fascia and used for capping applications. The internal trims are supplied with a matte finish on its outer fascia and used for internal corners. Where possible, nail the trims at both edges. You should always bandage over the join between where the nails penetrate the trim and decking before applying the laminate. AT195 trims come in three-metre lengths as an internal angle trim and an external angle trim.



STAGE 3 – LAMINATING

Laminating your roof with roofing resin

It is essential that the resin is stirred before use to ensure the styrene is thoroughly mixed through. You can use our catalyst dispenser to measure out the recommended quantities of catalyst accurately. It is best to allow for a 25–45 minute working time and 25–45 minutes curing time. We recommend using the catalyst addition chart provided in this document to ensure the correct amount of catalyst is used depending on the temperature. Always work from 1.5kg of resin per m².

To ensure you have mixed the correct hardener/catalyst ratio we recommend mixing a small quantity of resin first and to laminate the corners and bandage the trims. This method confirms the curing time and indicates the use of the right amount of catalyst. If the catalyst cures too quickly, then use less catalyst, but never less than 1% and never more than 4%.

CORNERS AND BANDAGING

For your corners and joints, use 200mm squares of the mat for each corner and 200mm strips of bandage for each trim joint.

Lay the 200mm square piece of mat on an offcut of the board and 'wet out' on both sides with resin using a 3" lamb's wool roller. Place the mat onto the face of the adjoining trims with the bottom edge of the radius of the trim. Fold around the corner and fold over the top of the trim and back down on to the deck. Relief cuts can be made into the glass mat to get a better fitting around the top of the trim. Using a 3" lamb's wool roller and 2" paint brush, feather the corners into place.

Any join in the trims should be bandaged using the same mix of resin. If not using T & G boards, then bandage all gaps in the OSB3 boards; even a small gap could cause the resin to leak through to the boards which may lead to porosity in the laminate. If any nails which hold the trims remain uncovered with laminate on the deck or corners, then laminate these with a small piece of mat. After laying the bandage, apply laminate the rest of the roof immediately. There is no need to wait for it to cure.

Carefully roll out the mat, be sure to overlap each section of sheeting by 50mm right across the roof. The ends should be cut with a sharp utility knife into the corner of the trim to leave a straight and neat edge. Leave the rolls on the roof where they have been laid out to avoid any mix up if there is a deviation in size or angle from one length of the mat to another. Number each cut of matting with masking tape and put to one side to avoid any confusion.

Mask off the area to avoid any splashes of resin and avoid spillages. Cover any paving or Indian stone as resin cannot be removed once cured.

LAYING YOUR MAT

Laminating your roof with roofing resin

Before laying your mat, make sure the deck is fixed in place, clean and dry. The mat has a cut edge and a feathered edge, you should always overlap the feathered edge on top of the cut edge. Lay the mat parallel to the drip trim. Unroll the mat along the lowest part of the roof and align so it can be unrolled across the roof without running off-line, then roll the mat back.

- Work in 1m² sections at a time for the best results. We recommend using 3 x 6" rollers full of resin should be applied on the first m² section of the deck; this equals 0.5kg of resin on the decking.
- Roll out your reinforced mat 1m² onto the resin coated board.
- Then apply 6 x 6" rollers full of resin should then be applied to the top of the laminate – equaling 1kg of resin on top of the reinforced mat.

ALWAYS	Ensure that the surface you are laminating on to is completely dry and free from dirt and dust – a wet surface can cause delamination. If your decking has become damp, do not attempt to lay laminate on top.
NEVER	Do not attempt to lay a roof if rain is forecasted. If it starts to rain while you are laying the roof, you must keep it covered with a large damp proof membrane sheet.

CONSOLIDATING

Allow 2-3 minutes for the resin to soak into the matting and break down the binding agent. Using your paddle roller apply a small amount of pressure, rolling back and forth along the edges and the end of the wetted-out mat, feathering them as you go. Then, roll the paddle roller over the whole of the wet-out mat, making sure that the paddle roller makes four to five passes over the laminate. When the weather is colder, the resin will be thicker and can take a little longer to wet out. When a laminate is correctly wetted out it should be transparent; there should be no opaque or white areas. Regularly check for pinholes and areas that are short of resin. Pinholes left unchecked in the laminate lead to issues such as porosity and water penetration. To ensure a quality finish, pay careful attention to the feathering-in as this improves the overall finish of the roof. Many different finishes are achievable. The topcoat can match to any colour used to create a decorative finish and quartz can be used to create a non-slip effect. Quartz comes in a variety of colours.

PREPARING FOR TOPCOATING

Careful preparation for the topcoat helps achieve a high-quality appearance. Using a 40 or 60 grit sanding paper, lightly sand the corners and trim bandages, catching any unsightly fibres and cut any excess cured mat protruding beyond the trim with a sharp utility knife. Take care not to sand too heavily – particularly on corners as this may lead to holes appearing. Seal any abutments with walls using a EVERBUILD® Lead Mate® sealant. Fit any C100 simulated lead flashing before top coating with trim adhesive or a lead mate sealant.

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STAGE 4 – TOPCOATING YOUR ROOF

The topcoat is a resin and should be treated in the same way – using a catalyst for it to cure. Always aim to apply topcoat immediately as soon as the laminate is semi-cured to ensure good bonding with the laminate. A semi-cured roof can be walked on and has no stickiness; this should take about an hour. If this is not possible then ensure that the laminate has been sanded down with 40-grit sandpaper to break the wax and then wash down with acetone before applying the topcoat, this helps to gain a good cross-polymerisation of the topcoat to the laminate.

Remove the lid and stir the topcoat well before use, making sure the styrene and wax at the top of the tin are fully mixed in. Add your topcoat to a mixing bucket to cover the perimeter of the roof including all the edge trims. Using a 3" lamb's wool roller, coat the trims.

We recommend using a lamb's wool roller to get a more even finish than you would with a paint brush. Roll on 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 any of the fascia from the topcoat – you can hold a piece of flashing trim against the fascia as you apply the topcoat to the bottom radius of the trim. If the topcoat is applied too thickly, it will crack and delaminate.

Our roofing topcoats come in admiralty grey as standard, however, if a different colour is required the pigment should be mixed in thoroughly to create an even colour.

CLEANING UP

Buckets, rollers, and paintbrushes can all get reused for multiple jobs. Paint brushes with unpainted handles can be dropped into a re-sealable container of acetone and left for the next undertaking. It can be too time-consuming to clean rollers. You can rebuy replacement lamb's wool roller heads at your TriRoof stockists.

To reuse your bucket – after adding the catalyst, coat the entire inside of the bucket. Once the resin has cured, peel the residue out of the bucket, and it is ready for the next job.

MATERIALS CALCULATOR

Remember – before starting any roof application always calculate the area of the roof and consider the complexity of the job before choosing your materials.

E.g. Will the area have a heavy use (foot traffic) and require 600g/m² matting or a flexible resin? What types of trims are required? Always allow for extra time and materials for any detail.

Roof Size	Resin	Topcoat	Glass	Catalyst	Bandage 75m Roll	OSB3	Trim Adhesive
5m ²	7.5kg	3kg	2.25kg	105 ml – 420 ml	1	4	1
10m ²	15kg	6kg	4.5kg	210 ml – 840 ml	1	9	1
15m ²	22.5kg	9kg	6.75kg	315 ml – 1260 ml	1	11	1
20m ²	30kg	12kg	9kg	420 ml – 1680 ml	1	15	2
25m ²	37.5kg	15kg	11.25kg	525 ml – 2100 ml	1	19	2
30m ²	45kg	18kg	13.5kg	630 ml – 2520 ml	1	22	2
35m ²	52.5kg	21kg	15.75kg	735 ml – 2940 ml	1	26	2
40m ²	60kg	24kg	18kg	840 ml – 3360 ml	1	30	3
45m ²	67.5kg	27kg	20.25kg	945 ml – 3780 ml	1	34	3
50m ²	75kg	30kg	22.5kg	1050 ml – 4200 ml	1	37	3
55m ²	82.5kg	33kg	24.75kg	1155 ml – 4620 ml	1	41	4
60m ²	90kg	36kg	27kg	1260 ml – 5040 ml	2	44	5
65m ²	97.5kg	39kg	29.25kg	1365 ml – 5460 ml	2	48	5
70m ²	105kg	42kg	31.5kg	1470 ml – 5880 ml	2	52	5
75m ²	112.5kg	45kg	33.75kg	1575 ml – 6300 ml	2	55	6
80m ²	120kg	48kg	36kg	1680 ml – 6720 ml	2	59	6
85m ²	127.5kg	51kg	38.25kg	1785 ml – 7140 ml	2	62	6
90m ²	135kg	54kg	40.5kg	1890 ml – 7560 ml	2	66	7
95m ²	142.5kg	57kg	42.75kg	1995 ml – 7980 ml	2	70	7
100m ²	150kg	60kg	45kg	2100 ml – 8400 ml	2	73	7

CATALYST ADDITION

CATALYST ADDITION CHART				
Ambient temperature	27–30°C	19–26°C	12–18°C	5–11°C
Percentage catalyst	1%	2%	3%	4%
Weight of resin	Catalyst Usage			
1 kg	10 ml	20 ml	30 ml	40 ml
2 kg	20 ml	40 ml	60 ml	80 ml
3 kg	30 ml	60 ml	90 ml	120 ml
4 kg	40 ml	80 ml	120 ml	160 ml
5 kg	50 ml	100 ml	150 ml	200 ml
6 kg	60 ml	120 ml	180 ml	240 ml

WHEN ADDING CATALYST REMEMBER:

- Always read the material safety data sheets before using chemicals. These are available on www.tricelcomposites.co.uk/triroof/
- Safety first, always wear safety goggles when mixing catalyst.
- Never use less than 1% even in summer, just mix less resin at a time.
- Resin cures slower at lower temperatures. However, the gel time does not reduce any further beyond 4% catalyst. During winter months allow extra time for curing.
- Temperature is critical – resin does not cure below freezing and cure much quicker in direct sunlight.
- Due to the exothermic (chemical reaction that releases energy) reaction of resin and catalyst, any resin left to cure in a bucket may generate heat. Therefore, it should be stored well away from other materials. Water can be poured over the resin to suppress heat.
- A poorly mixed resin and catalyst can cause streaking and ultimately a failure in the laminate – mix for at least three minutes, and never more than 6kg at a time.

The best temperature to lay a roof at is between 19 – 26°C deck temperature. Never lay a roof if the temperature is below 5°C or above 30°C.

REPAIRING ROOF

- Clean the area to be repaired with acetone and abrade the surface around the damaged zone (about 100mm).
- Cut the glass mat (either 450g/m² or 600g/m²) to the correct size to cover the affected area plus 50mm extra on each side and mix your resin and catalyst as before.
- 0.5kg per square metre of resin goes onto the OSB board. Then place your mat over the area and wet out with an additional 0.5kg of mix per square metre.
- Use a paddle roller to remove all air and consolidate the area and allow to cure.
- Mix your desired top coat with catalyst (and pigment with a clear topcoat if necessary).
- Apply your topcoat with 0.5kg per square metre and allow to cure.

Remember: A repair will only need 1kg of resin as it is going onto GRP, not fresh timber. Due to this, it will not soak in as severely and therefore require less product.

ADVICE WHEN USING RESIN DURING THE SUMMER MONTHS

- Do not use resin or topcoat at temperatures above 30°C.
- Leave the resin and topcoat in the shade to prevent direct sunlight from heating up the resin.
- In warmer temperatures, mix smaller batches than usual to give yourself enough time to apply before it starts to catalyse.
- If the weather is very hot, it is best to use less catalyst. Refer to the catalyst addition table for details.
- Always have a temperature sensor to hand and measure the surface temperature – if the topcoat is applied to a surface above 50°C the wax component of the topcoat melts and remains tacky. This issue causes debris to stick and can affect the colour of the topcoat.
- It is advisable to topcoat out of direct sunlight.
- Apply your topcoat with 0.5kg per square metre and allow to cure.

ADVICE WHEN USING RESIN DURING THE WINTER MONTHS

There are three main issues when using resin during the winter months, cold weather, wet weather and shorter days. However, with the correct information and a little bit of planning, you can still get the job done.

- Always check the local weather forecast.
- Check the temperature. Do not start applying fibreglass if the temperature is below 5°C as it will not cure. Use the catalyst addition chart to calculate the percentage of catalyst to use.
- During the shorter winter days, avoid fibreglassing or topcoating a roof after 2–3pm. You should time your work so the laminate cures before twilight. The heat from the sun assists the curing process; it is unlikely to cure overnight after the sun sets. This extended cure time impacts the finish of the topcoat as debris has a longer period to stick to the surface of the resin or topcoat. This debris build-up requires removal.
- Check the temperature of the boards, resin, and topcoat before laying the fibreglass. The resin should be kept at room temperature overnight before using it if the ambient temperature is below 10°C.
- If it starts raining, stop working immediately and cover the roof with a visqueen sheet.
- If you have the deck laid and are unable to laminate it, then coat the decking with catalysed resin to seal it from moisture. Ensure that all exposed edges get covered. Use a visqueen sheet to cover edges and uncoated boards.
- 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.
- The resin in cold weather has a higher viscosity and is difficult to work with, requires extra effort to work it into the glass and more resin may be required.
- Do not begin to lay a roof if rain is forecast.

SAFE WORKING PRACTICES

It is your responsibility as the installer to ensure safe working practices, for yourself, and any employees or members of the public that may be directly affected. Installers should assess any potential risks when working on a project and make sufficient means to address them.

TROUBLE SHOOTING

PROBLEM	SOLUTION
Laminate is still wet, and the resin is uncured	• Larger laminate areas may need replacing completely, scrape and remove all resin and start again. • Recheck the ambient temperature before mixing resin with catalyst. Mix in a graduated mixing bucket and if in doubt regarding ratio contact technical support.
Resin cures before it is applied and consolidated	• If your ambient temperature is too hot – try a slow release catalyst. • Reduce the sizes of each batch made. • Lay the shortest run possible to give you enough time to consolidate the laminate.
Begins to rain before the roof has cured	• Cover the roof with a damp proof membrane to ensure that none of the laminate gets any moisture into it. Only continue when the weather has completely cleared, and the surface is totally dry. • Resin contaminated with water does not cure and requires a re-skin.
Milky or white stained resin	• When the area is completely dry, begin to sand with 40-grit sandpaper and wipe with acetone. Re-laminate with a 100mm overlap.
Partially cured laminate	• Add a thin coat of catalysed resin to the partially cured laminate to seal it off before adding topcoat.
The topcoat is still wet	• Always add more hardener to the second batch and double up if necessary. • Apply a second thin coat of topcoat and roll vigorously into the uncured layer.
Debris in the laminate	• Debris should be removed and patched over. • Clean the resin off the surface before it is cured using acetone. • If it is on a shiny surface, use a sharp edge knife or rub with a coarse cloth to remove then buff with a wax polish or cutting compound. • Larger spills – use a hot pressure washer and strong detergent –though this can further damage the surface. • Always mask adjacent areas and use a polythene sheet where possible.
Laminate is springy	• Sand back the topcoat in the affected area and 100mm around with 40-grit sandpaper. The sanding breaks down the wax layer in the topcoat that has risen to the surface. Wash down with acetone; this provides a good chemical bond when reinforcing the cracks. Laminate the affected area and 100mm around it with two layers of 450g chopped strand mat (CSM). • Use fixing to secure the laminate that can be bandaged over.
Spoilt appearance – but no damage	• Clean and abrade all surfaces, wipe with acetone and re-laminate the entire roof surface and topcoat.
Cracks appearing	• Check the board fixing – if they have pulled away from the joists re-join them. • Grind down and laminate over the crack with two layers of 450g/m² of CSM, sand, and acetone to remove the topcoat.
Ridges on the roof surface	• Clean the roof down. • Use E280 raised ridge roll trim and re-laminate the entire roof. • If necessary – grind down the ridges and fix new boards and re-laminate carefully to ensure board expansion joints on larger roofs.
Colour fade	• Clean down, with acetone and re-topcoat the roof. • Re-skin the roof with another laminate and topcoat.
Pinholes	• If the laminate has not cured, add more catalysed resin. • If the area has cured, reapply resin and patch using reinforcement mat. • Do not use topcoat to attempt to cover pin holes. This process does not work.

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Get in touch

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