

A GUIDE TO GRP ROOFING

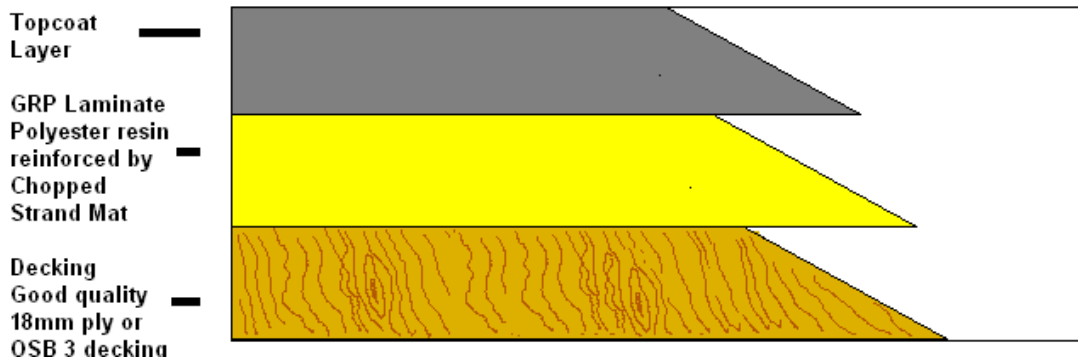


A Brief History of GRP

GRP (Glass Reinforced Polyester) was discovered in the late 1940's. It was quickly adopted during the 1950's and 60's for a wide range of applications where its corrosive-proof properties, allied with its high strength and excellent appearance, soon proved to be invaluable. Its first main application was for boat building, where it gained acceptance in the 50's and is still widely used today. The uses for GRP have since broadened to the extent that it has now become the standard material for the construction of small craft, water tanks, building cladding panels, roof lights and of course high performance waterproof coatings. In the last ten years a rapid growth has occurred in the GRP roofing industry as more and more people realise the benefits of GRP.

What is a GRP Roof?

A GRP roof is a single-ply GRP laminate applied in situ over a good quality conditioned plywood or OSB3 deck. The roof is finished with pre-formed GRP edge trims and a coat of pre-pigmented topcoat.



GRP has been used as a waterproofing material for over fifty years for applications as diverse as boats, water tanks, lorry and car bodies, roof lights, ponds and pools. When used to construct a boat, GRP will provide complete waterproofing protection for the boat's entire lifespan of twenty plus years without the need for maintenance or replacement. This same level of performance is easily replicated on a domestic roof.

Other Applications of GRP

The durability and lightweight properties of GRP make it the ideal construction material for applications as diverse as lorry aerofoils and roofs, boats, ponds and automotive body panels. GRP is also used in hostile industrial settings for applications such as tanks and underground pipes; this is due to its ability to withstand high temperatures and its resistance to chemicals. Unlike other roofing materials, GRP has properties that render it ideally suited to small craft construction. As well as being an inexpensive material, it is robust, flexible and will never corrode. A number of RNLI lifeboats are constructed completely from GRP; these vessels are used in heavy weather for inshore rescue. GRP is also used throughout the automotive industry for after-sale body kits, body repair kits, kit cars, and body panels for production cars.

General Notes When Laying a GRP Roof

Advice when laying a GRP roof during Winter months

- Always check the local weather forecast to ensure conditions will be acceptable.
- During the winter, avoid topcoating a roof after 2pm 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.
- 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 10°C. This can be achieved by leaving it in a warm room the night before a job.
- Do not use resin or top coat in temperatures below 5°C.
- If it begins to rain, stop immediately and cover the roof with a visqueen sheet, keeping the roof as sheltered as possible, the decking will need to be completely dry before continuing.
- If you are unable to laminate over a prepared deck before it will rain, 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 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.
- 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 to ensure conditions will be acceptable.
- Do not use resin or top coat in temperatures above 35°C.
- Always mix smaller batches of resin than you normally would to give adequate time to apply it before it starts to catalyse.
- Always use LPT catalyst in hotter weather if the resin starts to cure too quickly.
- 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.
- Use a temperature sensor to measure the surface temperature of the laminate before applying the topcoat. If topcoat is applied to surfaces at very high temperatures, 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.
- 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 to complete 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 contractor's responsibility to ensure safe working practices for themselves and their employees and consider the risks to other members of the public that may be nearby at the time.

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 very time consuming to clean the roller sleeves, so unscrew the nut with pliers and drop the used sleeve into the bucket of used resin.

Either use disposable latex gloves when handling catalysts and resins or clean hands with an appropriate hand cleaner. Do not clean hands with acetone. Painters wipes are also a useful addition to your toolkit. As well as cleaning hands they are good for removing resin from windows and fascias.

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. Wipe the area down with an acetone soaked rag.
2. Cut the 450/600gm² glass to the correct size to cover the affected area and mix sufficient resin with catalyst.
3. Brush resin onto the area to be laminated at the rate of 1 kg/m². Place the glass over the area, wet out the glass with resin at the rate of 0.5 kg/m². Stipple well with the brush or use a paddle wheel roller for larger areas.
4. Ensure that the laminate is air free and completely consolidated and allow to cure.
5. Mix the Topcoat with catalyst as previously described and apply with a brush at the rate of 0.5 kg/m².
6. Allow to cure

CATALYST USAGE CHART

Deck/Resin temp	29-35oC	21-28oC	13-20oC	6-12oC
Percentage Catalyst	Catalyst 1%	Catalyst 2%	Catalyst 3%	Catalyst 4%

Table of Percentages in Millilitres, Per Weight of Resin Used

Amount of Resin	Catalyst Usage			
1 Kilo	10 ml	20 ml	30 ml	40 ml
2 Kilo	20 ml	40 ml	60 ml	80 ml
3 Kilo	30 ml	60 ml	90 ml	120 ml
4 Kilo	40 ml	80 ml	120 ml	160 ml
5 Kilo	50 ml	100 ml	150 ml	200 ml
6 Kilo	60 ml	120 ml	180 ml	240 ml
7 Kilo	70 ml	140 ml	210 ml	280 ml
8 Kilo	80 ml	160 ml	240 ml	320 ml
9 Kilo	90 ml	180 ml	270 ml	360 ml
10 Kilo	100 ml	200 ml	300 ml	400 ml
11 Kilo	110 ml	220 ml	330 ml	440 ml
12 Kilo	120 ml	240 ml	360 ml	480 ml
13 Kilo	130 ml	260 ml	390 ml	520 ml
14 Kilo	140 ml	280 ml	420 ml	580 ml
15 Kilo	150 ml	300 ml	450 ml	600 ml
16 Kilo	160 ml	320 ml	480 ml	640 ml
17 Kilo	170 ml	340 ml	510 ml	680 ml
18 Kilo	180 ml	360 ml	540 ml	720 ml
19 Kilo	190 ml	380 ml	570 ml	760 ml
20 Kilo	200 ml	400 ml	600 ml	800 ml

Preparing the deck

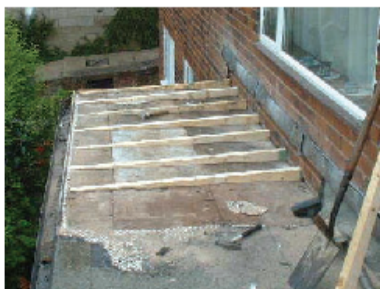
If the substrate is unfit for laying boards onto directly, the surface will need to be removed. When laying decking, it is important to remember that the decking board will absorb moisture if in contact with water. Any moisture trapped within the roof will cause board movement and possibly joint failure. As with laying the laminate, ensure that conditions are dry before decking the roof. After removing the old decking, check that all roofing joists are sound and free from rot. Replace these as required. If possible, build a fall into the substrate so that the roof can drain completely and remain free from standing water.

Laying the deck

Good quality ply or preferably 18mm OSB3 boards are laid at 90° to the roof joists. The boards must be laid with the writing side uppermost. Not only does this give a better key for the laminate, it also allows the resin to flow into the board joint to effectively glue the boards together.

Start to lay the boards at the furthest edge from the drip. If the board is laid along a wall, an expansion gap of 25mm should be left. Align the end of the board with the fascia, laying following boards from end to end. Trim the last board in the row flush with the fascia. Using the off-cut (if greater than 400mm,) start to lay the next row of boards by fitting the tongue firmly into the groove of the row already laid. The boards are now staggered and bonded and will form a strong deck.

When two rows have been laid, the boards can be aligned to run straight, fixing them as you go. Continue to lay each row in turn using the off-cut from one row to start the next row. The last row is simply cut off in line with the fascia.



Firings fixed to a flat roof to aid run-off

Gap is laid face up to allow resin to reinforce the joint

Boards joins are staggered

25mm Expansion gap

Always ensure that the joints between the boards are fully engaged

OSB3 Features:

- 2.4m X 0.6m X 18mm Tongue and Grooved boards.
- Designed to minimise expansion and contraction.
- Easy to handle & carry up ladders.
- Doesn't need edge support between joists.
- Doesn't require the joints to be bandaged.



IT IS ESSENTIAL THAT THE DECK IS LAID CORRECTLY. A POORLY LAID DECK MAY RESULT IN POROSITY IN THE LAMINATE.

When fixing the boards to timber joists, the most efficient way is to use a compressed air or gas powered nail gun, it also minimises damage to the ceiling below. A 63mm (or longer) galvanised nail should be used at 200mm centres, usually 4 nails across a 600mm board. The nails **MUST** be driven into a joist.

Some installers may wish to use screw guns. This is acceptable providing the screws have a minimum of 40mm penetration into the joist. The boards can also be nailed using a hammer. This is obviously time consuming and will probably lead to internal damage of the ceiling. All nails must be non-rusting (galvanised or sheradised).

Edge 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 Polyurethane (PU) adhesive. Silicone sealant or general-purpose mastics are not suitable adhesives for the fixing of trims.

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. To join lengths of trim together, apply a bead of PU adhesive to the inside of one length of the trim and fit it to overlap the other by 50mm. Trims are either nailed to the decking boards using a 13mm galvanised clout nail or stapled in place with a gas powered or compressed air stapler.

After rubbing the trim into place to ensure a good adhesive bond, hold the trim in place ensuring the face is vertical. Drive fixings in at each end, then in the middle and then at 200mm centres thereafter.

Laminating

Avoid spillages by masking off the roof properly, a fine spray is caused when using the consolidator roller and wind can carry this a considerable distance. It is important to ensure that this is considered before the resin is used on the roof. When resin has cured, there is no easy way of removing it from car paintwork without also removing the paint.

GRP roofing resin is supplied in tins of 20kg (approximately 18.5 litres.) The mixing buckets are graduated in litres which will allow easy calculation of the amount of catalyst (the hardner which resin requires for it to cure) needed depending on the ambient temperature. To remove the lid from the tin, a 4-6 inch nail is required to bend back the lugs. It is very important to stir the resin before use, ensuring the styrene & wax that has settled at the bottom of the tin gets thoroughly mixed in. Prepare enough tins of resin to complete the day's laminating at this stage as mistakes such as using unmixed resin are difficult to rectify later. The resin to CSM ratio is 1.35kg of resin for every m² of glass (though you should allow for 1.5kg for every 1m² allowing for spillage and difficult details.) It is good practice to mix a small quantity resin (1 or 2 litres) to start with to laminate the corners and bandage the trims. This will give the best indication of the curing time of the remaining resin and confirm if the correct amount of catalyst has been added to the mix. Ideally, it is best to aim for a curing time of between 20 to 30 minutes. **FOR CATALYST ADDITION SEE THE CHART OPPOSITE.** Before the chopped strand mat is laid out, the deck must be clean and dry and all the trims fixed in place. The mat has a cut edge and a feathered edge. Always overlap the feathered edge on

top of the cut edge.

The mat is usually best laid parallel to the drip trim. Start by rolling the mat out, overlapping the trim by at least 50mm but not over the edge of the trim. Leave the ends long at this stage. Roll out each 1m wide strip overlapping each time by at least 50mm right across the roof. The ends can be cut off with a Stanley knife into the corner of the trim to leave a straight and neat edge.

Decide on the best place to finish laminating the roof from. Roll the mat up to the furthest point from the ladder. 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 mat to another. Cut 200mm squares of mat for each corner and 200mm strips of bandage for each trim joint.

Laminating

For corners, lay a 200mm square piece of mat on the roof deck and 'wet out' on both sides with well mixed, catalysed resin (see catalyst addition chart) using a 2½" polyester roller. Place the mat on to the face of the corner trim with the bottom edge on the radius of the trim. Fold around the corner and fold over the top of the trim down on to the deck. It will be easier to dress and feather if the mat is cut vertically from the top corner of the trim upwards. Using the 2½" roller, 2" paint brush and small consolidating roller, feather the corners in to place. Any joint in the trims should be bandaged using the same mix of resin, in a similar fashion to the corners. If any boards are not completely engaged these joins should be bandaged, even a small gap may cause resin to leak through the boards which will lead to porosity in the laminate. If any nails holding the trims are not going to be covered with the main laminate on the deck or corners they should be laminated with a small piece of mat. The deck of the roof can be laminated before the corners and bandages have cured.

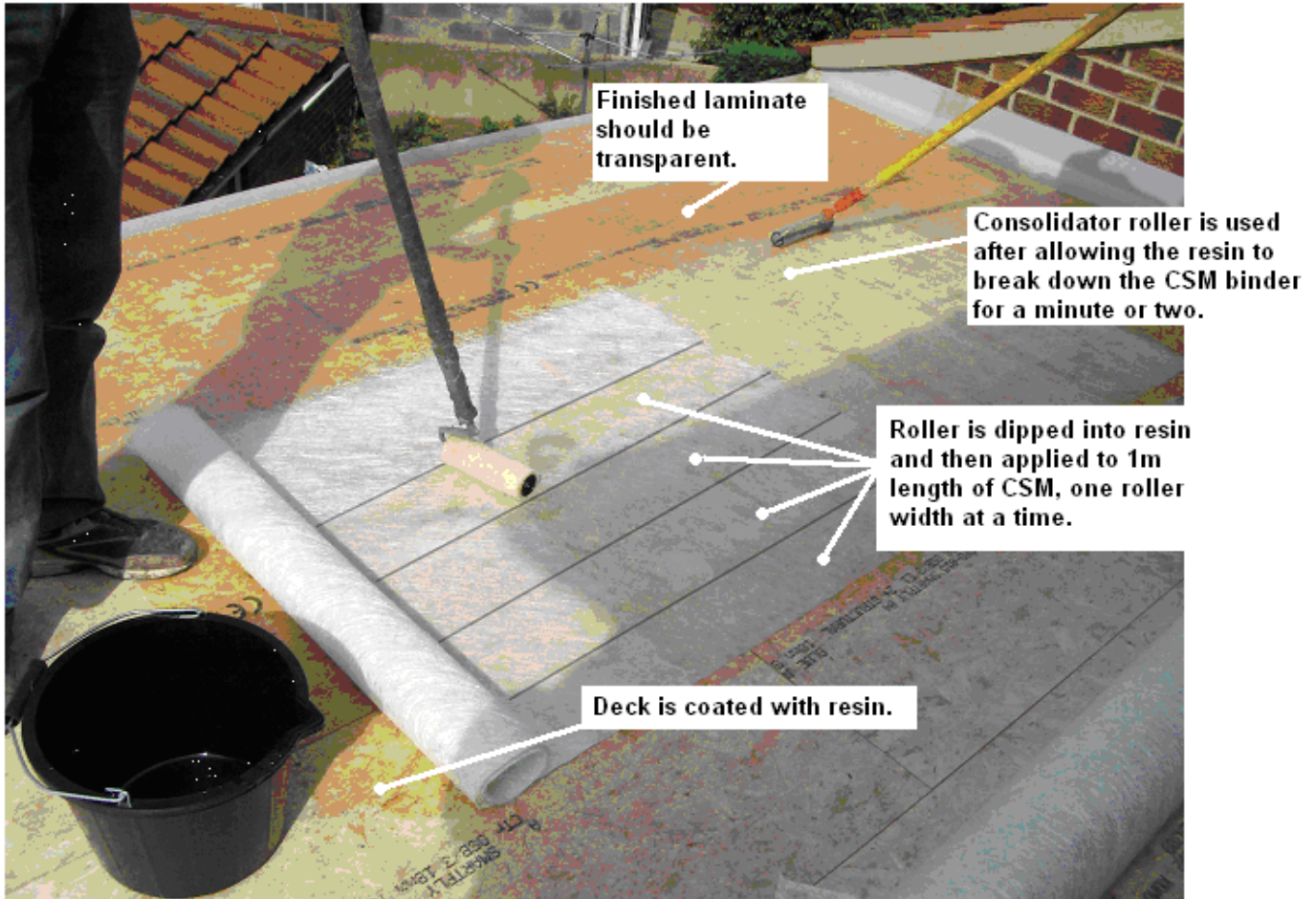


FIGURE 1

Laying the main laminate

YOU MUST FOLLOW THESE INSTRUCTIONS TO GAIN THE CORRECT RATIO OF RESIN TO GLASS. Unroll 1m of previously cut mat along the lowest part of the roof and align so it can be unrolled across the roof without running off-line. Carefully roll the mat back. To get a ratio of 3:1 (1.5kg resin: 0.45kg CSM) one-third resin should be applied on the board and two thirds resin on the mat. Dip the 7" polyester roller into the bucket of catalysed base resin. Lift the roller out of the bucket and without letting the excess run off, drop 3 rollers full onto the board and coat 1 square metre. This will ensure that there is a ratio of one-third resin on the board.

Unroll the mat on to the resin coated board. In strips of 7" (1 roller width) wet out the mat by dropping 1 roller full in the middle of each 7" run, push the roller away to the end of the 1 metre run, then pull back over the full 1 metre. This will ensure even coverage (figure 1.) Continue across the 1m² (approximately 6 runs) and then roll the roller over the whole area again to ensure good even coverage. Wet out the next 1m² of board in the same way, not forgetting to use one third of the resin on the board and two thirds of resin on the mat. Roll out the mat over the next 1m² of wet out board and continue to roll out the resin as previously described.

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. 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 and this spray can travel a considerable distance.

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.

Preparation for topcoating

Taking care and paying attention at this stage will produce a roof of superb appearance. Using a sanding pad with a 40 grit sand paper, 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. Seal any edges with abutting walls using a clear silicone sealant. Fit any C100 simulated lead flashing before top coating and seal off with a clear silicone sealant.

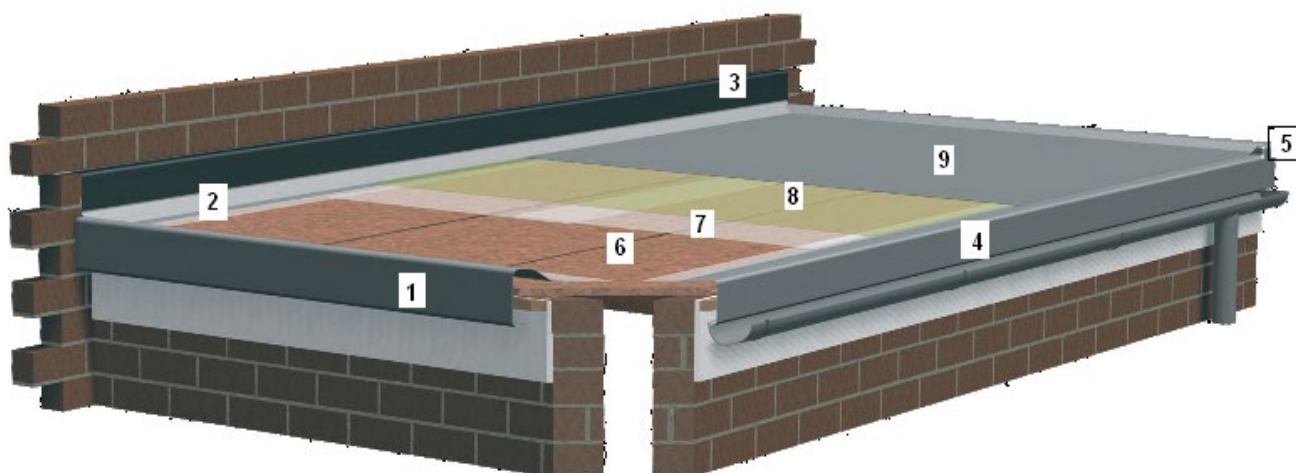
Topcoating the roof

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 topcoating is carried out within 24 hours to gain good bonding with the laminate. If the topcoating 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 & 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 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 (topcoat is applied at a rate of 0.5kg/m².) 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 cool grey or dark admiralty grey, a colour pigment will need to be added to a clear topcoat. A 20 kg tin of topcoat requires 2kg of colour pigment. It is essential to mix the pigment thoroughly into the topcoat to avoid patchiness and uneven colour.

APPLICATION GUIDE

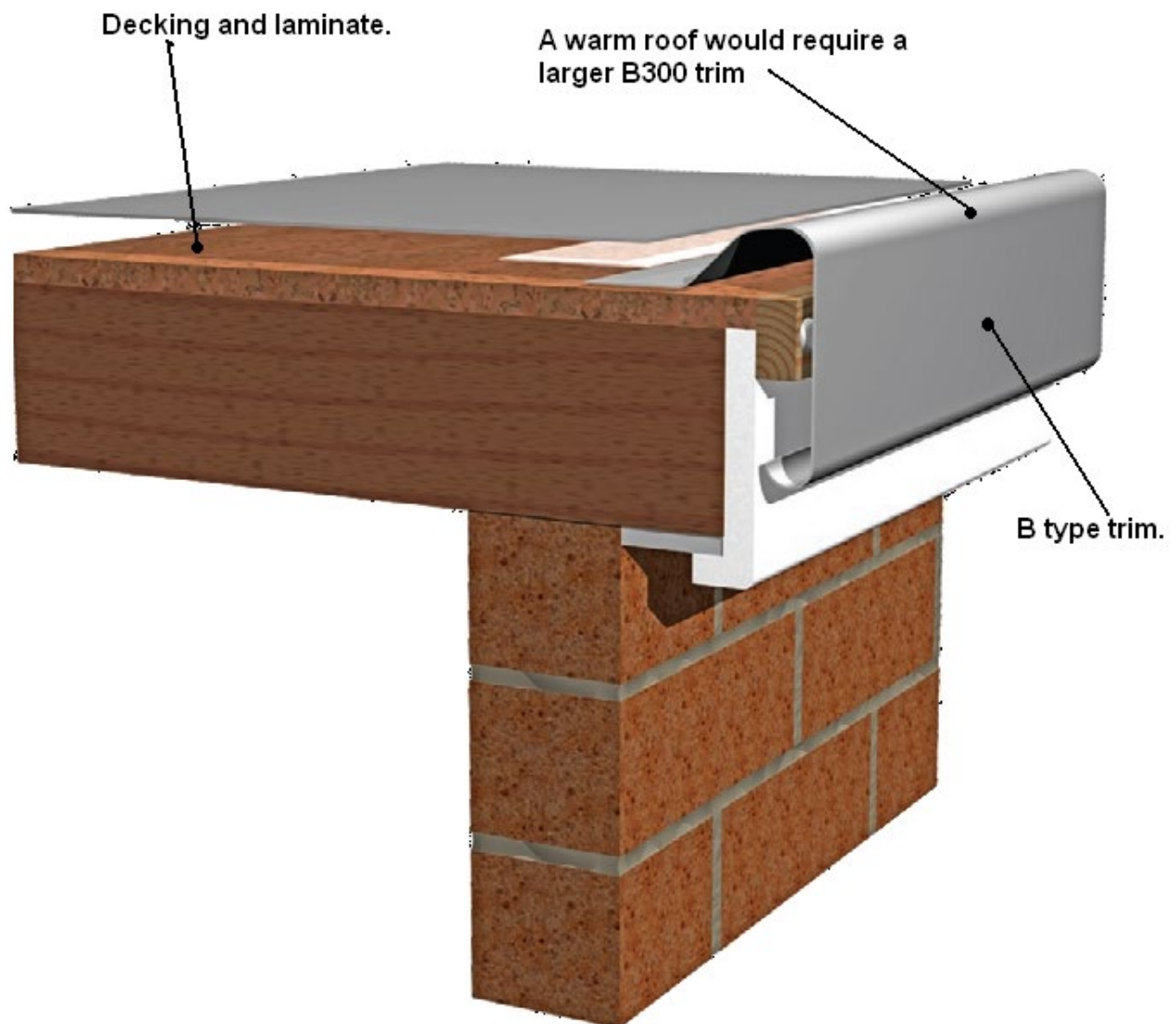


- 1 B260 edge trim
- 2 D260 edge trim
- 3 C100 edge trim
- 4 A200 edge trim
- 5 C1 universal external corner
- 6 good quality Ply / OSB3 18mm decking
- 7 450g/m² Chopped Strand Mat
- 8 GRP laminate (Roofing resin reinforced by CSM)
- 9 Topcoat

B230/B260/B300- Raised Edge Trim

A single batten is fixed level with the top edge of the deck. Apply 30mm beads of trim 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. Alternatively, a wooden batten can be shaped and fitted into the ridge of the trim to ensure that it remains rigid

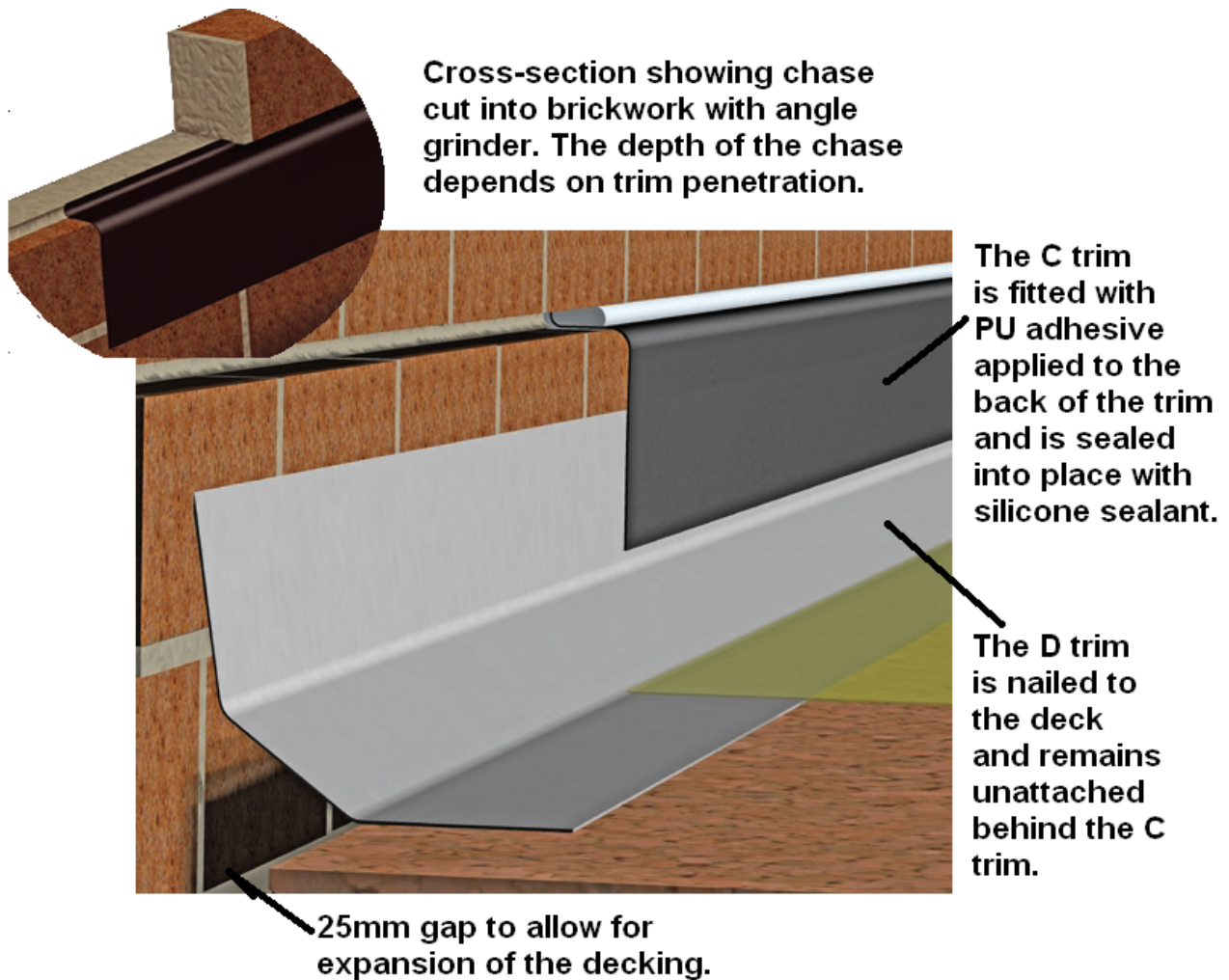
Cross-Section of B Trim Application



**C100/C100MT/C100L/C100LMT/C150/C150MT/
C150L- Sim. Lead Flashing & D260/D300- Fillet Trim**

The C trim is a simulated lead flashing, generally fitted in conjunction with the D trim. 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. 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.

Cross-Section of C/D Trim Application

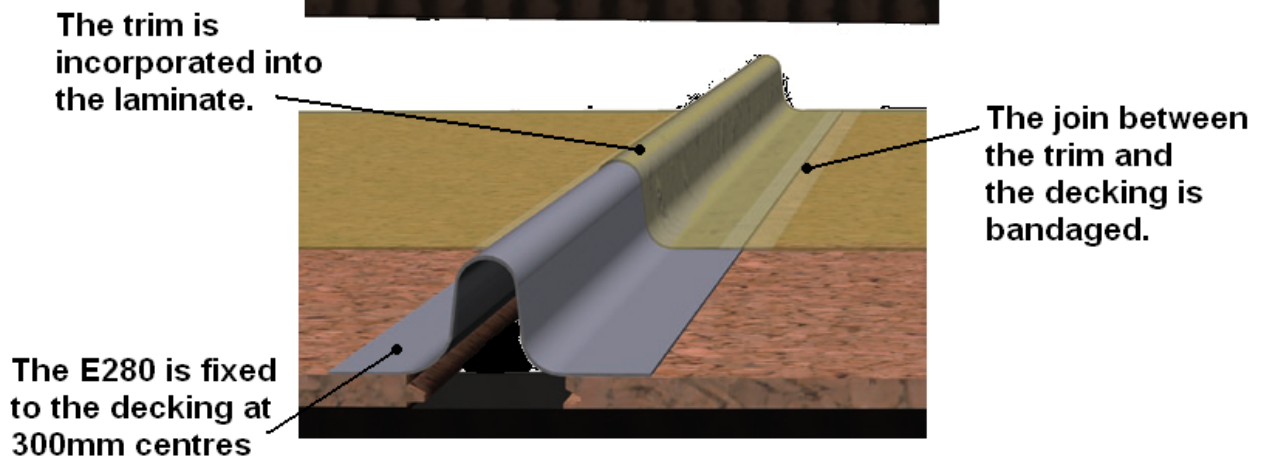
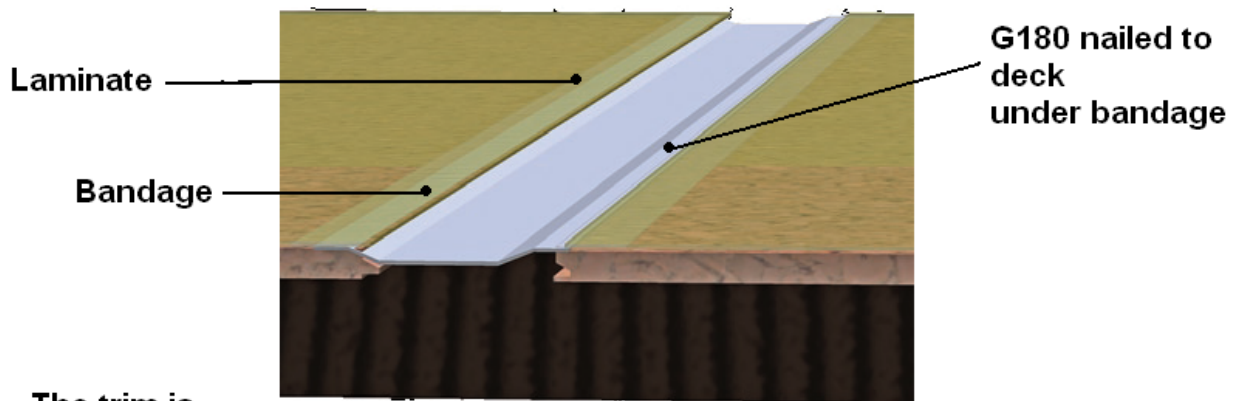


G180 & E280 Expansion Joint/Ridge Roll

The G180 is used to allow for expansion on large roofs (over 50m²) it also acts as an integral gutter to aid drainage. The decking should be cut to allow for an adequate gap in which to insert the trim and the flanges of the trim should be parallel with the decking. The trim should then be nailed to the decking. The trim edges should then be bandaged and the laminate should be applied over the trim.

E280 is used to create both 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.

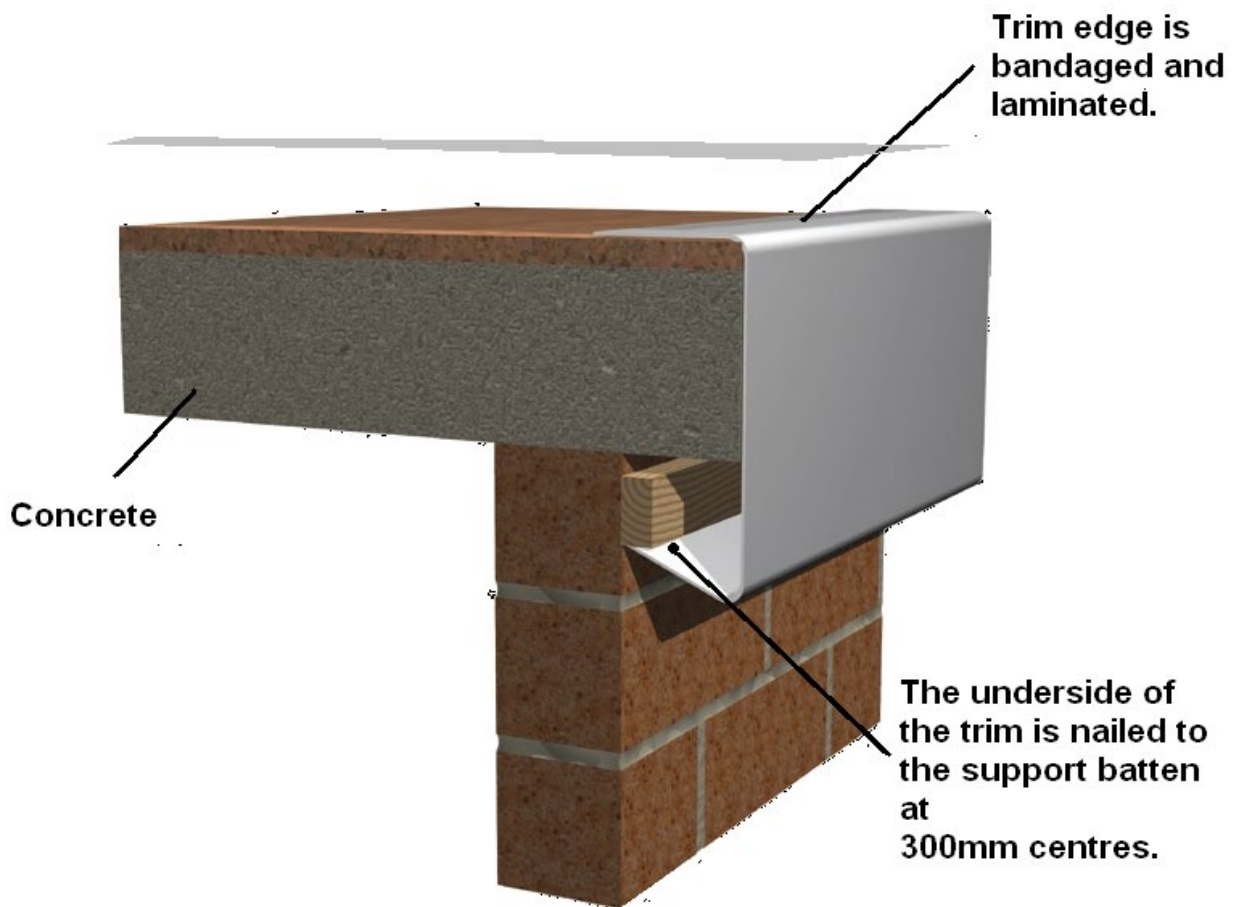
Cross-Section of G and E Trim Application



S500- Soffit Trim

The S500 is used as a fascia trim for concrete roofing or any similar application which requires an over-sized soffit trim. A support batten should be attached to the wall beneath the structure. The trim should be nailed to the decking at 300mm centres and then the underside should be nailed to the batten. The join between where the nails penetrate the trim and the decking should be bandaged over, the laminate can then be applied to the roof and should overlap the edge of the bandage. The laminate should not extend onto the fascia of the trim.

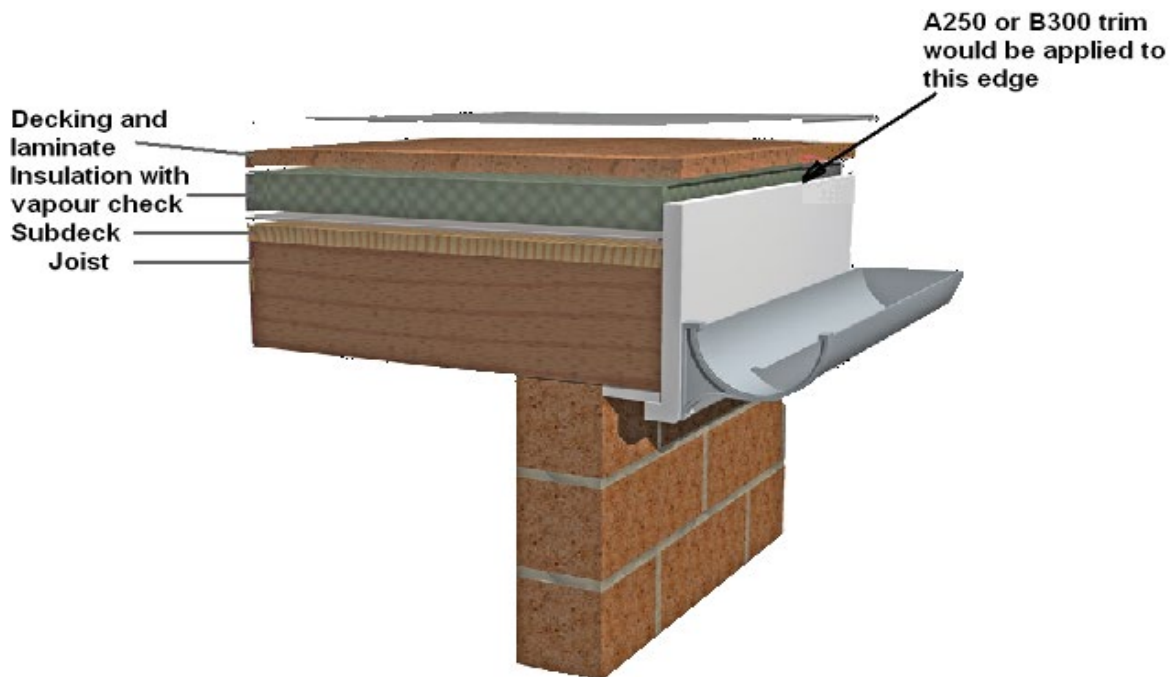
Cross-Section of S Trim Application



Warm Roof Application

A GRP roof can be easily configured in either a warm or cold roof specification. For a warm roof, a sub-deck is first fixed to the joists at 300mm centres. A vapour check and insulation sheet is then laid over the top. Insulation sheets can also be purchased with a vapour check adhered to one side. The decking should then be fixed on top as it normally would be, screws should be used to fix the boards to the joists and these should penetrate through the insulation and into the joists to the same depth as standard fixings. It is imperative that all layers of the roof are pressed firmly together and that there are no gaps between any of the layers. The GRP should then be laminated over the top of the roof as normal. These roofs will usually require larger edge trim sizes such as A250 and B300. To comply with the Part L Regulations of April 2006 the following specification would be required to obtain a 'U' value of 0.20 installed as shown below: 12mm Ply Sub Deck, 100mm of Kingspan TR26 or equivalent, 18mm T&G OSB3 board, GRP laminate.

Cross-Section of Warm Roof onto Decking



F300/F600/F900 Flat Sheeting

The F trim is a flat flashing, mainly used at the intersection of a pitched roof and flat roofs 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 any joints or nail penetrations should be bandaged over. Any unlaminated trim can be topcoated with the rest of the roof.

Cross-Section of F Trim Application

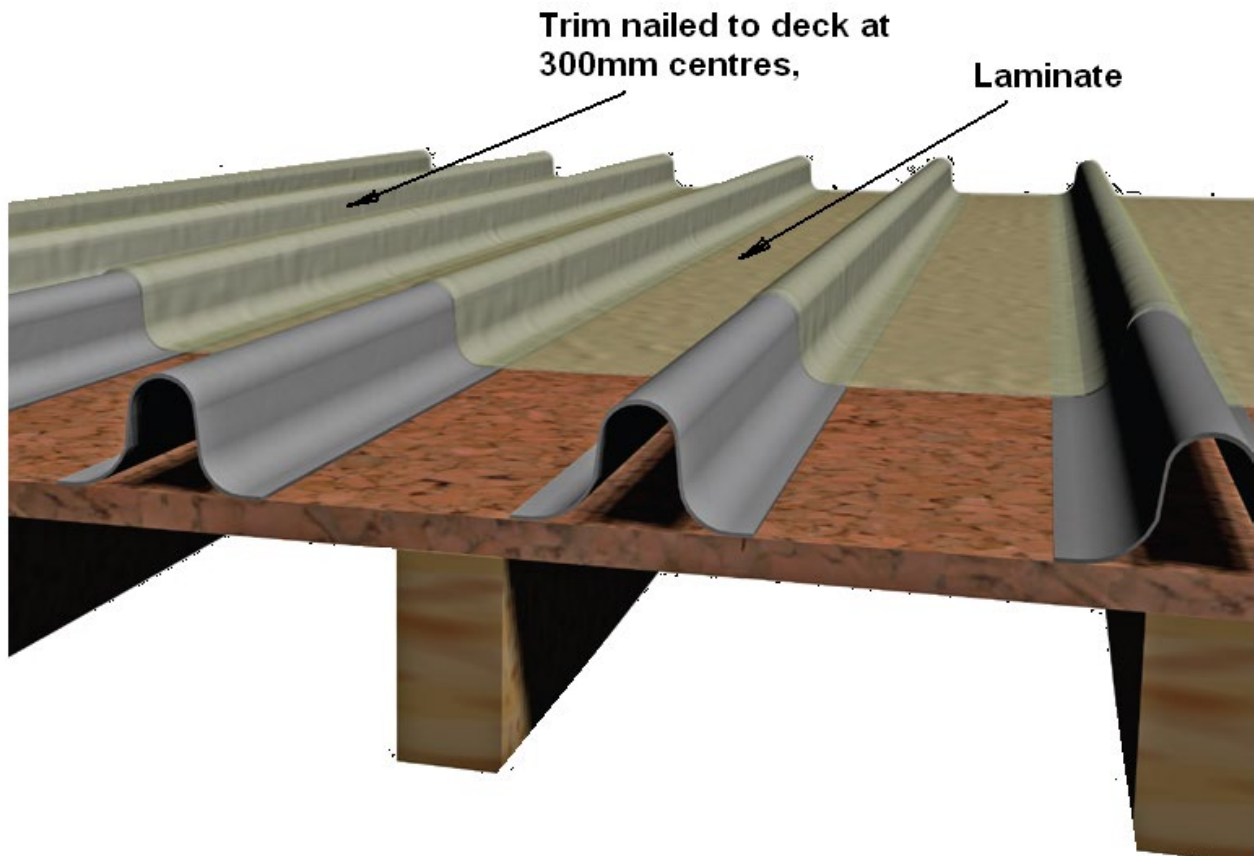


E35/40 Simluated Rolled Lead Joint

Used to simulate the appearance of raised rolled lead joints, also provides expansion. The trim should be nailed to the deck at 300mm centres. The joints and nail penetrations should be bandaged before the laminate is

laid over the top of the trim. Ensure that the laminate is well consolidated over the top of the trim. The trim is compatible with C6 closures.

Cross-Section of E35/40 Trim Application

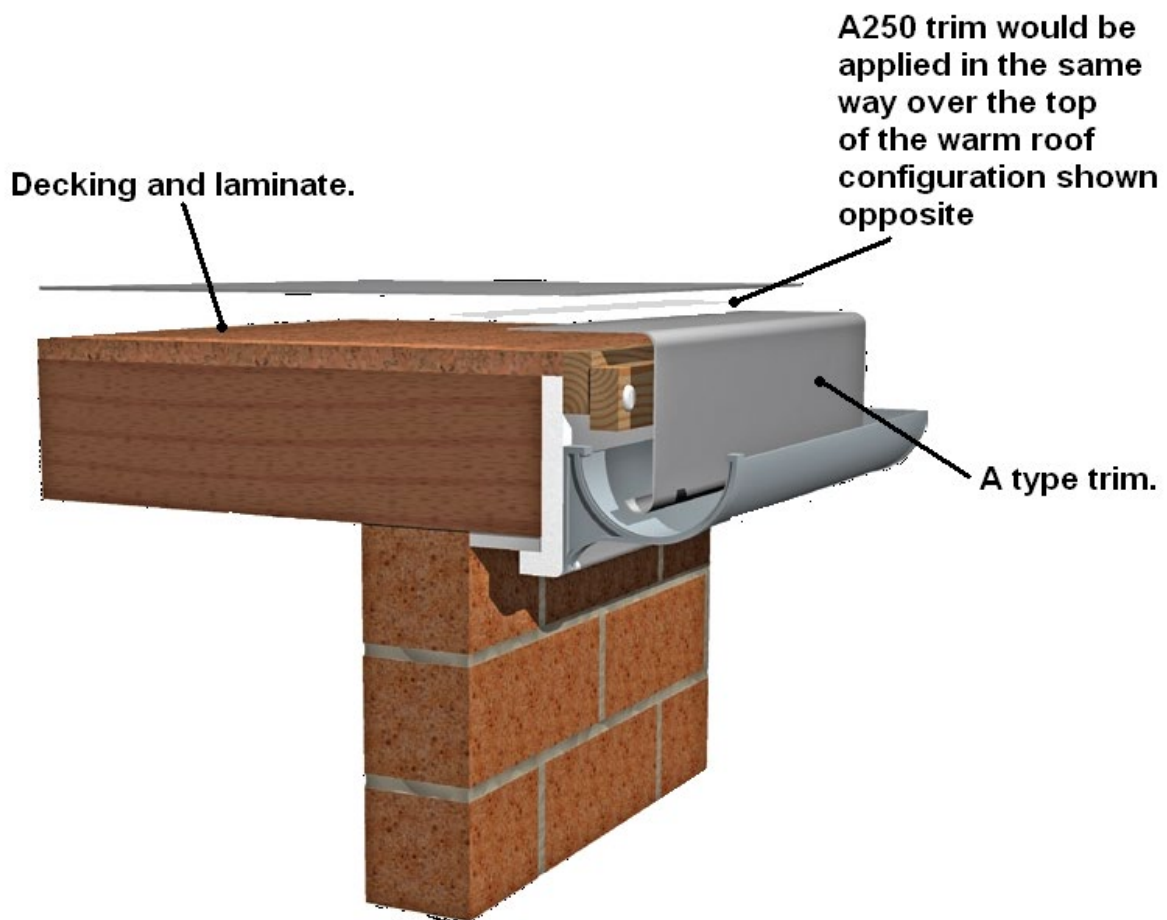


A170/A200/A250- Drip Trim

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 trim 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 planing machine can be used to take 2mm off the deck to allow the trim to lay flush with the board.

Cross-Section of A Trim Application

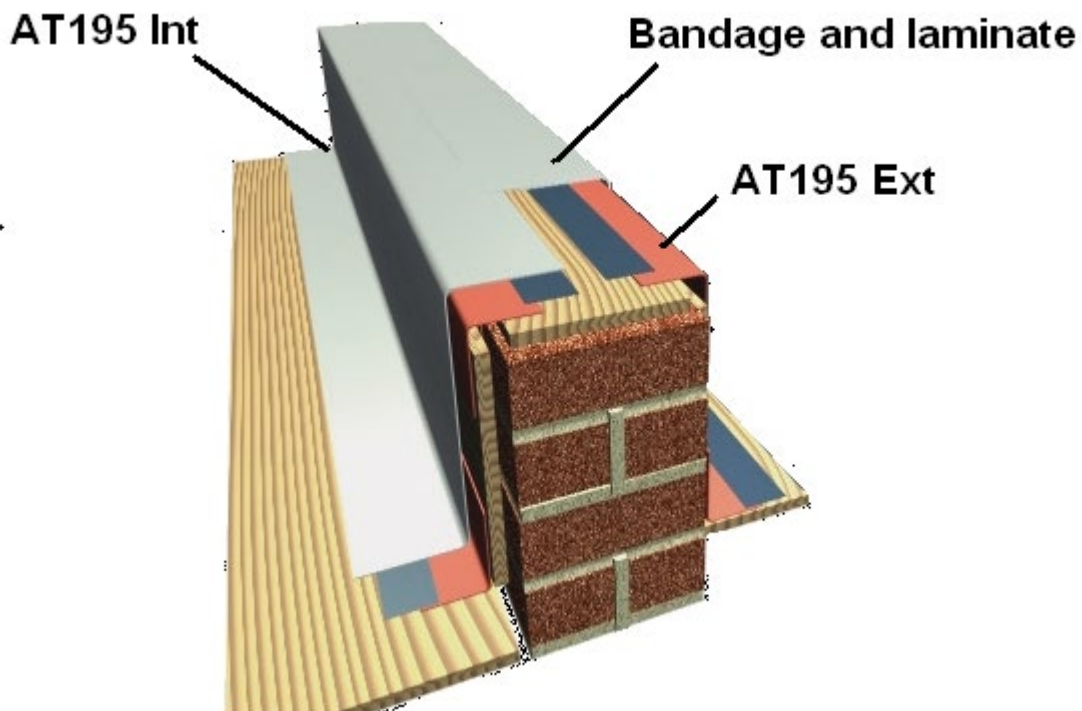


AT195 Int/Ext

The AT195 Internal and External trim is used wherever the laminate needs to cover an area which continues perpendicular to another laminated surface. The AT195 Ext is supplied with a high-adhesion

finish on its outer fascia and is mainly used for capping applications. The AT195 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 joint between where the nails penetrate the trim and the decking before applying the laminate. These trims are supplied in 3 metre lengths as standard.

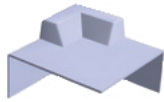
Cross-Section of AT195 Int/Ext Trim Application



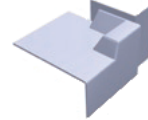
C1/2/3/4 Corners

The application procedure is the same for all the corner trims listed below. The corner should be nailed to the deck at each end and in the middle. The joints between the trim and the corner should be sealed

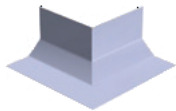
with a thin line of PU trim adhesive, a moist finger can be used to wipe the adhesive, ensuring it seals the entire joint. The joint is then bandaged over. Tissue should be used to ensure a smooth finish.



C1 Universal external corner- Compatible with A200 and B260 profiles.



C2 Fillet to trim corner- For the junction of a flat roof and abutting wall. Compatible with A200, B260 & D260.



C3 Internal/External fillet corner- Preformed internal/external corner for use with D260. Avoids mitring in situ.



C4 Universal internal corner- Pre-formed internal left and right hand corners. Compatible with A200 & B260 profiles

C5/6 Closures

Application is the same for all the closure trims listed below. Apply a thin line of PU trim adhesive to the end of the rolled trim and overlap the closure by at least 50mm and press the trims together firmly to ensure that the adhesive seals the gap. Nail the trim to the decking and laminate over the completed section.

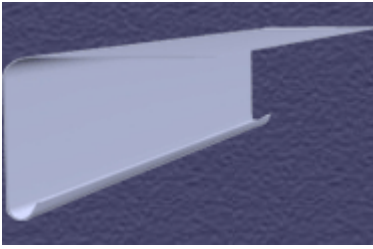


C5 roof ridge closure- Compatible with E280 expansion joint/ridge trims.



C6 rolled rib closure- Compatible with E35/40 simulated lead roll trims.

A170 Drip Trim



Fitted to roof edge to allow drainage into gutter. Drip profile matches B230.

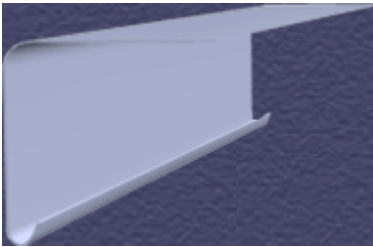
Supplied in 3 metre lengths.

Dimensions:

Girth: 170mm

Depth: 65mm

A200 Drip Trim



Fitted to roof edge to allow drainage into gutter. Compatible with C1 universal external corners.

Supplied in 3 metre lengths.

Dimensions:

Girth: 200mm

Depth: 90mm

A250 Drip Trim



Roof edge drip trim to cover insulation and allow deep gutter penetration.

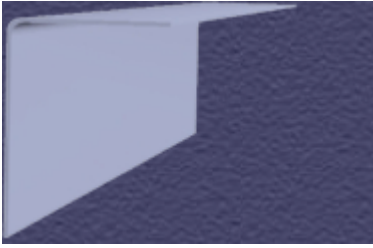
Supplied in 3 metre lengths.

Dimensions:

Girth: 250mm

Depth: 140mm

AT195 Int/Ext



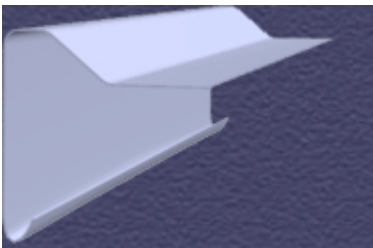
Used for forming upstands, gutter floors and for capping walls and to cover flashings. AT195Int: Adhesion on inner face. AT195Ext: Adhesion on outer face. Supplied in 3 metre lengths.

Dimensions:

Girth: 195mm

Flange widths: 105 & 85mm

B230 Raised Edge Trim



B230 raised edge trim. Directs water flow off the substrate.

Supplied in 3 metre lengths.

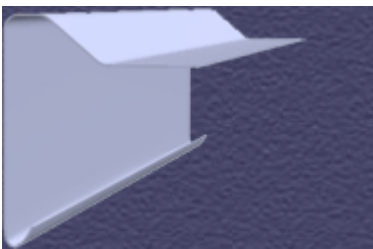
Dimensions:

Width: 95mm

Depth: 105mm

Drip diameter: 10mm

B260 Raised Edge Trim



B260 raised edge trim. Directs water flow off the substrate. Compatible with C1 internal and external universal corners.

Supplied in 3 metre lengths.

Dimensions:

Width: 95mm

Depth: 125mm

Drip diameter: 10mm

B300 Raised Edge Trim



B300 raised edge trim. Directs water flow off the substrate. Extra deep to cover insulation.

Compatible with A250

Supplied in 3 metre lengths.

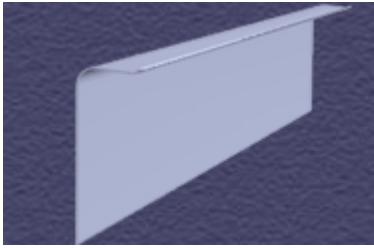
Dimensions:

Width: 100mm

Depth: 170mm

Drip diameter: 15mm

C100 Simulated Lead Flashing



Replaces traditional lead flashing. With integral moisture trap return, self secures into brickwork.

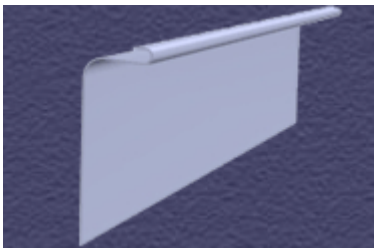
Supplied in 3 metre lengths.

Dimensions:

Vertical cover: 100mm

Wall penetration: 35mm

C100 Simulated Lead Flashing with Moisture Trap



Replaces traditional lead flashing. With integral moisture trap return, self secures into brickwork.

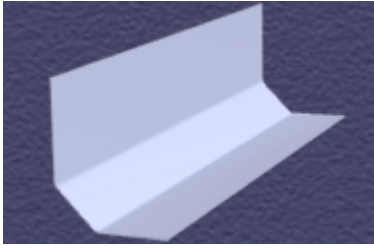
Supplied in 3 metre lengths.

Dimensions:

Vertical cover: 100mm

Wall penetration: 35mm

D260 Wall Fillet



For use against abutting walls. Gutter lining. Provides expansion jointed and cross roof ventilation. Supplied in 3M lengths.

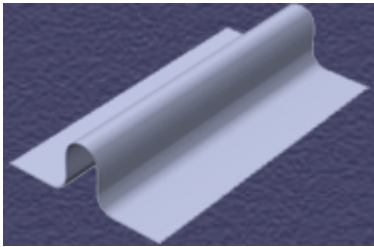
Dimensions:

Girth: 260mm

Flanges: 90/110mm

Upstand Height: 120/140mm

E280 Raised Ridge Roll



Used both to create expansion joints on large roofs and to create rolls on any ridge details.

Supplied in 3 metre lengths.

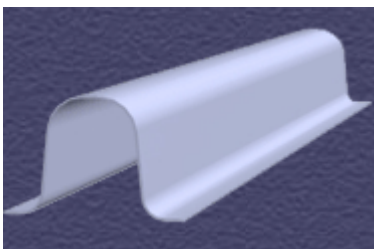
Dimensions:

Girth: 280mm

Flanges: 90mm

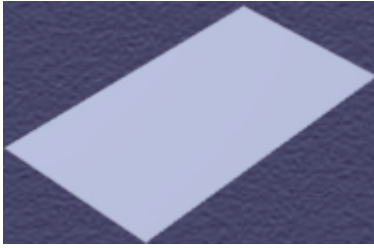
Height: 50mm

E35/40 Simulated Rolled joint



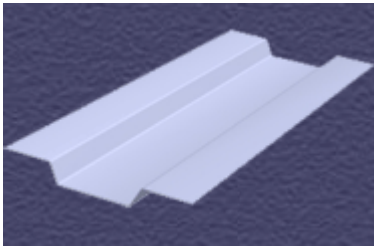
Used to simulate the appearance of raised rolled lead. Also provides expansion and perimeter ventilation. Supplied in 3 metre lengths. Dimensions: Girth: 130mm Flanges: 20mm Height: 40mm Roll Width: 35mm

F300/600 Flat Flashing



Flat section for use as continuous flashing under slates at roof junction. May also be used as gutter lining. Supplied in 20m rolls.

G180 Gutter Trim/ Expansion Joint



Used on larger roofs to aid drainage and to ensure gapping of underlying timber to facilitate expansion.

Supplied in 3 metre lengths.

Dimensions:

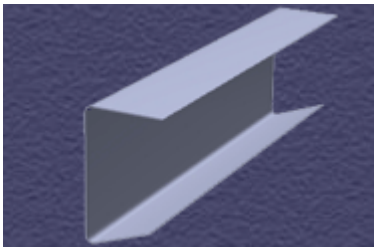
Girth: 180mm

Flanges: 30mm

Depth: 15mm

Trough Width: 80mm

S500 Soffit Trim



Soffit trim to encapsulate concrete of similar roof edge detail.

Supplied in 3 metre lengths.

Dimensions:

Girth: 450mm

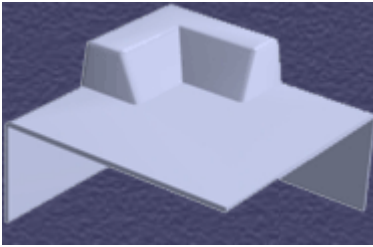
Depth: 225mm

Application instructions- Corners

Application is the same for all the corner trims listed below. The trim should be nailed through the trim to the deck at

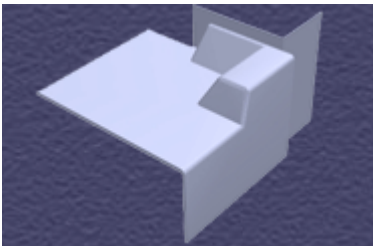
each end and in the middle. The joints between the trim and the corner should be sealed with a thin line of PU trim adhesive, a moist finger can be used to wipe the adhesive, ensuring it seals the entire joint. The joint is then bandaged over.

C1 Universal External Corner



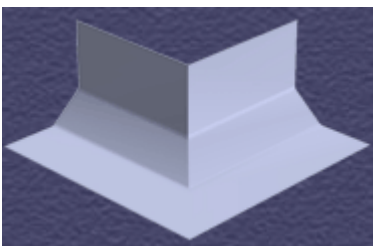
Hot Press moulded GRP pre-formed corner. For use with A200 and B260 profiles

C2 Fillet to Trim



Hot Press moulded GRP pre-formed corner. For use at the junction of a flat roof and abutting wall. Compatible with A200, B260 and D260 trims. Upstand Height: 120/140mm

C3 Fillet Corner



Hot Press moulded GRP pre-formed corner. Used as a pre-formed internal and external corner for D260 fillet trim. Avoids mitring in situ.

C4 Universal Internal Corner

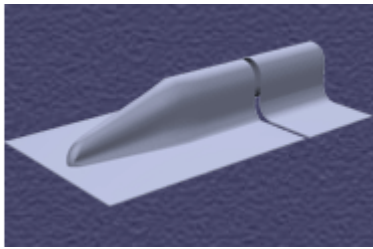


Hot Press moulded GRP pre-formed corner. For use with A200 and B260 profiles

Application instructions- Closures

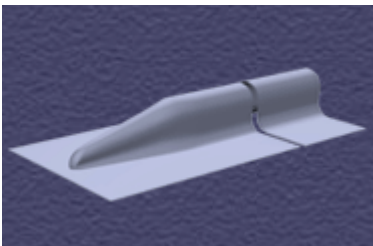
Application is the same for all the closure trims listed below. Apply a thin line of PU adhesive to the end of the rolled trim and over lap the closure by at least 50mm and press the trims together firmly to ensure that the adhesive seals the gap
nail the trim to the decking and apply roof covering over the completed section

C5 Roof Ridge Closure



Pre-formed closure trim for application to end of roof ridge section.

C6 ER35/40 Rolled Rib Closure



Pre-formed closure trim for application to end ER35/40 details.