

**McAtee**

**McAGR**

**OVERLAY  
SYSTEM**

# Complete Installation Guide

**15 / 20 / 25  
YEAR  
SYSTEM**

**FIRE  
RATED**  
To BS.476 Pt3  
F.A.A



Exclusively available at

**McAtee**  
**FLAT ROOFING SHOP**

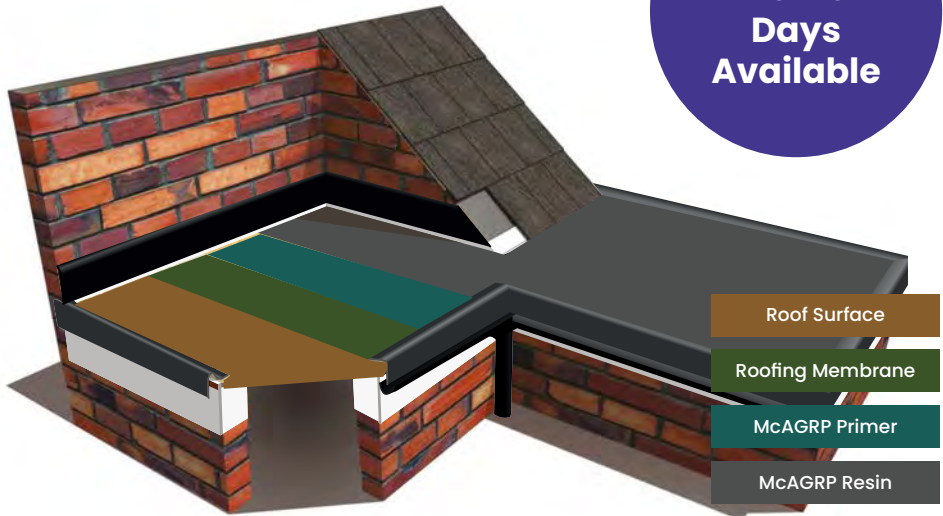
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**McAtee**

**McAGR**P

**OVERLAY  
SYSTEM**

**Product  
Demo  
Days  
Available**



## Benefits

- Fully reinforced a unique elastic roof refurbishment system allowing for lateral movement
- Fully reinforced, seamless refurbishment system, designed to waterproof flat roofs.
- Rather than waiting until the next day, final coat can be achieved one hour after the reinforced base layer has cured.
- Can overlay multiple flat roof membranes and surfaces; mineral felt, GRP, asphalt, PVC single ply, metals (steel and lead).

## Attributes

- Repairs any cracks
- Full overlay abilities
- Very low Odour
- Remarkable toughness with flexible strength
- 20 Year Materials Guarantee
- Easily breaks down CSM reinforcement for rapid detailing work
- Can terminate existing roof detail without the requirement for new trims

## Product Information

The McAGRP (Overlay System) is a solvent-based, single resin product with a liquid catalyst. Due to its advanced technology and versatility, McAGRP can encapsulate and make waterproof new and complete roof refurbishments. McAGRP comes with a 20, 25 and 30 Year products guarantee.

McAGRP Primer will adhere to a wide-range of surfaces. If you're concerned about adhesion we recommend you use a McAGRP adhesion kit to a small area ensuring McAGRP Primer and Resin will adhere to the surface. (Please refer to the technical datasheet for more information).

# Tools & Components Checklist

## Tools Required

- Claw hammer
- Sealant gun
- Strong shovel
- 4" & 10" angle grinder
- Stone blade
- Diamond blade
- Crow bar
- Circular saw
- Jigsaw
- Roll of Visqueen
- Nail gun / drill driver
- Infrared thermometer
- Sweeping brush

## Key Components

- McAGRP Resin
- McAGRP Primer
- McAGRP Liquid Catalyst
- McAGRP 300g CSM
- McAGRP Trims
- Trim adhesive
- Mixing bucket
- CSM bandage
- Paint brushes
- 4" & 7" wool rollers
- Consolidating rollers
- Disposable gloves
- Acetone

Available at

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## Other

- Finishing tissue
- Roof baton
- OSB3 decking (T&G)
- Ring-shank nails
- Clout nails
- Silicone
- Eyewash
- Protective goggles
- Sandpaper (40 grit)
- Strirrer
- Cloths / rags
- Weighing scales
- Application brushes

## General Information

McAGRP resin is available in light grey and dark grey.

Use 300g/m<sup>2</sup> chopped strand mat for roofs, and 600g/m<sup>2</sup> chopped strand mat for areas subject to heavy footfall, such as: balconies, walkways and verandas.

Our liquid hardener can compensate for all seasons, with an optional standard or winter catalyst.

## Safe Working Environment

Before you begin the installation, ensure a safe working environment for your workforce and the general public.

# McAGRP (Overlay System)

## Preparing to Overlay the Roof

Sweep and loose chippings or debris. Remove embedded chippings by using a mechanical scrubbling device. Cut out any wet or deteriorated boards and replace with new.

Aluminium pigmented coatings, repair areas or other types of coating should be given special attention. Prior to waterproofing any these coatings, we recommend you test for adhesion using an McAGRP (Overlay System) adhesion kit.

Prior to installing the McAGRP (Overlay System) system, identify any areas of loose deck, check the roof surface hasn't cracked or delaminated. It's important the roof deck and timber joist are structurally sound.

Depending on the surface you're waterproofing, assessing the existing membrane will determine if the roof needs priming.

Check to if any raised nails or screws are risen from the existing surface or timber deck. Counter sink them before waterproofing the roof.

Remove any standing water, moss, or mould from the roof. You may need to use a powered jet wash to thoroughly clean the surface prior to treating any fungal growth or moss with a fungicidal.

Ensure the roof is able to carry the weight of any equipment.



Loose Roof Chippings



Reflective Roof Paint



Moss/Fungal Growth

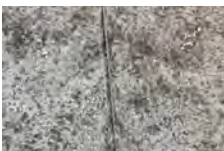
## Felt Membrane

Disbonded felt should always be re-bonded to the existing deck.

Should the felt roof be decayed or too damaged, you must remove and replace with new.

Blisters or bubbles should be cut before re-sticking the felt to the substrate.

Thoroughly sweep the roof of any dust or debris prior to priming.



Split Felt



Felt Blister



Disbonded Felt

## Asphalt Membrane

Blow holes in an asphalt roof must be removed and made smooth with a suitable repair compound.

Any voids and cracks must thoroughly be cleaned prior to using the repair compound.

Allow the repair compound to fully cure before waterproofing.

Thoroughly sweep the roof of any dust or debris prior to priming.



Asphalt Blisters



Asphalt Cracks



Asphalt Repair Compound

## Metal Surfaces

Begin by removing any debris or loose materials from the surface of the metal roof using a stiff-bristled brush or broom.

Use a pressure washer or hose to rinse the roof and remove any remaining dirt, dust, or grime. Make sure to use enough water pressure to remove any stubborn dirt or stains.

Allow the roof to dry completely before moving on to the next step.

Check the roof for any rust spots or areas where the paint has peeled or chipped away. Use a wire brush or sandpaper to remove any rust or loose paint from these areas.

Clean the surface of the roof with a metal cleaner or degreaser. Apply the cleaner to the surface of the roof using a soft-bristled brush, making sure to work it into any areas where dirt or grime may be present.

Rinse the surface of the roof thoroughly with water and allow it to dry completely.

Apply a rust inhibitor to any areas where rust was present or has been removed. This will help to prevent future rust from forming on the roof.



Rust Spots



Pressure Wash



Wire Brush

## Single Ply Membranes (PVC)

Clean the PVC single-ply membrane roof thoroughly to ensure it is free of debris, dirt, and other contaminants. Use a high-pressure washer or a stiff bristle brush to remove all dirt and grime from the surface.

Inspect the PVC membrane roof for any signs of damage, including blisters, cracks, tears, or holes. Repair any damage using PVC repair materials or patches.

Ensure that all seams and edges of the PVC single-ply membrane roof are fully adhered to the substrate. Use a PVC-compatible adhesive or sealant to secure any loose or lifted areas.

Allow the PVC single-ply membrane roof to fully dry before applying any GRP flexible overlay system.



Poorly Adhered Membrane



Blisters



Patch

## Concrete & Screed Surfaces

Clean the surface thoroughly: Remove any debris, dust, dirt, or loose material from the surface. Use a broom or a vacuum cleaner to clean the surface. Any debris left on the surface can cause problems with the adhesion of the GRP overlay.

Check for cracks: Look for any cracks on the surface. Repair any cracks using an appropriate concrete repair compound. Allow the repair compound to cure before proceeding to the next step.

Smooth out uneven areas: If there are any uneven areas on the surface, they should be smoothed out using a concrete levelling compound. Apply the levelling compound to the surface and spread it out using a trowel. Allow the compound to cure according to the manufacturer's instructions.



Cracks in Concrete

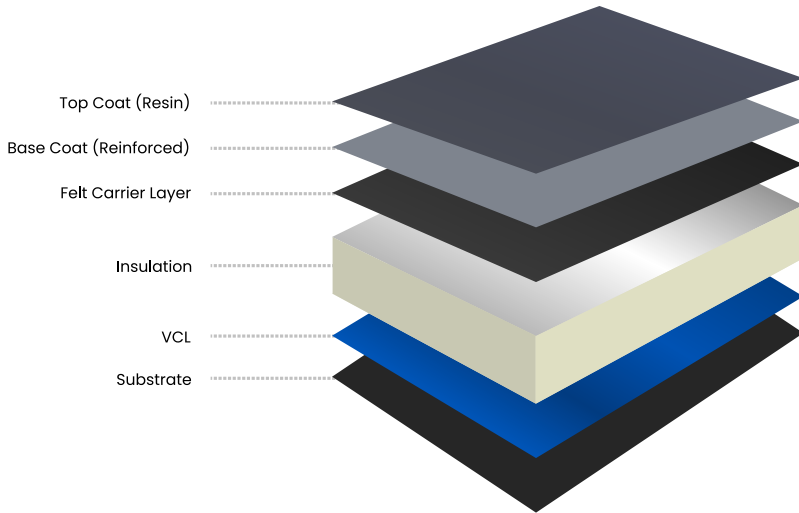


Repair Compound



Levelling Compound

# McAGRP Warmroof System



A warm roof system is a type of roofing construction where the insulation layer is placed above the roof deck or substrate, rather than within the roof structure itself. This design helps to reduce heat loss through the roof and can provide energy efficiency benefits.

The layers of a warm roof system typically include a top coat of resin, a reinforced base coat, a felt carrier layer, insulation material, a vapour control layer (VCL), and a substrate. The top coat and base coat are applied to provide a weather-resistant and durable finish, with the felt carrier layer used to provide additional strength and support.

The illustration above provides a guide to the layers that form a warmroof. Prior to installation, we strongly recommend you thoroughly check the current building regulations. New build projects generally require A250 and B300 GRP edge trims.

All roofing trims are manufactured in the UK for McAGRP. A combination of strength and flexibility is achieved with a McAGRP warmroof.

A warmroof substantially improves the U-value of a room by eradicating any cold bridging, improving the efficiency of a property and reducing heating costs. Warmroofs are beneficial all year round, as they maintain heat in winter, and deflect heat during the summer.

# Drip Trims

## A170/A200/A250/A200A Drip Trim

3m length

A170 - 75mm x 84mm

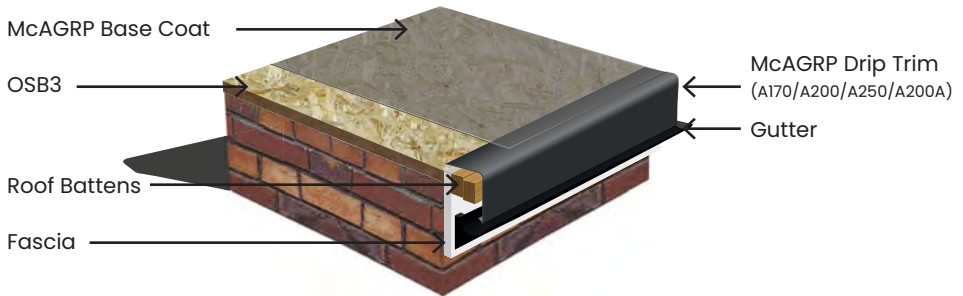
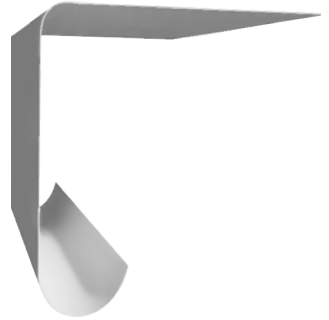
A200 - 90mm x 90mm

A250 - 140mm x 90mm

A200A\* - 90mm x 90mm

(\*A200 with return)

Fitted to the roof edge to provide drainage



For drip trims two roof battens should be nailed to the fascia board, the first being flush with the roof and the second fixed to the first batten 10mm staggered where it will sit underneath the drip trim and allow for space so that the gutter can be fixed behind the trim. Structural adhesive should be applied to both the roof batten and inside the trim so that once the trim is fixed, a bond is created. Joining two lengths of drip trim together you should apply structural adhesive to the inside of one of the trims and overlap by 50mm, this will create a strong bond before fixing the drip trims to the deck.

The drip trims should then be fixed down to the OSB3 sheets using clout nails at the lowest point of the roof - this will enable rainwater to drain into the gutter system. Cutting a strip of 75mm taping mat, you should then bandage the joints and basecoat with catalysed McAGRP resin and allow space for the gutter to be fixed behind the trim for the basecoat to cure.



# Raised Edge Trims

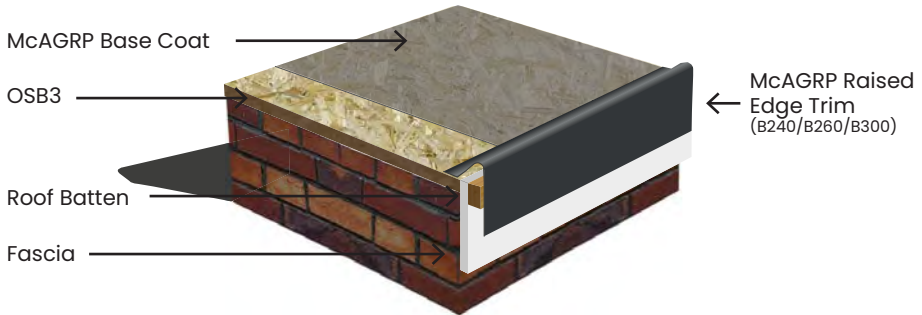
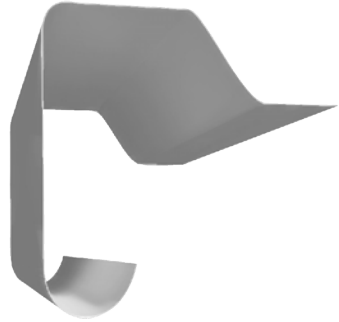
## B240/B260/B300 Raised Edge Trim

3m length

B240 – 100mm x 105mm

B260 – 130mm x 125mm

B300 – 110mm x 175mm



The raised edge trims should be fixed and used mainly for draining water into a gutter system. A single batten should be nailed to the fascia boards allowing the raised edge trim to sit comfortably off the fascia board (no need for two battens as there should be no gutter for a raised edge trim to sit in). Structural adhesive should then be applied to either the single batten or the raised edge trim so that a bond is created on the vertical face. Nails should not be used on the face of a raised edge trim as it will clearly show through the topcoat once applied and cured.

Joining two lengths of raised edge trim together, you should apply structural adhesive to the inside of the trim and overlap by 50mm, this will create a bond once fixed to the deck. Cut a strip of 75mm taping mat and embed the CSM tape over the joints.

# Wall Fillet

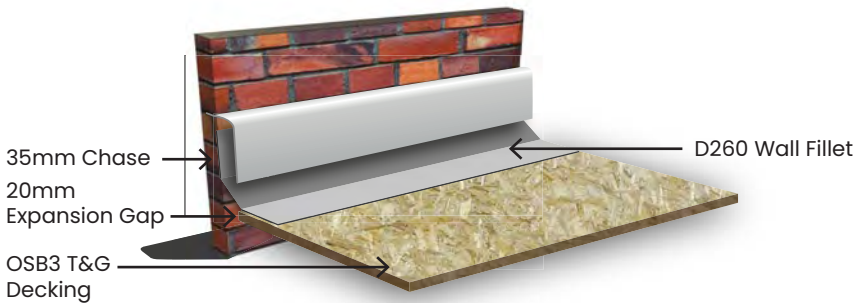
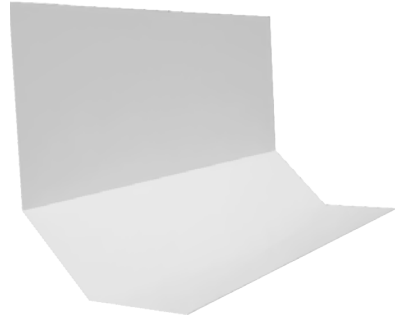
## C100/C150/D260 Wall Fillet

3m length

C100 - 35mm x 100mm

C150 - 35mm x 150mm

D260 - 120mm x 60mm x 80mm



The D260 wall fillet is mainly used with C100 and C150 simulated lead flashings. The horizontal face of the D260 wall fillet trim should be nailed to the deck and the vertical face should be up against any abutment walls. The D260 wall fillet should allow for an expansion gap around the perimeter of the wall in case of any movement within the structure.

Joining two lengths of raised edge trim together, you should apply structural adhesive to the inside of the trim and overlap by 50mm, this will create a bond once fixed to the deck. Cutting a strip of 75mm taping mat, you should then bandage the joints and basecoat with catalysed McAGRP resin and allow for the basecoat to cure. The simulated lead flashings (C100 and C150) come in 3m lengths, the two trims have different depths depending on the application.

# Flat Flashing

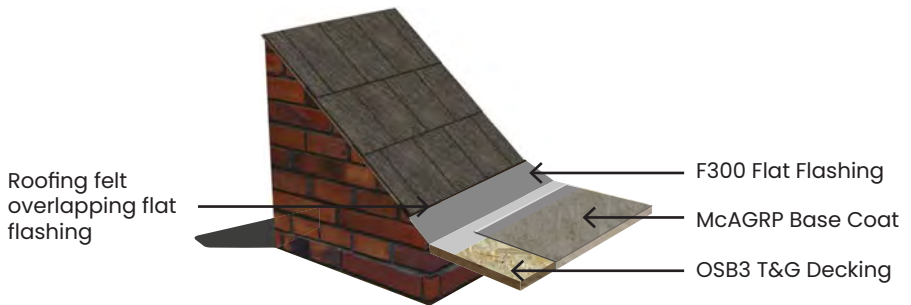
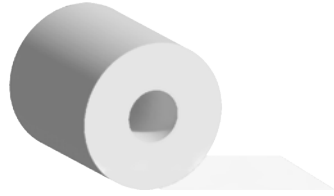
## F300 Flat Flashing

3m length

F300 - 300mm x 20m roll

F600 - 600mm x 20m roll

F900 - 900mm x 20m roll



The flat flashing consists of three different widths and come in 20m rolls. Flat flashing is mainly used for when a sloped / pitched roof meets an existing flat roof or balcony terrace. Position the flat flashing on the roof deck and fix using clout nails. The remaining trim should run up onto the pitched roof underneath the existing breathable felt, tile or slate. Flat flashing can also be used around soil pipes or any other vertical system arising from the structure of the flat roof.

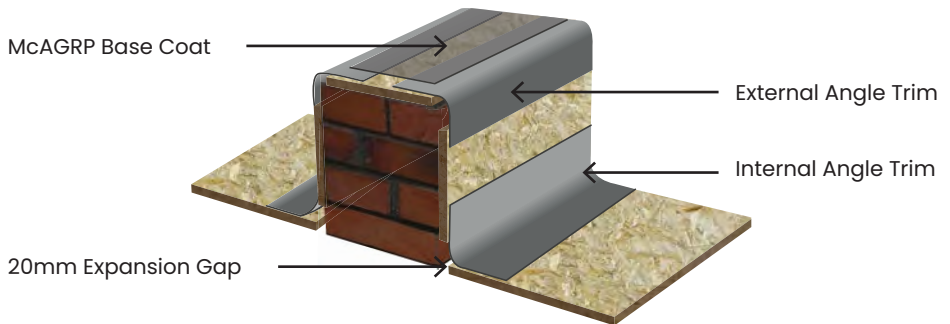
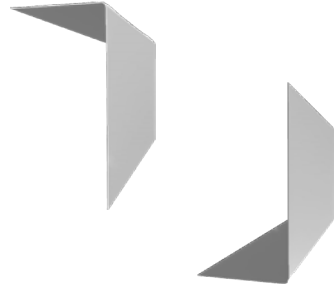
All joints should be bandaged and reinforced with our McAGRP Resin and 75mm taping mat. Once cured our McAGRP Topcoat can be applied, providing a UV resistant finish.

# External/Internal Angle Trim

## G150/G275/H150/H275 Angle Trims

3m length

- G150 - 75mm x 75mm
- G275 - 200mm x 75mm
- H150 - 75mm x 75mm
- H275 - 200mm x 75mm



External / internal trims are used for features such as upstand walls, adjacent walls and for sections under patio / sliding doors and kitchen doors. The external trims should be nailed on the outer face and fixed to OSB3 deck, while internal angle should be nailed on the opposite, inner face.

Overlap all joints by 50mm and reinforce the joint with 75mm tape matting. Then basecoat with catalysed McAGRP resin and allow for the base coat to cure.

# Expansion Joints

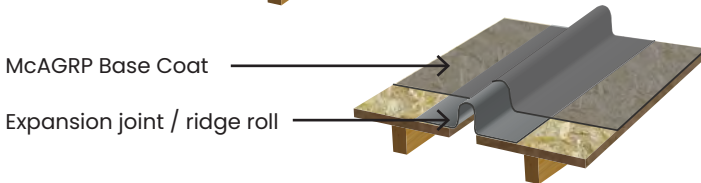
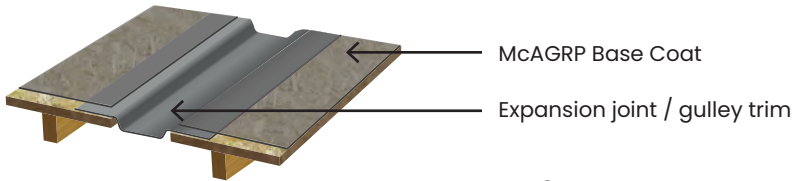
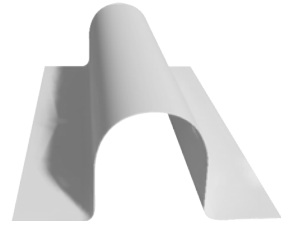
## G180/E280/ER40/30 Expansion Joints

3m length

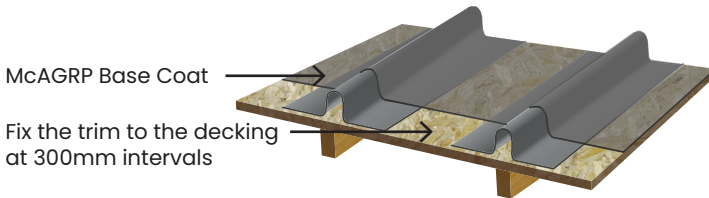
C100 - 35mm x 100mm

C150 - 35mm x 150mm

D260 - 120mm x 60mm x 80mm



Available Sizes (3M Lengths):  
G180 - 15mm x 140mm  
E280 - 65mm x 200mm



Available Sizes (3M Lengths):  
ER40 / 30 - 50mm x 40mm

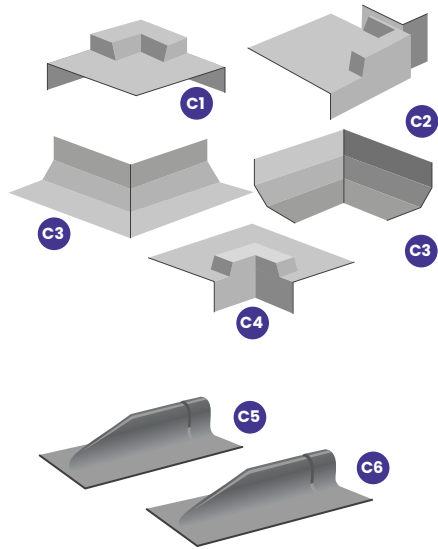
When waterproofing a commercial roof, expansion joints will be required. The G180 and E280 should. When installing the expansion joint/ ridge roll trim, allow for the OSB3 deck to be cut so that the G180 and E280 can be fixed into position. Nail down the trim and bandage the joints with 75mm taping mat and basecoat with catalysed McAGRP resin.

The G 180 will act as a guttering system draining all water from the roof and away to all running outlets, while the ridge roll trim can be used to create a raised detail within the application, preferably conservatories and sloped roofing structures. Apply structural adhesive when overlapping any joints / trims and when joining the closure of the C5 trim to the E280 ridge roll trim.

The ER40 / 30 is used to replicate the appearance of raised rolled lead joints. The trims should be applied using clout nails, ensuring that the heads of the nails are bandaged and then the whole trim base coated to provide a smooth finish. Finish by capping the ends of each rib with C6 closures.

# Corner Trims

- C1 Universal external corner trim**  
Creates a left or right corner. Use with A or B POLY Trims.
- C2 Fillet to corner trim**  
Apply where a flat roof meets an adjoining wall. Use with A, B and D260 POLY Trims.
- C3 External / internal fillet corner trims**  
Preformed external or internal corners. Use with D260 POLY Trims.
- C4 Universal internal corner trim**  
Forms a left or right hand corner. Use with A and B POLY Trims.
- C5 Roof ridge closure**  
Ridge closure to the end of a roof ridge section. Use with E280 POLY Trims.
- C6 Rolled rib closure**  
Use with ER40 / 30 POLY Trims.

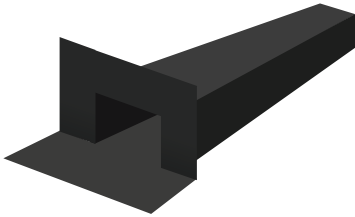


All corner trims should be applied using clout nails, ensuring that the heads of the nails and joints are bandaged to provide a smooth finish. They should also be bonded to the edge trims using a structural adhesive. The whole trim should then be basecoated and consolidated before the main base coat is applied.

You may need to cut down the corner trims if using shallower height edge trims. The trims have been manufactured to allow for this.

Apply a structural adhesive to the joint, overlap the trims by 50mm and nail down to the deck to create a bond. Bandage the joint with 75mm tape matting and base coat with catalysed McAGRP resin.

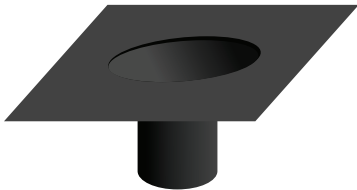
## GRP Rainwater Outlets



### Through the Wall Parapet Outlet

600mm long  
A: 100mm to 75mm openings  
B: 150mm to 100mm openings

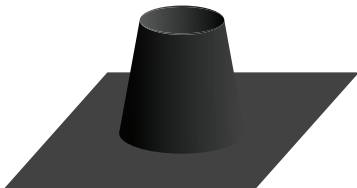
An efficient and reliable way to drain water from a flat roof that has a parapet wall. It allows for the drainage of water to be directed to the outside of the building instead of into the interior space.



### Through the Roof Outlet

For internal 100mm drainage

This outlet is designed to provide an efficient and reliable way to drain water from a flat roof. It is made from high-quality, durable materials that can withstand extreme weather conditions and temperatures



### Pipe Collar

For 100mm protruding pipe detail

A versatile and durable product that is commonly used in flat roofing applications. It is designed to provide a secure and watertight seal around pipes or other protrusions that penetrate the flat roofing membrane.

## Catalyst Addition Chart




Deck/Resin	5-10°C	11-20°C	21-30°C	31-40°C
% of Catalyst	4%	3%	2%	1%
Table of Percentage = Measured in Millilitres, Per Weight of Resin Used				
Resin	Liquid Catalyst	Liquid Catalyst	Liquid Catalyst	Liquid Catalyst
500g	20ml	15ml	10ml	5ml
1kg	40ml	30ml	20ml	10ml
2kg	80ml	60ml	40ml	20ml
3kg	120ml	90ml	60ml	30ml
4kg	160ml	120ml	80ml	40ml
5kg	200ml	150ml	100ml	50ml
6kg	240ml	180ml	120ml	60ml
7kg	280ml	210ml	140ml	70ml
8kg	320ml	240ml	160ml	80ml
9kg	360ml	270ml	180ml	90ml
10kg	400ml	300ml	200ml	100ml
11kg	440ml	330ml	220ml	110ml
12kg	480ml	360ml	240ml	120ml
13kg	520ml	390ml	260ml	130ml
14kg	560ml	420ml	280ml	140ml
15kg	600ml	450ml	300ml	150ml
16kg	640ml	480ml	320ml	160ml
17kg	680ml	510ml	340ml	170ml
18kg	720ml	540ml	360ml	180ml
19kg	760ml	570ml	380ml	190ml
20kg	800ml	600ml	400ml	200ml

## Catalyst Advice

- Using an infrared thermometer, accurately measure the temperature of the roof top surface.
- Ensure that a minimum of 1% catalyst is used to achieve a complete cure.
- Never use more than 4% of catalyst, the curing time will not be reduced by adding any additional amounts.
- Temperature is very important! Inaccurate readings (especially if below freezing) will result in the resin not curing.
- If you are applying the resin towards the end of the day, ensure that additional accelerator is added to compensate for the lack of sunlight. Acknowledge at all times - if any resin is left in a mixing bucket, exothermic heat will be produced due to the chemical reaction of the resin compound. If you have finished with the contents in the bucket, water can be used to mask the heat and keep it down to a safe temperature (do not use this resin after the water has been added).



# Materials Estimation Chart

Roof Size (m <sup>2</sup> )	McAGRP Base Coat Required		McAGRP Top Coat Required		McAGRP CSM Required		Bandage Required (1 Roll = 60m)	Decking Boards (8' x 2')	Ancillaries Required					
	KG		KG		KG				Rollers	C-Rollers	Brushes	Acetone (Litres)	Buckets	Catalyst (5L @ 4% usage)
5	7.5	½	2.5	¼	2.5	¼	1	4	1	1	1	5	2	1
10	15	1	5	¼	5	¼	1	7	1	1	2	5	2	1
15	22.5	1½	7.5	½	7.5	⅓	1	11	1	1	2	5	2	1
20	30	1½	10	½	10	⅓	1	14	1	1	2	5	2	1
25	37.5	2	12.5	¾	12.5	½	1	18	2	1	2	5	2	1
30	45	2½	15	¾	15	½	1	21	2	1	2	5	2	1
35	52.5	3	17.5	1	17.5	⅔	1	25	2	1	4	5	4	1
40	60	3	20	1	20	⅔	2	28	2	1	4	5	4	1
45	67.5	3½	22.5	1¼	22.5	¾	2	32	2	1	4	5	4	1
50	75	4	25	1¼	25	¾	2	35	2	1	4	5	4	1
55	82.5	4½	27.5	1½	27.5	1	2	39	2	1	4	5	4	1
60	90	4½	30	1½	30	1	2	42	2	1	4	5	4	1
65	97.5	5	32.5	1¼	32.5	1¼	2	46	2	1	6	5	6	1
70	105	5½	35	1¼	35	1¼	2	49	2	1	6	5	6	1
75	112.5	6	37.5	2	37.5	1½	2	53	2	1	6	5-10	6	1
80	120	6	40	2	40	1½	2	56	2	1	6	5-10	6	2
85	127.5	6½	42.5	2¼	42.5	1½	2	60	2	1	6	5-10	6	2
90	135	7	45	2¼	45	1½	2	63	2	1	6	5-10	6	2
95	142.5	7½	47.5	2½	47.5	1½	2	66	2	1	6	5-10	8	2
100	150	7½	50	2½	50	1½	2	69	2	1	6	5-10	8	2

## Materials Estimation Guidance

We strongly advise when calculating the area of the roofing application (m<sup>2</sup>) that you always allow for an **extra 10% for materials** to account for any wastage or problems that may occur. Our guidance provided below, detailed within the estimation chart will depend on the existing detail of the proposed roof surface. Quantities based on OSB3 decking board provide an exact calculation of the area that you wish to cover for each board.



# Comparing GRP Roofing Systems

Attributes	Typical GRP Fibreglass		Typical Overlay
Can sustain foot traffic 30-60 minutes after application	✓	✓	✗
A resilient - impact resistant membrane	✓	✓	✗
Accelerated cure time, with fast and easy application	✓	✓	✗
Rather than waiting until the next day, a two coat system can be achieved one-hour after the base coat has cured	✓	✓	✗
Thoroughly reinforced, a consistent thick roofing application lowers the risk of weak points and reduces cracking	✗	✓	✓
Unlike traditional GRP, Elastipol doesn't require a separate base coat or top coat (Single Resin System)	✗	✓	✓
Can be laminated over multiple surfaces such as: felt, GRP, asphalt, single ply, concrete and timber	✗	✓	✓
Can be repaired without the need to grind back the top coat to the basecoat	✗	✓	✓
Can terminate existing roof detail without the requirement for new trims	✗	✓	✓
Has the option of being a one layer (10 year) system or a two layer (20 year) system	✗	✓	✓
Highly elastic membrane - preventing the need for an expansion trim	✗	✓	✓
Easily breaks down CSM reinforcement for rapid detailing work	✓	✓	✗
Instead of stripping and replacing the deck - save money by overlaying the existing roof	✗	✓	✗
For convenience and availability, Liquid Catalyst is compatible with our flexible resin & primer	✗	✓	✗
Thixotropic resin prevents laminate sagging from vertical upstands	✗	✓	✗
Our highly elastic system is able to coat multiple surface without the need for expansion trims	✗	✓	✗
Engineered for ultimate performance - Flexible, yet toughened formulation	✗	✓	✗



**McAtee**

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