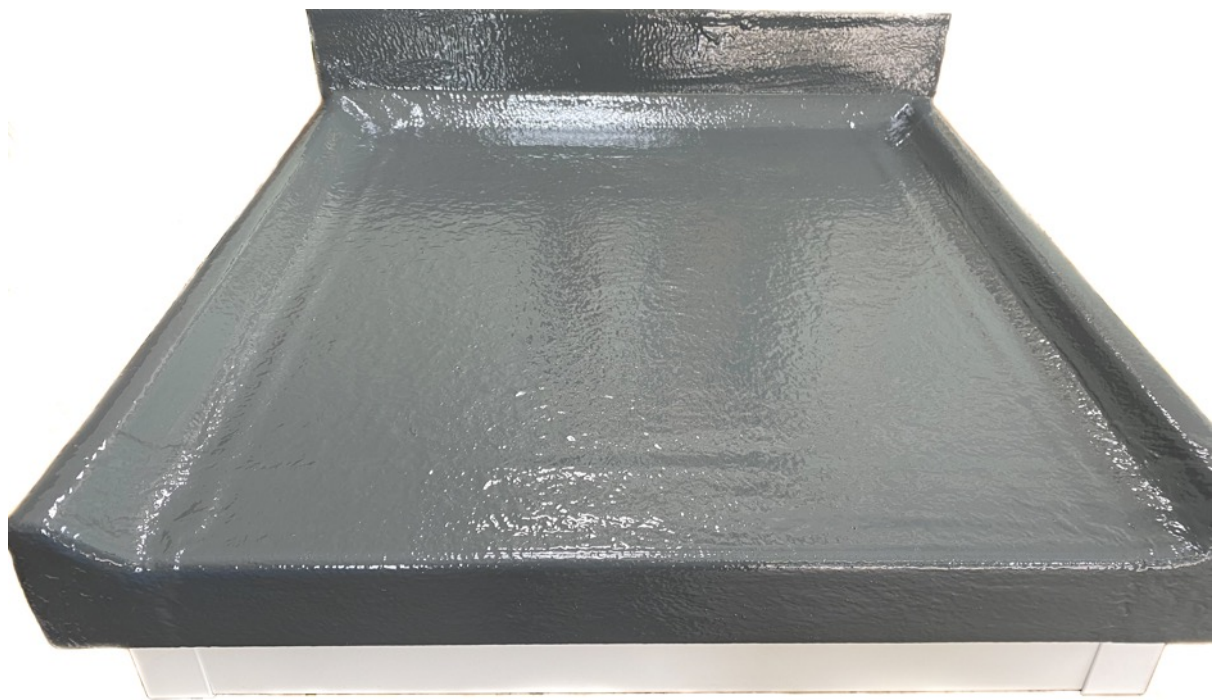


FIBREGLASS ROOF CONSTRUCTION

Part 5/5: Topcoat (Flowcoat) Application



User Guide and Manual

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5.2. Background

This section details the steps involved in applying tocoat to the laminate on a fibreglass roof.

Its part 5 of a 5-part series where we cover health and safety, as well as the installation of timber decking and insulation, positioning of edge trims, laminating and eventually topcoat application.



You can purchase Resin Library fibreglass roofing kits in a range of sizes, simply click the link in the description below.

WARNING! Read the Safety Data Sheets (SDSs) available for download on the product page. Wear appropriate protective eyewear, clothing, and gloves and other PPE. Safety Data Sheets (SDSs) are available from www.resinlibrary.com/product/600g-fibreglass-grp-flat-roofing-kit/. Perform a full risk assessment, method statement and COSHH form in advance.

Table 1. Fibreglass Roofing Kit

Product	Size (m ²)	Note	Ordering
Fibreglass (GRP) Roof Kits	1	Materials and tools included based on kit size	> Find out more <
	2		
	3		
	5		
	10		
	15		
	20		
	25		
	30		
	35		
	40		
	45		
	50		

5.3. Introduction

Topcoat – also known as flowcoat – is the final layer of resin applied to cured laminate. It is intended to provide aesthetics, abrasion resistance and waterproofing.

The following section details how to apply topcoat resin to a fibreglass roof laminate.



Table 2. Fibreglass Roof Construction Topics in Series

Part	Topic	Description	Video Link
1/5	Health & Safety in Fibreglass Roofing	Covers health and safety topics involved in fibreglass roofing	> Find out more <
2/5	Timber Decking & Insulation Installation	Process of installing timber decking and insulation	> Find out more <
3/5	Edge Trim Installation	Installation of GRP edge trims around the perimeter of the flat roof	> Find out more <
4/5	Installing Fibreglass Laminate	How to install fibreglass laminate onto timber decking	> Find out more <
5/5	Topcoat Application	Application of topcoat (flowcoat) to the fibreglass laminate	> Find out more <

Note: prior to topcoat application to the laminate, you should make sure the laminate itself is sufficiently cured. This means it should be near dry – a very low amount of stickiness might be present, but it should be small.

Note: in Part 4 of this series, we showed you how to laminate and what to look for in a defective laminate. If there are edges or sections protruding, sand them back and clean them with solvent before re-coating with resin. Glass fibres should not be exposed in the laminate.

5.4. Planning & Preparation

5.4.1. Health, Safety & Technical Advice

Please familiarise yourself with the Material Safety Data Sheets (MSDS) before starting.

Personal protective equipment (PPE) should be always worn. Recommended PPE includes safety goggles, gloves and overalls. A suitable mask is advised if work is being performed indoors.

For product or technical support, please email (www.resinlibrary.com/contact-us/) or telephone us on **029 21900 282**.

Use of the products in applications not specified or not described in this manual, may result in improper function, personal injury, or damage of the product or material.

Disclaimer: this guide is for general informational purposes only. It does not constitute fibreglass roofing advice. Resin Library is not liable for any outcomes. The use of information linked to this content is at the user's own risk. The content in this guide is not intended to be a substitute for professional advice. Users should not disregard in obtaining professional advice.

5.5. Materials & Tools for Topcoat Application

The materials and tools recommended for topcoat application are detailed below.

Table 3. Materials & Tools

Tools	Materials
<i>Polyester roller</i>: used to apply topcoat resin into the glass fibre matting	<i>Topcoat resin</i>
<i>Brush</i>: used to apply topcoat resin to more complex areas	<i>MEKP catalyst</i>
<i>Mixing bucket</i>: to blend catalyst with resin	
<i>Catalyst dispenser</i>: to accurately measure quantity of MEKP catalyst to use	
<i>Mixing stick</i>: to ensure catalyst is thoroughly mixed into the resin	

5.6. Method

The procedures recommended for topcoat application are detailed below.

5.6.1. Topcoat Resin-MEKP Catalyst Preparation

In the same manner that the polyester resin was prepared in the laminating section, prepare the resin topcoat.

Concentration of MEKP Catalyst to Add to Topcoat

The aim is to prepare a 1 – 4 % volume of catalyst per weight of topcoat resin. Usually, a lower amount of catalyst (1 %) is added during warmer periods (e.g., summer at 20 to 40 °C), whilst a higher amount (up to 4 %) is added during colder winter periods (e.g., 5 to 10 °C). See Table 4 for more detail.

Note: its generally a good idea to prepare a 1 – 2 % concentration, since the slower curing rate will give you extra time to ensure a quality application.

Table 1. Recommended catalyst volumes (mL) per weight of resin (kg).

Curing	Slower curing (Suited to warmer weather)		Faster curing (Suited to colder weather)	
Catalyst (%)	1%	2%	3%	4%
Note: relative quantities of MEKP catalyst to be added in mL per weight of resin (kg)				
Resin Amount	Hardener Usage (mL)			
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
7 kg	70 mL	140 mL	210 mL	280 mL
8 kg	80 mL	160 mL	240 mL	320 mL
9 kg	90 mL	180 mL	270 mL	360 mL
10 kg	100 mL	200 mL	300 mL	400 mL
11 kg	110 mL	220 mL	330 mL	440 mL
12 kg	120 mL	240 mL	360 mL	480 mL
13 kg	130 mL	260 mL	390 mL	520 mL
14 kg	140 mL	280 mL	420 mL	560 mL
15 kg	150 mL	300 mL	450 mL	600 mL
16 kg	160 mL	320 mL	480 mL	640 mL
17 kg	170 mL	340 mL	510 mL	680 mL
18 kg	180 mL	360 mL	540 mL	720 mL
19 kg	190 mL	380 mL	570 mL	760 mL
20 kg	200 mL	400 mL	600 mL	800

Note: mL = millilitres; kg = kilogram

Note: too much or too little catalyst will lead to a sub-optimal finish.

Note: aim to apply to the matting within 15 minutes to avoid dealing with resin that has prematurely cured.

Note: care should be taken to ensure that the amount of topcoat per unit surface area is used. Excessive amounts of resin will create a brittle laminate, too little resin will expose the glass fibres to moisture, leading to water ingress. Both will result in failure of the laminate and an eventual leak.

Note: the viscosity of the topcoat resin is temperature dependent. In winter, when the temperature is colder (5 – 10 °C), it takes longer for it to saturate the glass

fibre mat. Avoid adding extra resin to compensate for this; the correct resin-glass fibre ratio must remain consistent. Do not work below 5 °C or above 30 °C for best results.

Note: do not add catalyst to the entire resin supply. Pour workable amounts of resin into a separate, clean bucket and then mix in the catalyst in carefully and thoroughly.

Note: too much or too little catalyst will lead to a sub-optimal finish.

Note: aim to apply the catalysed topcoat within a 15-minute window to avoid premature curing during application.

Topcoat Resin Quantity per Unit Area

1. Topcoat resin used per square meter of cured laminate should be around 0.5 kg per square meter. This is irrespective of the grade or thickness of laminate used.



Topcoat coverage should be thin and consistent across the surface

2. Using a roller, you should aim to apply approximately 0.5 kg of catalysed topcoat per square metre of laminate. This should generate a thin, uniform layer on the roof surface.



Topcoat coverage should be thin and consistent across the surface

Edges and Corners

1. Take care to protect the perimeter detailing – like fascias, skylights, etc. This could be achieved using tape or excess trim.



Use a board or tape to protect the fascia and other sensitive areas before applying topcoat.

2. Start applying catalysed topcoat resin to more distant areas ensuring a safe, clear exit route from the roof when the final section is applied.



Plan and work systematically across the roof. Start at the more distant, harder to reach areas and ensure you have an access point to exit the roof once coverage is complete.

Note: A brush may be more suitable for smaller more complex sections or harder to reach areas.

Note: a paddle roller is not required or recommended due to the hardness of the laminate; the roller is sufficient at this point.

Main Deck

1. Once the edges have been prepared, you should now be able to apply the topcoat to the main surface of the roof using a roller. This step is easier and quicker to do, so you could prepare 5 kg of catalysed topcoat with a view to applying it to 10 square meters.



Apply topcoat to the main deck, working away from the edges

Note: be sure to keep this consistent; excess topcoat will create a brittle surface prone to fracture, whilst too little will expose the underlying glass fibre to moisture. Both dramatically shorten the lifetime of the roof and lead to leaks.

2. Repeat until the entire roof has been covered (trims, edges, main body) ensuring that the fibreglass system is fully waterproof.

Curing

1. Inspect the topcoat after application. You should expect to see a consistent layer of topcoat on the surface.



Allow the topcoat to cure over a 24-hour period for a full cure.

2. Allow to cure for 2 hours before considering it partially waterproof and 24 hours for a full cure.

Completion

1. Once the roof has cured, it is advisable to perform an inspection. The fibreglass roof should look mildly glossy, seamless and free from exposed glass fibres, pinholes or other holes in the laminate. An absence of these should indicate that the roof has a multi-decade lifetime and is now fully waterproof.



After 24 hours, the roof should look seamless and glossy. It should also be dry to touch.

5.7. Related Products

Resin Library also offers a range of fibreglass-related products.

Table 4. Fibreglass (GRP) Roof Repair Kits

Product	Size (m ²)	Note	Ordering
Fibreglass (GRP) Roof Repair Kits	0.5	Materials and tools included based on kit size. Includes topcoat (flowcoat)	> Find out more <
	1		
	2		
	3		
	5		
	10		

Table 5. Fibreglass (GRP) Repair Kits (Without Topcoat)

Product	Size (m ²)	Note	Ordering
Fibreglass (GRP) Repair Kits	0.5	Materials and tools included based on kit size. Does not include topcoat (flowcoat).	> Find out more <
	1		
	2		
	3		
	5		
	10		

Table 6. Polyester Resin

Product	Size (L)	Note	Ordering
Polyester Resin	1	- Used for fibreglass laminating - Includes MEKP - Lloyd's Approved - WRAS compliant	> Find out more <
	2.5		
	5		
	10		
	20		

Table 7. Topcoat Resin

Product	Size (L)	Note	Ordering
Topcoat Resin	1	- Colour: Dark Grey - Includes MEKP	> Find out more <
	2.5		
	5		
	10		
	20		

Table 8. Glass Fibre (CSM)

Product	Type	Size (m ²)	Note	Ordering
Glass Fibre Matting (CSM)	450-gram	2 - 80	Multi-directional glass fibre reinforcement for fibreglass laminating. Designed for use with polyester resin.	> Find out more <
	600-gram	2 - 55		> Find out more <