Description of Product

Caltech FCP-LO Resin is a reinforced, low-odour, catalyst-cured, cold-applied liquid membrane that delivers a seamless, flexible, and durable waterproofing solution once cured. Developed for use in sensitive and occupied environments, its low-odour formulation makes it particularly suitable for applications where odour sensitivity and minimising disruption are critical.

Comprises **Caltech FCP450 GSM Reinforcement**, a glass fibre reinforcement mat that is carefully embedded within the membrane. The mat is rolled or pressed into the wet embedment coat to ensure full adhesion and eliminate air pockets.

Apply using a short to medium pile roller or brush depending on the application requirement.

Key Features

- ✓ BBA certified service life in excess of 30 years
- ✓ Alumasc warranty up to 25 years
- ✓ Low-odour, suitable for sensitive environments
- ✓ Catalyst-controlled cure
- ✓ Carbon neutral product
- ✓ Cold-applied for safer installation
- ✓ Ease of application
- ✓ Seamless and flexible
- ✓ UV stable
- ✓ Low application temperature from 3°C and rising

Suitable Applications

- ✓ Flat roofs ≥1:80 falls and pitched roofs
- ✓ Cold roofs, Warm roofs
- ✓ Overlay of existing failed roofing
- ✓ Complex detailing for use with other membrane types
- ✓ Intended for exterior application only

Approvals/Certification

- ✓ British Board of Agrément Certificate (pending)

Product Information

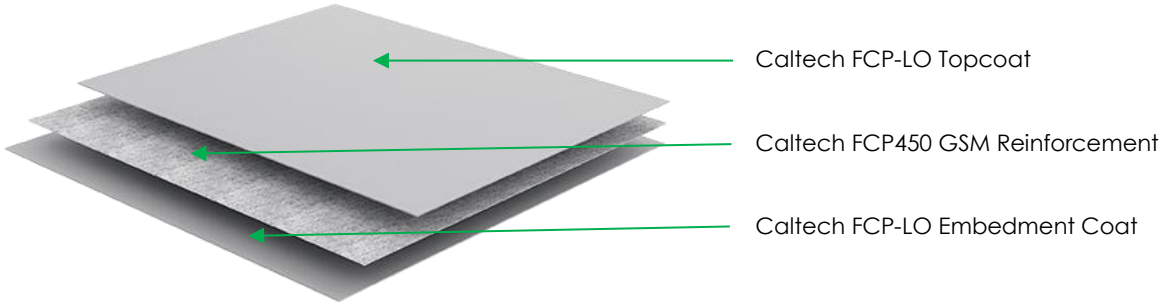
Caltech FCP-LO	
Product code	Caltech FCP-LO
Composition	Unsaturated polyester resin with fillers, pigments, and additives
Colour	Light Grey
Packaging	10 litre containers
Shelf life	12 months from the date of production when stored correctly
Storage	Keep in original unopened containers to prevent air and moisture ingress. Store only in dry conditions away from heat, direct sunlight, and oxidizing agents at temperatures between 5°C and 25°C. Improper storage may affect coating performance.

Caltech FCP450 GSM Reinforcement	
Product code	FCP-450GSM
Composition	450gsm chopped strand glass fibre matting
Roll size	1.0m x 50m
Coverage	50m²
Shelf life	>12 months from the date of production if stored correctly
Storage	Keep in the original packaging in dry conditions above freezing temperatures

Technical Information

Characteristic	Standard	Unit	Value
Durability	BBA	Years	>30
External fire performance	BS EN 13501-5	-	BROOF (t4) subject to the full system build-up
Dry film thickness		-	2 to 2.5mm
Flash point	EN ISO 3879	°C	67
Density	EN ISO 2811-1	g/ml	1,42-1.45
Tensile strength	EN ISO 3251	Mpa	35 (increasing to 46 after ageing)
Elongation	UNI EN 12311-2	%	3.1

System Information



Application	Product	Coverage (minimum)	
Caltech FCP-LO to field areas	FCP-LO embedment coat	1.3-2.0 ltr/m²	
	FCP450 GSM Reinforcement	Fully reinforced	
	FCP-LO topcoat	**20 yr. warranty**	**25 yr. warranty**
		0.5 ltr/m²	0.75 ltr/m²
Caltech FCP-LO to details	All angles to receive a double coat applied wet-on-wet, with Caltech FCP450 GSM Reinforcement fully embedded.		
Walkway coat (optional)	An additional coat of Caltech FCP-LO	0.5 ltr/m²	
	Broadcast Caltech Quartz	Circa. 2.6 kg/m²	

Coverage rates vary depending on roughness and porosity of substrate, as well as the warranty term.

Caltech FCP Liquid Catalyst:

✓ A calibrated measuring container and 38mm dispensing tap are required to ensure accurate dosing.

Air temp range	3-8°C	9-10°C	11-19°C	20-30°C
Additive	**Accelerator required**		-	**Inhibitor required**
Caltech FCP-LO Resin (Litres)	Catalyst addition (ml)**			
2.5	130	100	100	70
5.0	250	190	190	130
7.5	370	280	280	190
10	490	370	370	250

* Includes a nominal 10ml allowance for residual material in the calibrated measuring container.

Product code: FCP-CATALYST-LIQ | Pack size: 1.86 litres (2.2 kg)

Mixing

1. Mix the Caltech FCP-LO Resin thoroughly in the original container – mixing from top to bottom.
2. Ensure additives are used as specified in the table. One tin of accelerator or inhibitor is required for each 10-litre container.
3. Use the temperature guide to determine the quantity of catalyst required.
4. Shake the catalyst container before use. Attach the dispensing tap to the catalyst container.
5. Decant the required amount of catalyst into the calibrated measuring container. Ensure all catalyst is transferred into the resin and mix thoroughly for a minimum of two minutes. Confirm that the catalyst is fully dissolved within the resin.

Catalyst levels may be adjusted to suit site conditions but must not be reduced below the minimum recommended rates. Always check pot life before application. In hot conditions, particularly during detailing, smaller batch mixes are recommended to allow adequate working time.

Application Information

Factors such as temperature, humidity, and moisture content can affect application and curing. Application in damp or cold conditions that may result in surface condensation must be avoided.

Air temperature	3°C minimum air temperature and rising
Humidity	85% RH maximum
Substrate temperature	All surfaces must be at least 3°C above the dew point. Check against Primer PDS.
Substrate moisture content	Maximum of 28% WME (Wood Moisture Equivalent), or 5% moisture content of concrete. Tramex Moisture meters can be used to measure the moisture content.

Substrate preparation

Surfaces must be clean, dry, and free from contaminants.

Preparation and priming requirements will vary depending on the substrate type and its condition. Refer to the project specification or contact Alumasc Technical Services for advice and guidance.

Adhesion tests must be undertaken to confirm that surface preparation and coating application meet the specified requirements. Installation may only proceed once satisfactory adhesion has been achieved.

Primers

- **Caltech FCP Epoxy Primer** - Two-part Primer
  Suitable for concrete, timber, masonry, fibre cement boards.
- **Caltech FCP Metal Primer**
  Suitable for degreased metal substrates including galvanised steel, aluminium, zinc, copper, and lead.
- **Caltech FCP SP Primer**
  Suitable for Single-Ply membranes.

Refer to the Alumasc Project Specification and Product Data Sheet for substrate specific requirements.

Application

Prior to application, ensure all preparation is complete.

Apply an embedment coat of catalysed Caltech FCP-LO to the prepared substrate at the specified coverage rate.

While the resin remains wet, reinforce by installing Caltech FCP450 GSM Reinforcement with a minimum overlap of 50mm. Roller the surface until the mat is fully embedded and completely saturated, including all laps. Apply additional resin, as necessary.

Once the embedment coat is cured, apply a topcoat of catalysed Caltech FCP-LO by roller at the required coverage rate according to the warranty term.

Overcoating time

Temperature	Minimum	Max.
15°C	40 - 60 minutes	48 hours

If the embedment coat is contaminated or left for over 48 hours, clean and wipe with Euroroof Solvent before applying the topcoat.

In the event of rainfall, stop work immediately and do not recommence until the surface is completely dry. If rainfall occurs during curing, surface pitting may result; where necessary, affected areas should be topped up for aesthetic purposes.

Rain resistant: 10 - 20 minutes.

Additional Information

When embedding the reinforcement over rough or uneven surfaces, tamp the matt as required to ensure full contact with the substrate using a soft brush, or a small roller. Apply sufficient embedment resin at all angles, junctions, and details to avoid tenting.

Where applied over insulation boards or timber substrates, the Caltech Preparation Layer shall be used as a carrier membrane to provide a suitable and stable base for the Caltech FCP-LO resin.

Grit, salt, or other de-icing agents must not be used between layers of Caltech FCP-LO resin, as they may adversely affect curing and inter-coat adhesion.

Where works are carried out in confined spaces, all relevant guidance and control measures detailed in the Safety Data Sheet must be always adhered to.

Health & Safety

Copies of Alumasc Safety Data Sheets can be downloaded from the Alumasc Roofing website at: www.alumascroofing.com.

Technical Support

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