

Product Datasheet

Caltech UV

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 Issued: July 2021
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DESCRIPTION
Single component, cold-applied, moisture-triggered polyurethane membrane. It cures to form a seamless, durable and weather-resistant waterproofing solution.
USE
Waterproofing of flat and pitched roof structures, communal walkways, podium decks and terrace roofs, on new construction and refurbishment projects. Applicable to existing concrete, roofing felt, brickwork, asbestos cement decks (subject to condition and priming requirements).

CHARACTERISTICS / ADVANTAGES
<p>Single component, ready to use Cold applied</p> <p>Easy and quick application – by spray, brush or roller</p> <p>Economic – provides a cost-efficient life cycle extension of failing roofs</p> <p>Seamless membrane based upon moisture-triggered chemistry</p> <p>Vapour permeable</p> <p>Retains flexibility at low temperatures</p> <p>Waterproof, develops early rain resistance</p> <p>Minimal disruption and low maintenance</p> <p>Elastic properties – tolerant of thermal movement</p> <p>Flexible, impact resistant membrane</p> <p>Can be applied all year round above 2°C</p>
PRODUCT DATA
<p>APPEARANCE: Pigmented thixotropic liquid. Mid Grey (RAL 7012), Light Grey (RAL 7004); RAL K5 Classic Range</p> <p>PACKAGING: 15 litre container</p> <p>PACK WEIGHT: 22 Kilograms (approx.)</p> <p>STORAGE: Store greater than 5°C and up to 25°C in original container</p> <p>SHELF LIFE: When stored unopened at average temperature of 20-25°C, shelf life is 6 - 9 months.</p> <p>Higher temperatures will reduce the shelf life</p>

TECHNICAL DATA	
CHEMICAL BASE:	One component modified hybrid moisture triggered polyurethane.
SOLIDS CONTENT:	Ca. 82%
SPECIFIC GRAVITY:	1.44
SERVICE TEMPERATURE:	-20°C to +80°C (intermittent)
CHEMICAL RESISTANCE:	Resistant to a range of dilute acids, alkalis and salt solutions. This covers acid rain, airborne pollutants and general industrial atmospheres. NOTE: Low molecular weight alcohols will attack the product, as will strong acids. Surface staining may be seen with contact by strong alkalis. Product will resist decaying vegetation and algal attack.
EXTERNAL FIRE PERFORMANCE	Currently under test to EN1187 BROOF(t4) in accordance with BS EN 13501-5:2005

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TECHNICAL SYSTEM DATA		
TEST DESCRIPTION	SYSTEM*	RESULT
Dry film thickness	Caltech UV10 Caltech UV15 Caltech UV20	Approx. 1.2mm Approx. 1.4mm Approx. 1.7mm
Accelerated Weathering; 30,000 hours	Caltech UV10	Medium chalking, no cracking or surface defects **
QUV + water spray		Lighter in colour
Water vapour resistance	Caltech UV10 Caltech UV15 Caltech UV20	24 MNs/g 28 MNs/g 34 MNs/g
BSEN778-3-Part2(1999)	Caltech UV15 (unreinforced)	16.4g/m ² /day
Tensile Strength at Break (BS903-A2/1995)	Caltech UV10	15Nmm ⁻²
Tensile Load (BS903-A2/1995)	Caltech UV10	360N
Elongation (BS903-A2/1995)	Caltech UV10	20-25%**
Liquid Water Impermeability (DIN1048-PART1)	Caltech UV15	No penetration (15m head of water)
Hydrolysis Resistance (70°C)	Caltech UV15	No visible changes after >60 days
Adhesion Bond Strength (EN1542 (1999))	Caltech UV15	All results >3Nmm ⁻² (after adhesive failure)
		Bitumen felt = cohesive failure in felt at >2Nmm ⁻²
Impact Resistance	Caltech UV10	Steel – No defects in coating.

* All systems reinforced unless otherwise stated. ** This will be the same for all systems.

APPLICATION DATA		
Typical System Coverage Rates†		
Caltech UV10	Caltech UV first/embedment coat	1.0 L/m ²
	Caltech G MAT	Fully reinforced
	Caltech UV second/top coat	0.5 L/m ²
Caltech UV15	Caltech UV first/embedment coat	1.0 L/m ²
	Caltech G MAT	Fully reinforced
	Caltech UV second/top coat	0.75 L/m ²

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Caltech UV20	Caltech UV first/embedment coat	1.0 L/m ²			
	Caltech G MAT	Fully reinforced			
	Caltech UV second/top coat	1.0 L/m ²			
† Given coverage rates are for smooth surfaces. Coverage rates will depend on surface roughness and absorbency.					
Substrate Quality					
The substrate must be sound, dry, clean and free from all deleterious materials. Substrates must be properly prepared and primed as required. Primers must be used and allowed to cure as detailed in the relevant product's technical datasheet.					
Overcoat time:	Minimum 8 hours.				
	Maximum 14 days, after this period reactivation primer will be required. Avoid inter-coat contamination.				
Opened drums:	Skin formation will occur once the drum has been opened. This can happen overnight or during a working day if the lid is left off, but will not occur during normal use.				
Substrate moisture:	Maximum of 28% WME (Wood Moisture Equivalent) or 5% moisture content of concrete. For moisture content greater than the above, primers will be required - see primer data.				
Air/substrate temperature:	Minimum air and substrate temperatures of 2°C and rising. Dew Point: Surface temperature must be at least 3°C above dew point to avoid condensation, which could increase moisture content above 28% WME / 5% concrete. Low temperatures experienced before full cure may cause the surface to matte-off and/or lighten.				
Overcoating					
Waiting time / Overcoating:	Temperature	Relative Humidity	Minimum	Maximum	
	+5°C	50%	8 hours	After 14 days the surface must be cleaned and primed.	
+10°C	50%	6 hours			
+20°C	50%	5 hours			
+30°C	50%	4 hours			
Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.					
Curing					
	Temperature	Relative Humidity	Rain resistant	Touch dry	Full cure
Applied product ready for use:	+2°C	50%	Immediately	8 hours	≈24 hours
	+10°C	50%	Immediately	6 hours	<16 hours
	+20°C	50%	Immediately	5 hours	≈12 hours
	+30°C	50%	Immediately	4 hours	≈8 hours
Note: Times are approximate and will be affected by changing ambient conditions, particularly temperature and relative humidity.					

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APPLICATION INSTRUCTIONS	
Mixing:	No mixing required
Application tools:	Apply using high density medium pile solvent resistant roller. Brushes or small specialised rollers can be used for small areas or detailing.
Application method:	Install the first/embedment coat to the details before proceeding with main roof areas. Apply the first/embedment coat to the prepared substrate surface at the required rate for the surface roughness and absorbency. Whilst wet, reinforce by inserting the Glass Fibre Mat. Roller the surface until the mat is completely embedded, ensuring that all overlaps in the mat are a minimum of 50mm. The mat must be completely saturated with no pinholes or tented mat. Flatten any "wicks" or protruding fibres by rolling back into place with a loaded roller. Allow the first coat to dry in accordance with the waiting/overcoating times indicated above before applying the subsequent second coat.
APPLICATION/LIMITATIONS	
<p>Avoid inter-coat contamination; application of the system should be approached as one operation. Where outgassing is likely for a particular substrate, Caltech UV should be applied during falling ambient and substrate temperature. Applying during rising temperatures may lead to 'pin holing'. The use of suitable primers can significantly reduce the occurrence of outgassing.</p> <p>When applying Caltech UV in a confined space, follow recommendations as stated in the Safety Data Sheet. Ensure air conditioning units are switched off or isolated before applying Caltech UV close to air intake vents, otherwise vapour may be drawn into the building.</p> <p>Minor colour differences may occur between batches; where aesthetics are important, ensure that the Caltech UV used for the top coat is from the same batch. Batch numbers are printed on the label.</p> <p>Always use a carrier membrane between insulation boards and the Caltech UV system.</p> <p>Timber based roof decks, irregular substrates and areas with high movement require a separation layer. (e.g. a carrier membrane.)</p> <p>Do not apply cementitious products (e.g. tile mortar) directly onto Caltech UV.</p> <p>Grit salt and/or other de-icing agents must not be used between layers of Caltech UV, as this may adversely affect the cure and inter-coat adhesion.</p>	

Health & Safety

Safety Data Sheets are available upon request and can also be downloaded directly from www.alumascroofing.com.

Technical Support

Technical advice is available from Alumasc Technical Services at:

Telephone: +44 (0)1744 648400

Email: technical@alumascroofing.com

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