Technical Data Sheet

Electrical Insulation

CONASHIELD™ CS-313

Two-Component Polyurethane Flood Coat

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CONASHIELD™ CS-313

Product Description

CONASHIELD™ CS-313 is a patented [1], mineral-filled, two-component, room temperature curing, 100%-solids polyurethane flood coat system.

Areas of Application

CONASHIELD™ CS-313 provides a unique combination of properties, rheology, and cure speed to reducing the material applied while providing the performance of a traditional potting.

This unique combination allows CONASHIELD™ CS-313 to service variety of industries including automotive, lighting, and HVAC.

Features and Benefits

- 2 mm deposition on vertical surfaces
- 4 mm deposition on horizontal surfaces
- RTI 130
- UL94 V-0
- Low T_g for excellent thermal cycling
- Low Shore hardness for lower stress on components

Application Methods

- Meter-mix Bench Potting / Casting
- Meter-mix Vacuum Potting / Casting

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for twelve (12) months from the date of shipment.

Failure to store the product as recommended above may lead to deterioration in product performance.

This product is sensitive to moisture and atmospheric humidity. Containers, once opened, should be used immediately or blanketed with dry air or nitrogen (CONAP® Dri-Purge) before resealing.

CONASHIELD™ CS-313 Part A may crystallize upon storage or during shipment. If this has occurred, heat to 60°C, mix thoroughly, and cool to room temperature before processing.

Mix and degas individual components prior to use.

Health / Safety

Refer to the Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value		Units
		CONASHIELD™ CS-313 Part A Urethane Prepolymer	**CONASHIELD™ CS-313 Part B Curative**	
Viscosity	25°C / 77°F	440	42,000	cP
Specific Gravity	25°C / 77°F	1.21	1.45	
Appearance		Dark Amber	Black	
Mix Ratio	Parts by weight Parts by volume	20 25	100 100	

[1] CONASHIELD™ CS-313 is made under US Patent 9,699,917 and foreign equivalents

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CONASHIELD™ CS-313

Typical Properties of Mixed Components

Property	Conditions	Value	Units
Viscosity (initial)	25°C / 77°F	8,000	cP
Gel Time	25°C / 77°F	4 – 6	minutes

Regulatory Information

Property	
RoHS Compliance	CONASHIELD™ CS-313 Part A Urethane Prepolymer and CONASHIELD™ CS-313 Part B Curative comply with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 (RoHS 2.0) as amended 31 March 2015.

Application / Curing Schedule

Mix CONASHIELD™ CS-313 Part A and CS-313 Part B in the ratio specified above until homogeneous. Meter-mix should be used due to the speed of reactivity for the system.

Cure 16 hours at 80°C / 176°F – or – 5 to 7 days at 25°C / 77°F

The cure schedules above are based on time after the unit reaches the specified temperature and are recommendations only. The user is responsible for determining the optimum cure conditions for his application.

Typical Mechanical Properties

Property	Test Method	Conditions	Value	Units
Shore Hardness	ASTM D2240	25°C / 77°F	A 85	
Tensile Strength	ASTM D412	25°C / 77°F	840	psi
Ultimate Elongation	ASTM D412	25°C / 77°F	190	%
Tear Strength	ASTM D624	25°C / 77°F	140	pli
Glass Transition Temp. (T_g)	ASTM E831	TMA	-44	°C
Flammability	UL94	2.8 mm	V-0	
Thermal Conductivity	ASTM D5930		0.6	W / m-K

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Typical Electrical Properties

Property	Test Method	Conditions	Value	Units
Dielectric Strength	ASTM D149	1/16" @ 25°C / 77°F	450	volts / mil
Dielectric Constant	ASTM D150	100 Hz @ 25°C / 77°F 1 kHz @ 25°C / 77°F 1 MHz @ 25°C / 77°F	5.9 4.3 3.7	
Dissipation Factor	ASTM D150	100 Hz @ 25°C / 77°F 1 kHz @ 25°C / 77°F 1 MHz @ 25°C / 77°F	0.17 0.09 0.02	
Volume Resistivity	ASTM D257	25°C / 77°F	1.1×10^{15}	ohm-cm
Surface Resistivity	ASTM D257	25°C / 77°F	4.2×10^{15}	ohms

The above properties are typical values and are not intended for specification use.

ELANTAS PDG, Inc. warrants the chemical composition of its products within stated tolerances, but does not guarantee that a product will be appropriate for any particular application. Any recommendation, performance of tests or suggestion is offered merely as a guide and is not a substitute for a thorough evaluation by the user. No representative of ELANTAS PDG, Inc. has the authority to offer a warranty that a product will perform satisfactorily in manufacturing a product and no such representation should be relied upon.

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