

Multi-Cure[®] 9-20558 Flexible, Barrier Coating/Encapsulant Conformal Coating

DESCRIPTION

Multi-Cure[®] 9-20558 is a flexible, single-component, 100% solids conformal coating specifically formulated for providing a thick moisture barrier to all electrical devices on the board. Coatings cure almost instantly in layers up to 1/4" thickness. Multi-Cure[®] 9-20558 exhibits excellent adhesion to a variety of metal, ceramic, and glass-filled epoxy surfaces. Its high viscosity allows it to encapsulate tall components without slumping off. 9-20558 can also be used to touch up, or provide extra protection to, spiked leads and other sensitive areas. It is a high-viscosity coating which can be cured by exposure to UV/Visible light and secondarily with heat for shadowed areas on densely populated circuit boards. The product is ideal for encapsulating components on flexible circuits. This product is in full compliance with the RoHS Directives 2002/95/EC and 2003/11/EC.

TYPICAL UNCURED PROPERTIES (not specifications)

Solvent Content	None, 100% Solids	
Appearance	Viscous Liquid	
Color	Clear	
Solubility	Alcohols/Chlorinated Solvents/Ketones	
Flash Point	>93°C (200°F)	
Viscosity (20 rpm)	20,000 cP (nominal)	ASTM D-2556

TYPICAL CURED PROPERTIES (not specifications)

PHYSICAL

Durometer Hardness	D45	ASTM D-2240
Elongation at Break	75%	ASTM D-638
Tensile at Break	1,000 psi	ASTM D-638
Modulus of Elasticity	3,500 psi	ASTM D-638
Water Absorption (24 h)	1.0%	ASTM D-570
Boiling Water Absorption (2 h)	2.4%	ASTM D-570
Coefficient of Thermal Expansion, α_1	95×10^{-6} in/in/°C	ASTM E-831
Coefficient of Thermal Expansion, α_2	180×10^{-6} in/in/°C	ASTM E-831
Thermal Limits (Brittle/Degrades)	-55 to 175°C (-60/350°F)	DSTM D-200*
Dielectric Strength (Solid)	500 V/mil	ASTM D-1304
Dielectric Strength (Liquid)	35 V/mil	ASTM D-1304
Volume Resistivity (Liquid)	500×10^{12} ohm cm	ASTM D-1304
Surface Resistivity (Solid)	$6,000 \times 10^{12}$ ohm	ASTM D-1304
Flammability	V-0	UL 94

*DSTM Refers to DYMAX Standard Test Method

CURE SCHEDULE

UV Cure with 365 nm UV light:

Cure Time (Seconds)	Intensity mW/cm ²	DYMAX Light-Welder [®] Lamps*
35	175	5000-EC
1	2,000	UVC-6

*With Fusion D Bulb



Heat Cure Following UV Exposure

Heat can be used as a secondary cure mechanism where all adhesive cannot be cured with UV light. UV cure must be done prior to heat cure. Application may involve dip, spray, or curtain coat. The following cure schedule may be used:

<u>Temperature</u>	<u>Time</u>
120°C (250°F)	30 minutes
150°C (300°F)	15 minutes

DISPENSING AND HANDLING ADHESIVE

DYMAX 9-20558 is available in various packages such as syringes, cartridges, bottles, and pails. It may be dispensed from a variety of automatic bench-top syringe applicators or other equipment as required. Pail pumps are recommended for dispensing out of pail containers. Questions relating to dispensing and curing systems for specific applications should be referred to DYMAX Applications Engineering.

Wear impervious gloves and/or barrier cream. Repeated or continuous skin contact with liquid adhesive will cause irritation and should be avoided. Do not wear absorbent gloves. Remove adhesive from skin with soap and water. Never use solvents to remove adhesive from skin or eyes.

This product is known to thicken over time. For spraying or applications where air entrapment is not an issue, gentle stirring in the original container at room temperature will help restore the product to its original flow consistency. Stirring is recommended for bottles and pails only.

STORAGE AND SHELF LIFE

Store material in a cool, dark place when not in use. Do not expose to UV light or sunlight. Material may polymerize upon prolonged exposure to ambient light. Replace lid immediately after use. This material has a minimum 12-month shelf life from date of shipment, unless otherwise specified, when stored between 10°C [50°F] and 32°C [90°F] in the original, unopened container.

CAUTION

For industrial use only. Avoid breathing vapors. Avoid contact with eyes and clothing. In case of skin contact, immediately flush with water for at least 15 minutes; for eyes, get medical attention. Wash clothing before reuse. Keep out of reach of children. Do not take internally. If swallowed, vomiting should be induced at once and a physician called. For specific information, refer to the product Material Safety Data Sheet before use.

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