

# Plaskon MUF-2C

Epoxy; Epoxide

Cookson Electronics - Semiconductor Products

## Message:

This material is an epoxy Molded UnderFill compound developed for transfer mold equipment to underfill, and overmold if needed, Flip Chip in Package (FC-BGA and FC-CSP) in one step. It offers high productivity with an automated, simple, robust and fast process compared to liquid encapsulation. Higher reliability is demonstrated with the material's higher Tg, lower CTE, no particle segregation or settling and longer outlife compared to liquid encapsulants. PLASKON MUF Series is the total molded underfill solution for Flip Chip in Package.

General Information			
Features	Semi-conductive		
	Low warpage		
	Workability, good		
Forms	Liquid		
Processing Method	Resin transfer molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.89	g/cm <sup>3</sup>	ASTM D792
Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus			ASTM D790
22°C	1.42	MPa	ASTM D790
260°C	0.739	MPa	ASTM D790
Flexural Strength			ASTM D790
22°C	0.00981	MPa	ASTM D790
260°C	0.00373	MPa	ASTM D790
Thermal	Nominal Value	Unit	Test Method
Glass Transition Temperature	194	°C	ASTM E1356
CLTE - Flow	1.3E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.70	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	4.5E+15	ohms · cm	ASTM D257
Dielectric Strength	31	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	3.13		ASTM D150
Dissipation Factor (1 kHz)	1.7E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm)	V-0		UL 94
Additional Information			

Recommended Storage Temperature: 5°C Life @ 5°C, defined as not more than 40% loss of spiral flow based on original values.: 24 months Life @ 22°C, defined as not more than 40% loss of spiral flow based on original values.: 6 days Life @ 35°C, defined as not more than 40% loss of spiral flow based on original values.: 2 days Spiral Flow, 175°C, 1000 psi: 115 cm Shimadzu Viscosity, 175°C, 1000 psi: 42 poise Ram Follower Gel Time, 175°C, 1000 psi: 15 sec Ash Content: 81 % Hydrolyzable Halides: <1 ppm Cull Hot Hardness, Shore D: 77 All test specimens are transfer molded and post cured for 4 hours at 175°C  
Linear Thermal Expansion, Alpha 1: 13 cm<sup>-6</sup>/cm/°C  
Linear Thermal Expansion, Alpha 2: 60 cm<sup>-6</sup>/cm/°C

#### Injection instructions

Resin Transfer Molding:

Molding Temperature: 165 to 185°C

Molding Pressure: 600 to 1200 psi

In Mold Cure Time: 50 to 150 sec

Post Mold Cure Time, 175°C: 0 to 2 hr

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#### Recommended distributors for this material

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