Cosmic Plastics Inc
HELPING MOLD THE FUTURE

Registered To ISO 9001:2008
Ref. No. 10000711

TECHNICAL DATA SHEET

E4920D Epoxy

DESCRIPTION Cosmic E4920D is a mineral-filled, epoxy molding compound which is available either in a granular form, or preformed in a variety of sizes and weights.

FEATURES It has excellent moisture resistance, thermal cycling stability and outstanding moldability. Parts molded from this material do not support fungus growth. It is available in a wide flow range to suit custom molding requirements. E4920D can be supplied in black, gold, green or red. It has a shelf life of eight months when stored at 5 °C.

APPLICATIONS It is designed for encapsulation of passive devices such as capacitors, inductors, diodes and rectifiers

MATERIAL INFORMATION & PROPERTIES

MOLDING INFORMATION	SPECIFICATION	DATA
Specific Gravity		1.85
Bulk Factor		2 - 5
Molding Pressure	psi	500 – 8,000
Molding Temperature	°C	150 - 180
Mold Shrinkage	in / in	.002 - .004

MOISTURE PROPERTIES	SPECIFICATION	DATA
Water Absorption, %	48 hrs @ 50 °C	0.25

MECHANICAL PROPERTIES	SPECIFICATION	DATA
Impact Strength	Izod notched, ft-lb/inch	0.50
Flexural Strength	psi	15,000
Flexural Modulus	psi x 10^6	2.0
Compressive Strength	psi	35,000
Tensile Strength	psi	12,000
Barcol Hardness		65

ELECTRICAL PROPERTIES	SPECIFICATION	DATA
Arc Resistance	seconds	180
Dielectric Strength, (Kv step-by-step)	volts/mil (Wet)	350
Dielectric Breakdown	Kv step-by-step (Wet)	56
Dielectric Constant	1 KHz / 1 MHz (Wet)	3.9 / 4.3
Dissipation Factor	1 KHz / 1 MHz (Wet)	.012 / .011
Surface Resistance	Ohm - cm	1 x 10^{15}
Volume Resistance	Ohm - cm	1 x 10^{15}

THERMAL PROPERTIES	SPECIFICATION	DATA
Heat Deflection Temp.	°C	260
Glass Transition Temp.	°C	175
Thermal Conductivity	cal/sec/cm^2/^{0}C/cm	16 x 10^{-4}
Coefficient of Linear Expansion	Alpha 1 in/in ^{0}C	25 x 10^{-6}
	Alpha 2 in/in ^{0}C	70 x 10^{-6}

CERTIFICATIONS	SPECIFICATION	DATA
ASTM D-5948-05; (MIL-M-14)	None	N/A
Flammability	UL-94, 1/16 inch	V-0

Technical Data Sheets are offered for Reference Only, and are not to be considered as specifications. All tests were performed at room temperature (22 °C) unless otherwise stated, under carefully controlled conditions using transfer molded specimens. Since actual performance is determined by the molding techniques applied, as well as part size and shape, it is recommended that customers conduct their own tests to determine product suitability for their specific application. **Cosmic Plastics, Inc. makes no warranties of merchantability, or any expressed or implied guarantee or representation of fitness or suitability for any application.**

Approved: SC 3/2/17

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