



**Cosmic Plastics Inc**  
HELPING MOLD THE FUTURE



Registered To ISO 9001:2008  
Ref. No. 10000711

## TECHNICAL DATA SHEET

### E4940S Epoxy

- DESCRIPTION** Cosmic E4940S is a mineral filled epoxy molding compound which is supplied in a granular form.
- FEATURES** It has excellent dimensional stability, improved thermal cycling and exceptional moisture resistance. Standard spiral flow range is 25-35" (EMMI) at 150°C and 1000 psi. It has a hot plate gel time of 22-30 seconds at 160°C, and 18-26 seconds at 182°C. It has a shelf life of eight months when stored at 5°C.
- APPLICATIONS** It is designed for use in high-volume encapsulation of resistor networks and fiber-optic connectors requiring high quality, reliability and good moldability.

### 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 <sup>6</sup>	2.0
Compressive Strength	psi	28,000
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 <sup>15</sup>
Volume Resistance	Ohm - cm	1 x 10 <sup>15</sup>

THERMAL PROPERTIES	SPECIFICATION	DATA
Heat Deflection Temperature	°C	260
Glass Transition Temperature	°C	175
Thermal Conductivity	cal/sec/cm <sup>2</sup> /°C/cm	16 x 10 <sup>-4</sup>
Coefficient of Linear Expansion	Alpha 1 in/in °C	20 x 10 <sup>-6</sup>
	Alpha 2 in/in °C	70 x 10 <sup>-6</sup>

CERTIFICATIONS	SPECIFICATION	DATA
ASTM D-5948-05; (MIL-M-14)	None	N/A
Flammability	UL-94, 1/8 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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