

# Cosmic Epoxy E4920

Epoxy; Epoxide  
Cosmic Plastics, Inc.

Message:

DESCRIPTION  
Cosmic E4920 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. E4920 can be supplied in black, gold, green or red. It has a shelf life of six months when stored at 5°C.

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

General Information		
UL YellowCard	E64213-247567	
Filler / Reinforcement	Mineral	
Features	Fungus Resistant	
	Good Moldability	
	Moisture Resistant	
Uses	Electrical Parts	
Agency Ratings	ASTM D 5948, Type MEC	
	ASTM D 5948, Type MEE	
	ASTM D 5948, Type MEG	
	ASTM D 5948, Type MEH	
	MIL M-14, Type MEC	
	MIL M-14, Type MEE	
	MIL M-14, Type MEG	
	MIL M-14, Type MEH	
Appearance	Black	
	Gold	
	Green	
	Red	
Forms	Granules	
	Preformed Parts	
Processing Method	Encapsulating	
Physical	Nominal Value	Unit
Specific Gravity	1.85	g/cm <sup>3</sup>
Bulk Factor	2.0 to 5.0	

Molding Shrinkage - Flow	0.20 to 0.40	%	
Water Absorption <sup>1</sup> (Equilibrium, 50°C)	0.25	%	
Hardness	Nominal Value	Unit	
Barcol Hardness	65		
Mechanical	Nominal Value	Unit	
Tensile Strength	82.7	MPa	
Flexural Modulus	13800	MPa	
Flexural Strength	103	MPa	
Compressive Strength	241	MPa	
Impact	Nominal Value	Unit	
Notched Izod Impact	27	J/m	
Thermal	Nominal Value	Unit	
Glass Transition Temperature	175	°C	
CLTE - Flow			
-- <sup>2</sup>	2.5E-5	cm/cm/°C	
-- <sup>3</sup>	7.0E-5	cm/cm/°C	
Thermal Conductivity	0.67	W/m/K	
Heat Distortion	260	°C	
Dielectric Breakdown - Wet	56000	V	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	
Volume Resistivity	1.0E+15	ohms · cm	
Dielectric Strength <sup>4</sup> (Wet)	14	kV/mm	
Dielectric Constant <sup>5</sup>			
1 kHz	3.90		
1 MHz	4.30		
Dissipation Factor <sup>6</sup>			
1 kHz	0.012		
1 MHz	0.011		
Arc Resistance	180	sec	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.59 mm)	V-0		UL 94
Injection	Nominal Value	Unit	
Processing (Melt) Temp	150 to 180	°C	
Injection Pressure	3.45 to 55.2	MPa	
NOTE			
1.	48 hrs		
2.	Alpha 1		
3.	Alpha 2		
4.	Method B (Step-by-Step)		
5.	Wet		
6.	Wet		

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