CONATHANE® EN-7

Polyurethane

Cytec Industries Inc.

Message:

CONATHANE EN-7 and EN-8 are two-component, non MBOCA based, high strength liquid polyurethane resin systems designed to ensure the performance of electrical/electronic assemblies exposed to severe environmental extremes. Elastomers prepared from these systems exhibit the following outstanding properties: Superior hydrolytic stability Low viscosity Fungus resistance Exceptional dielectric properties

- Thermal shock resistance
- High strength

High elongation

These systems are recommended for use as molding and potting compounds for electrical cables, connectors, modules, wire wound devices, strain sensitive devices, as well as 100% solids coatings for printed circuitry. Their excellent adhesion to most substrates, and good flexibility, also suggest their use as staking and filleting adhesives.

General Information			
Features	Fungus Resistant		
	Good Flexibility		
	Good Thermal Shock Resistance		
	High Elongation		
	High Strength		
	Hydrolytically Stable		
	Low Viscosity		
Uses	Adhesives		
	Cable Jacketing		
	Coating Applications		
	Connectors		
	Electrical Parts		
	Electrical/Electronic Applications		
	Semiconductor Protective Coatings		
Agency Ratings	MIL M-24041C Type 1		
Appearance	Amber		
	Opaque		
Forms	Liquid		
Processing Method	Casting		
	Potting		
Physical	Nominal Value	Unit	Test Method

Specific Gravity	1.01	g/cm³	ASTM D792
Water Absorption			ASTM D570
25°C, 24 hr	0.20	%	
Saturation, 25°C ¹	0.43	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A)	90		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			
100% Strain	5.52	MPa	
300% Strain	8.27	MPa	
Tensile Strength (Yield)	> 13.8	MPa	ASTM D412
Tensile Elongation (Break)	> 400	%	ASTM D412
Tear Strength ²	> 35.0	kN/m	ASTM D624
Compression Set (70°C, 22 hr)	31	%	ASTM D395
Aging	Nominal Value	Unit	
Heat Aging - % Wt. Gain after 7 days @ 135℃	0.41	%	
Fungal Resistance	Non-nutrient		
Thermal Shock Test - 10 cycles, Olyphant washer -70°C to 130°C	Passes		
Linear Shrinkage	1.2	%	Internal Method
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity (25°C)	> 4.3E+15	ohms·cm	ASTM D257
Dielectric Strength (25°C, 1.59 mm)	31	kV/mm	
Dielectric Constant			ASTM D150
25°C, 100 Hz	3.00		
25°C, 1 kHz	2.90		
25°C, 1 MHz	2.80		
Dissipation Factor			ASTM D150
25°C, 100 Hz	0.032		
25°C, 1 kHz	0.033		
25°C, 1 MHz	0.026		
Arc Resistance	> 120	sec	ASTM D495
Insulation Resistance	> 2.5E+13	ohms	Internal Method
NOTE			
1.	30 days		

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