CONATHANE® EN-2550

Polyurethane

Cytec Industries Inc.

Message:

CONATHANE EN-2550 is a two-part, filled polyurethane resin system formulated for casting high-voltage transformers and potting or encapsulating electronic devices. The system features good handling properties at room temperature, good working life, and minimum processing hazards. CONATHANE EN-2550 can be cured at room or elevated temperatures without the formation of voids. The cured compound has excellent water resistance, and is resistant to thermal shock. Other beneficial characteristics of this system include low exotherm, low stresses during cure, low shrinkage, and very good electrical properties.

General Information	
UL YellowCard	E69804-249051
Features	Fungus Resistant Good Electrical Properties Good Processability Good Thermal Shock Resistance Low Exotherm Low Shrinkage
Uses	Electrical Parts Electrical/Electronic Applications
Agency Ratings	MIL E-5272C MIL Std. 810B
Appearance	Black Blue Tan
Forms	Liquid
Processing Method	Casting Encapsulating Potting

Physical	Nominal Value	Unit
Specific Gravity		
-- [1]	1.23	g/cm³
-- [2]	1.52	g/cm³
Water Absorption		
24 hour immersion : 25°C	0.075	%
7 day immersion : 25°C	0.19	%

7 days in boiling water : 25°C	1.5	%	
Solids Content			
-- [3]	100	%	
-- [4]	100	%	
Fungal Resistance	Non-nutrient		
Thermal Shock Test - 10 cycles, -65°C to 130°C	passes		
Work Life - 234 gm mass to 100000 cps (25°C)	53.0	min	
Linear Shrinkage	0.58	%	
Hardness	**Nominal Value**	**Unit**	
Durometer Hardness (Shore D)	50		
Mechanical	**Nominal Value**	**Unit**	
Tensile Strength	12.4	MPa	
Tensile Elongation (Break)	630	%	
Elastomers	**Nominal Value**	**Unit**	
Tear Strength	41.2	kN/m	
Thermal	**Nominal Value**	**Unit**	
CLTE - Flow	1.6E-4	cm/cm/°C	
Thermal Conductivity	0.33	W/m/K	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity			
-- [5]	7.8E+11	ohms	
-- [6]	1.5E+14	ohms	
-- [7]	6.1E+17	ohms	
Volume Resistivity			
25°C	2.1E+14	ohms·cm	
60°C	1.1E+13	ohms·cm	
120°C	1.4E+11	ohms·cm	
Dielectric Strength			
0.406 mm	43	kV/mm	
0.813 mm	33	kV/mm	
1.57 mm	21	kV/mm	
Dielectric Constant			
25°C, 100 Hz	4.38		
25°C, 1 kHz	4.13		
25°C, 1 MHz	3.81		
Dissipation Factor			
25°C, 100 Hz	0.096		
25°C, 1 kHz	0.034		
25°C, 1 MHz	0.020		
Arc Resistance	> 120	sec	
Insulation Resistance			

25°C	3.0E+13	ohms	
60°C	1.0E+11	ohms	
120°C	1.2E+10	ohms	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	V-0		UL 94
Thermoset	**Nominal Value**	**Unit**	
Thermoset Components			
Hardener	Mix Ratio by Weight: 100		
Resin	Mix Ratio by Weight: 17		
Thermoset Mix Viscosity			
25°C [8]	3000	cP	
25°C [9]	17000	cP	
25°C [10]	150	cP	
40°C [11]	1200	cP	
NOTE			
1.	Resin		
2.	Hardener		
3.	Resin		
4.	Hardener		
5.	90°C		
6.	60°C		
7.	25°C		
8.	Mixed		
9.	Hardener		
10.	Resin		
11.	Mixed		

Recommended distributors for this material

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