

CONATHANE® EN-2551

Polyurethane
Cytec Industries Inc.

Message:

CONATHANE EN-2551 is a filled two-component urethane system designed for use as a potting and encapsulating material for electronic components where critical thermal cycling characteristics are a factor. CONATHANE EN-2551 has excellent electrical properties, low shrinkage, low stress buildup, and can be hand-mixed or machine dispensed.

General Information		
UL YellowCard	E69804-249043	
Features	Good Electrical Properties	
	Good Processability	
	Good Thermal Shock Resistance	
	Low Shrinkage	
Uses	Electrical Parts	
	Electrical/Electronic Applications	
Appearance	Black	
	Blue	
	Tan	
Forms	Liquid	
Processing Method	Encapsulating	
	Potting	
Physical	Nominal Value	Unit
Specific Gravity		
-- 1	1.24	g/cm ³
-- 2	1.46	g/cm ³
-- 3	1.48	g/cm ³
Water Absorption		
24 hour immersion : 25°C	0.060	%
7 day immersion : 25°C	0.15	%
Gel Time - 100 gm mass (25°C)	4.0 to 7.0	min
Cure Schedule		
25°C	7.0	day
80°C	0.7	day
Lap Shear - Adhesion to Aluminum	2.07	MPa
Linear Shrinkage	0.75	%
Hardness	Nominal Value	Unit

Durometer Hardness (Shore D)	90		
Mechanical	Nominal Value	Unit	
Tensile Strength	7.07	MPa	
Tensile Elongation (Break)	39	%	
Elastomers	Nominal Value	Unit	
Tear Strength	27.0	kN/m	
Thermal	Nominal Value	Unit	
CLTE - Flow	1.2E-4	cm/cm/°C	
Thermal Conductivity	0.65	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ⁴	2.8E+17	ohms	
Volume Resistivity (25°C)	6.8E+13	ohms · cm	
Dielectric Strength	23	kV/mm	
Dielectric Constant (25°C, 1 kHz)	3.99		
Dissipation Factor			
25°C, 100 Hz	0.18		
25°C, 1 kHz	0.053		
Arc Resistance	> 120	sec	
Insulation Resistance (25°C)	8.6E+12	ohms	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (6.35 mm)	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 ⁵	4500	cP	
25°C ⁶	8500	cP	
25°C ⁷	300	cP	
NOTE			
1.	Resin		
2.	Mixed		
3.	Hardener		
4.	25°C		
5.	Mixed		
6.	Hardener		
7.	Resin		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

