INSUL-PLATE™ X-28057-2HT

Epoxy; Epoxide

Sumitomo Bakelite North America, Inc.

Message:

Vyncolit INSUL-PLATE™ Hole-Fill material delivers true reliability and superior performance. This material, in powder form, is specifically suited for Hole-Fill use in glass epoxy, multi-layer and polyimide metal core circuit boards. The material is designed to meet or exceed the higher process and post-cure temperatures required for polyimide prepregs. Vyncolit Hole-Fill powder offers excellent adhesion to the metal core plates while maintaining the required mechanical and electrical properties. In addition, INSUL-PLATE material readily accepts plating with excellent adhesion. Vyncolit monitors the material on a lot-to-lot basis to assure a consistent product and to provide the high reliability required for metal core and multi-layer board applications.

General Information			
Features	Electrically Insulating Good Adhesion Good Chemical Resistance Low Shrinkage Machinable Platable		
Uses	Printed Circuit Boards		
Appearance	Black		
Forms	Powder		
Processing Method	Compression Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.99	g/cm³	ASTM D792
Apparent Density	0.80	g/cm³	ASTM D1895
Molding Shrinkage - Flow	0.60	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.060	%	ASTM D570
Water Absorption - 48 hr (50°C)	0.20	%	ASTM D570
Bulk Factor	3.00 to 4.00		ASTM D954
Insulation Resistance	1.0E+15	ohms·cm	ASTM D257
Mold Temperature (other) - Compression	143 to 177	°C	
Molding Pressure - Compression	1.38 to 13.8	MPa	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Break)	51.0	MPa	ASTM D638
Flexural Modulus	13800	MPa	ASTM D790
Flexural Strength	96.0	MPa	ASTM D790
Compressive Strength	172	MPa	ASTM D695
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	18	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
CLTE - Flow			ASTM E831

40 to 125°C [1]	2.5E-5	cm/cm/°C	
40 to 125°C [2]	2.9E-5	cm/cm/°C	
40 to 190°C [3]	2.8E-5	cm/cm/°C	
Thermal Conductivity	0.63	W/m/K	ASTM C518
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+14	ohms·cm	ASTM D257
Dielectric Strength	14	kV/mm	ASTM D149
Dielectric Constant [4] (1 MHz)	5.25		ASTM D2520
Dissipation Factor [5] (1 MHz)	8.0E-3		ASTM D150
Arc Resistance	180	sec	ASTM D495
Thermoset	**Nominal Value**	**Unit**	
Shelf Life (4°C)	> 26	wk	
NOTE			
1.	Post Cured		
2.	As Molded		
3.	Post Cured		
4.	Dry		
5.	Dry		