

INSULCAST® 3230 LV/INSULCURE 11B

Epoxy; Epoxide

ITW Polymers Coatings North America

Message:

INSULCAST 3230 LV is a low viscosity, highly filled epoxy formulation which, in addition to having excellent electrical properties, has unusually high thermal conductivity with low thermal expansion. Similar to INSULCAST 140 but lower viscosity. This system meets the NASA outgassing specifications with tolerances for TML ranging from 0.40 to 0.41% and for CVCM ranging from 0.0 to 0.1%.

General Information			
Filler / Reinforcement	Filler		
Features	Good Electrical Properties		
	Low Viscosity		
	Thermally Conductive		
Processing Method	Casting		
Hardness	Nominal Value	Test Method	
Durometer Hardness (Shore D)	92	ASTM D2240	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	58.6	MPa	ASTM D638
Tensile Elongation (Break)	1.0	%	ASTM D638
Flexural Strength	93.1	MPa	ASTM D790
Compressive Strength	124	MPa	ASTM D695
Thermal	Nominal Value	Unit	
CLTE - Flow	2.8E-5	cm/cm/°C	
Thermal Conductivity	1.3	W/m/K	
Heat Deflection Temperature	150	°C	
Service Temperature	155	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	5.0E+16	ohms · cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	6.50		ASTM D150
Dissipation Factor (1 kHz)	0.020		ASTM D150
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Hardener	Mix Ratio by Weight: 5.0 to 7.0		
Resin	Mix Ratio by Weight: 100		
Shelf Life (25°C)	52	wk	
Uncured Properties	Nominal Value	Unit	Test Method
Color			
-- 1	Amber		
-- 2	Black		

Density		
-- ³	0.948	g/cm ³
-- ⁴	2.09	g/cm ³
Viscosity		ASTM D2393
25°C ⁵	0.70	Pa·s
-- ⁶	12	Pa·s
25°C ⁷	18	Pa·s
Curing Time		
120°C	2.0	hr
-- ⁸	4.0	hr
75°C	24	hr
Pot Life ⁹ (25°C)	150 to 180	min

NOTE

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|----|----------------------------------------|
| 1. | INSULCURE 11B |
| 2. | INSULCAST 3230 LV |
| 3. | INSULCURE 11B |
| 4. | INSULCAST 3230 LV |
| 5. | INSULCURE 11B |
| 6. | Mixed |
| 7. | INSULCAST 3230 LV |
| 8. | 2 hours at 100°C plus 2 hours at 125°C |
| 9. | 100 gram mass |

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