

INSULCAST® 140 FR/INSULCURE 11B

Epoxy; Epoxide
ITW Polymers Coatings North America

Message:
INSULCAST 140 FR is an epoxy casting system with high thermal conductivity. This system, when cured with INSULCURE 11B, also provides Class F operating properties.

General Information			
Features	Flame Retardant		
	Thermally Conductive		
UL File Number	E86165		
Processing Method	Casting		
Hardness	Nominal Value	Test Method	
Durometer Hardness (Shore D)	90 to 95	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	2.6E-5	cm/cm/°C	
Thermal Conductivity	2.9	W/m/K	
Heat Deflection Temperature	155	°C	
Service Temperature	155	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms · cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant	6.30		ASTM D150
Dissipation Factor	0.015		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating	V-0		UL 94
Thermoset	Nominal Value	Unit	Test Method
Thermoset Components			
Hardener	Mix Ratio by Weight: 3.0 to 4.0		
Resin	Mix Ratio by Weight: 100		
Shelf Life (25°C)	52	wk	
Post Cure Time (150°C)	4.0	hr	
Uncured Properties	Nominal Value	Unit	Test Method
Color			

-- 1	Amber	
-- 2	Black	
Density		
-- 3	0.948	g/cm ³
-- 4	2.59	g/cm ³
Viscosity		ASTM D2393
-- 5	0.70	Pa·s
60°C 6	50	Pa·s
-- 7	220	Pa·s
Curing Time		
120°C 8	2.0	hr
-- 9	3.0 to 4.0	hr
-- 10	6.0	hr
Pot Life (25°C)	150	min

NOTE

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| 1. | INSULCURE 11B |
| 2. | INSULCAST 140 FR |
| 3. | INSULCURE 11B |
| 4. | INSULCAST 140 FR |
| 5. | INSULCURE 11B |
| 6. | Mixed |
| 7. | INSULCAST 140 FR |
| 8. | Fast Cure |
| 9. | 95°C for 2-3 hours plus 1 hour @
120°C (Small mass) |
| 10. | 65°C for 4 hours plus 2 hours @
120°C (Large Mass (greater than 5
lbs.)) |

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