

EMERGE™ PC 8731-13 Advanced Resin

Overview

EMERGE PC 8731-13 Advanced Resin is an ignition-resistant, 10% glass reinforced, and UV resistant polycarbonate resin. EMERGE PC 8731-13 is rated as f1 resin by Underwriters Laboratory. This resin contains no brominated, chlorinated, or phosphate flame retardant additives. It is a medium flow PC resin with a mold release system, intended for injection molding applications.

Applications

- Information technology equipment
- Electrical parts
- Other structural/internal parts

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.28 g/cm ³	1.28 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13 g/10 min	13 g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow	3.5E-3 to 5.0E-3 in/in	0.35 to 0.50 %	
Across Flow	4.0E-3 to 5.5E-3 in/in	0.40 to 0.55 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹	580000 psi	4000 MPa	ASTM D638
Tensile Strength ² (Break)	9430 psi	65.0 MPa	ASTM D638
Tensile Elongation ³ (Break)	4.0 %	4.0 %	ASTM D638
Flexural Modulus	551000 psi	3800 MPa	ASTM D790
Flexural Strength	17400 psi	120 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	2.1 ft-lb/in	110 J/m	ASTM D256
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	280 °F	138 °C	
264 psi (1.8 MPa), Unannealed	264 °F	129 °C	
264 psi (1.8 MPa), Annealed	282 °F	139 °C	
Ball Indentation Temperature	> 266 °F	> 130 °C	IEC 60598-1
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+14 ohms	1.0E+14 ohms	IEC 60093
Volume Resistivity (0.0787 in (2.00 mm))	1.0E+16 ohms-cm	1.0E+16 ohms-cm	IEC 60093
Electric Strength (0.0787 in (2.00 mm))	1800 V/mil	70 kV/mm	IEC 60243-1
Dissipation Factor ⁴			IEC 60250
0.0787 in (2.00 mm), 50 Hz	8.0E-3	8.0E-3	
0.0787 in (2.00 mm), 1 MHz	0.016	0.016	
Comparative Tracking Index			IEC 60112
0.118 in (3.00 mm), Solution A	200 V	200 V	

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁴			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	5VA	5VA	
Glow Wire Flammability Index ⁴			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature ⁴			IEC 60695-2-13
0.04 in (1.0 mm)	1760 °F	960 °C	
0.08 in (2.0 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	248 °F	120 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	545 to 599 °F	285 to 315 °C	
Mold Temperature	176 to 230 °F	80 to 110 °C	