

Technical Information



EMERGE™ PC 8600E50-20 Advanced Resin

Overview

EMERGE™ PC 8600E50-20 Advanced Resin contains 50% post consumer recycled (PCR) polycarbonate. This ignition resistant PC does not contain chlorinated, brominated or phosphate flame retardant additives to comply with global environmental standards. This resin combines good mechanical, thermal, and chemical properties while retaining excellent processability.

Applications

- Electronics and electrical
- Charger and adaptor enclosures
- Information technology equipment

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	20 g/10 min	20 g/10 min	ASTM D1238
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955 ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹	334000 psi	2300 MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	8700 psi	60.0 MPa	
Break	8700 psi	60.0 MPa	
Tensile Elongation ²			ASTM D638
Yield	6.0 %	6.0 %	
Break	100 %	100 %	
Flexural Modulus ³	348000 psi	2400 MPa	ASTM D790
Flexural Strength ³	13800 psi	95.0 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	12 ft-lb/in	650 J/m	ASTM D256
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load 264 psi (1.8 MPa), Unannealed	257 °F	125 °C	ASTM D648
Vicat Softening Temperature	298 °F	148 °C	ASTM D1525 ⁴
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity			
--	1.0E+17 ohms-cm	1.0E+17 ohms-cm	ASTM D257
--	> 1.0E+17 ohms-cm	> 1.0E+17 ohms-cm	IEC 60093
Dielectric Strength	560 V/mil	22 kV/mm	ASTM D149
Arc Resistance	PLC 7	PLC 7	ASTM D495

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁵			UL 94
0.016 in (0.40 mm)	HB	HB	
0.022 in (0.55 mm)	V-2	V-2	
0.04 in (1.0 mm)	V-1	V-1	
0.06 in (1.5 mm)	V-0	V-0	
0.10 in (2.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	V-0	V-0	
Glow Wire Flammability Index ⁵			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature ⁵			IEC 60695-2-13
0.08 in (2.0 mm)	1470 °F	800 °C	
Oxygen Index ⁵	35 %	35 %	ISO 4589-2
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	518 to 572 °F	270 to 300 °C	
Mold Temperature	158 to 230 °F	70 to 110 °C	

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 0.039 in/min (1.0 mm/min)

² 2.0 in/min (50 mm/min)

³ 0.051 in/min (1.3 mm/min)

⁴ Rate B (120°C/h), Loading 1 (10 N)

⁵ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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