

EMERGE™ PC 8600-20 Advanced Resin

Overview

EMERGE™ PC 8600 is a translucent, ignition-resistant and easy flow polycarbonate resin. This resin contains no chlorinated, brominated or phosphate flame retardant additives and is intended to comply with global environmental standards. It has a UL94 flammability rating of V-0 at 1.5mm.

Applications:

- A broad range of injection molded applications in the electronics, electrical and information technology equipment markets.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	20 g/10 min	20 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage			
Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
--	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹	334000 psi	2300 MPa	ASTM D638
Tensile Strength			
Yield ²	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break ²	8700 psi	60.0 MPa	ASTM D638
Break	8410 psi	58.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield ²	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break ²	110 %	110 %	ASTM D638
Break	100 %	100 %	ISO 527-2/50
Flexural Modulus			
-- ³	348000 psi	2400 MPa	ASTM D790
-- ⁴	348000 psi	2400 MPa	ISO 178
Flexural Strength			
-- ³	13800 psi	95.0 MPa	ASTM D790
-- ⁴	13600 psi	94.0 MPa	ISO 178
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
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	123	123	ISO 2039-2

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	277 °F	136 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	257 °F	125 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	252 °F	122 °C	ISO 75-2/A
Vicat Softening Temperature			
--	298 °F	148 °C	ASTM D1525 ⁵
--	289 °F	143 °C	ISO 306/B50
--	302 °F	150 °C	ISO 306/A120
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+19 ohms-cm	1.0E+19 ohms-cm	ASTM D257
Dielectric Strength	640 V/mil	25 kV/mm	ASTM D149
Arc Resistance	PLC 7	PLC 7	ASTM D495
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁶			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 ⁶			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature ⁶			IEC 60695-2-13
0.08 in (2.0 mm)	1470 °F	800 °C	
Oxygen Index ⁶	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 554 °F	270 to 290 °C	
Mold Temperature	158 to 230 °F	70 to 110 °C	