

EMERGE™ PC 8701HH Advanced Resin

Overview

EMERGE™ PC 8701HH Advanced Resin is an ignition-resistant, glass reinforced, polycarbonate resin. This resin contains no bromine, chlorine, or phosphate additives. It is a medium flow PC resin with a mold release system, intended for injection molding applications. EMERGE™ PC 8701HH has a UL 94 V-0 rating at 1.5 mm.

Applications:

- Electrical
- Utility [Smart] Meters
- Structural parts

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.28 g/cm ³	1.28 g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0 g/10 min	8.0 g/10 min	ISO 1133
Molding Shrinkage	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	631000 psi	4350 MPa	ISO 527-2/50
Tensile Stress (Yield)	12300 psi	85.0 MPa	ISO 527-2/50
Tensile Strain (Break)	10 %	10 %	ISO 527-2/50
Flexural Modulus ¹	595000 psi	4100 MPa	ISO 178
Flexural Stress ¹	20200 psi	139 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	2.9 ft-lb/in ²	6.0 kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	3.3 ft-lb/in ²	7.0 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	279 °F	137 °C	ISO 75-2/A
Vicat Softening Temperature	295 °F	146 °C	ISO 306/B50
Ball Indentation Temperature	> 266 °F	> 130 °C	IEC 60598-1
CLTE - Flow	8.3E-6 in/in/°F	1.5E-5 cm/cm/°C	ISO 11359-2
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
Dielectric Constant ² (0.0787 in (2.00 mm))	3.00 to 3.10	3.00 to 3.10	IEC 60250
Dissipation Factor ²	8.0E-3 to 0.016	8.0E-3 to 0.016	IEC 60250
Comparative Tracking Index 0.118 in (3.00 mm), Solution A	200 V	200 V	IEC 60112

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ³ (0.06 in (1.5 mm))	V-0	V-0	UL 94
Glow Wire Flammability Index ³			IEC 60695-2-12
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	
Glow Wire Ignition Temperature ³			IEC 60695-2-13
0.04 in (1.0 mm)	1560 °F	850 °C	
0.08 in (2.0 mm)	1560 °F	850 °C	
0.12 in (3.0 mm)	1560 °F	850 °C	
Oxygen Index ³	38 %	38 %	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	554 to 608 °F	290 to 320 °C	
Mold Temperature	176 °F	80 °C	