

EMERGE™ PC 8701

Advanced Resin

Overview

EMERGE™ PC 8701 advanced resin is an ignition resistant, 10% glass reinforced, polycarbonate resin. This resin contains no bromine, chlorine or phosphate additives. The resin is designed to meet the German norm DIN VDE-0472/Part 815 (1989) on halogens. It is a medium flow PC resin with a mold release system, intended for injection molding applications.

Applications:

- Electrical meter
- Information Technology Equipment
- Other structural part

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 - Flow	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			
0.157 in (4.00 mm), Injection Molded	573000 psi	3950 MPa	ISO 527-2/1
0.157 in (4.00 mm), Injection Molded	580000 psi	4000 MPa	ISO 527-2/50
Tensile Stress			
Yield, 0.157 in (4.00 mm), Injection Molded	9430 psi	65.0 MPa	ISO 527-2/50
Break, 0.157 in (4.00 mm), Injection Molded	7250 psi	50.0 MPa	
Tensile Strain			
Yield, 0.157 in (4.00 mm), Injection Molded	4.0 %	4.0 %	ISO 527-2/50
Break, 0.157 in (4.00 mm), Injection Molded	9.0 %	9.0 %	
Flexural Modulus ¹			
0.157 in (4.00 mm), Injection Molded	551000 psi	3800 MPa	ISO 178
Flexural Stress ¹			
0.157 in (4.00 mm), Injection Molded	15200 psi	105 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact Strength ²			
73°F (23°C), Injection Molded	4.3 ft-lb/in ²	9.0 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	286 °F	141 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	271 °F	133 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282 °F	139 °C	ISO 75-2/A
Vicat Softening Temperature			
--	311 °F	155 °C	ISO 306/A120
--	293 °F	145 °C	ISO 306/B50
Ball Indentation Temperature			
	> 266 °F	> 130 °C	IEC 60335-1
CLTE - Flow (-40 to 176°F (-40 to 80°C))			
	8.3E-6 in/in/°F	1.5E-5 cm/cm/°C	ASTM D696

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			IEC 60250
0.0787 in (2.00 mm), 50 Hz	3.00	3.00	
0.0787 in (2.00 mm), 1 MHz	3.10	3.10	
Dissipation Factor			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 ³ (0.06 in (1.5 mm))	V-0	V-0	UL 94
Glow Wire Ignition Temperature ³			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	
Oxygen Index ³	29 %	29 %	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 599 °F	290 to 315 °C	
Mold Temperature	176 to 239 °F	80 to 115 °C	

Notes

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

¹ 0.079 in/min (2.0 mm/min)

² 4 mm

³ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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