

EMERGE™ PC 8702-15 (EU) Advanced Resin

Overview

EMERGE™ PC 8702-15 Advanced Resin is an ignition-resistant, 20% glass reinforced, polycarbonate resin containing no bromine, chlorine, or phosphate additives. It is an easy flow resin with a mold release system designed for thin wall injection moulding applications.

Applications:

- Electrical parts
- Structural parts

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.33 g/cm ³	1.33 g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15 g/10 min	15 g/10 min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	
Flow	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			ISO 527-2/1
0.157 in (4.00 mm), Injection Molded	841000 psi	5800 MPa	
Tensile Stress			ISO 527-2/50
Yield, 0.157 in (4.00 mm), Injection Molded	14500 psi	100 MPa	
Break, 0.157 in (4.00 mm), Injection Molded	13100 psi	90.0 MPa	
Tensile Strain			ISO 527-2/50
Break, 0.157 in (4.00 mm), Injection Molded	3.5 %	3.5 %	
Flexural Modulus ¹			ISO 178
0.157 in (4.00 mm), Injection Molded	798000 psi	5500 MPa	
Flexural Stress ¹			ISO 178
0.157 in (4.00 mm), Injection Molded	21800 psi	150 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
73°F (23°C), Injection Molded	4.2 ft-lb/in ²	8.8 kJ/m ²	
Notched Izod Impact Strength			ISO 180/A
73°F (23°C), Injection Molded	3.9 ft-lb/in ²	8.3 kJ/m ²	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	289 °F	143 °C	ISO 75-2/B
66 psi (0.45 MPa), Annealed	298 °F	148 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	280 °F	138 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	289 °F	143 °C	ISO 75-2/A
Vicat Softening Temperature	302 °F	150 °C	ISO 306/B50
Ball Indentation Temperature	> 275 °F	> 135 °C	IEC 60335-1
CLTE			ASTM D696
Flow : -40 to 176°F (-40 to 80°C)	2.9E-5 in/in/°F	5.2E-5 cm/cm/°C	
Transverse : -40 to 176°F (-40 to 80°C)	1.4E-5 in/in/°F	2.5E-5 cm/cm/°C	

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	3.0E+14 ohms	3.0E+14 ohms	IEC 60093
Volume Resistivity (0.0709 in (1.80 mm))	1.0E+16 ohms-cm	1.0E+16 ohms-cm	IEC 60093
Electric Strength (0.0630 in (1.60 mm))	690 V/mil	27 kV/mm	IEC 60243-1
Dielectric Constant			IEC 60250
0.0630 in (1.60 mm), 10 Hz	3.10	3.10	
0.0630 in (1.60 mm), 1 MHz	3.10	3.10	
Comparative Tracking Index			IEC 60112
0.118 in (3.00 mm), Solution A	175 V	175 V	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ²			UL 94
0.030 in (0.75 mm)	V-2	V-2	
0.06 in (1.6 mm)	V-0	V-0	
Glow Wire Ignition Temperature ²			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 ²	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	572 °F	300 °C	
Mold Temperature	140 °F	60 °C	