

EMERGE™ PC 8702-5

Advanced Resin

Overview

EMERGE™ PC 8702-5 Advanced Resin is an ignition-resistant, 20% 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 on halogens. It is a medium flow PC resin with a mold release system, intended for injection molding applications.

EMERGE™ PC 8702-5 has a UL 94 V-0 rating at 1.5 mm, 5VA rating at 3.0 mm and V2 rating at 0.75 mm.

Applications:

- Information technology equipment
- Electrical parts
- Other structural/internal 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)	5.0 g/10 min	5.0 g/10 min	ISO 1133
Molding Shrinkage	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	870000 psi	6000 MPa	ISO 527-2/50
Tensile Stress			ISO 527-2/50
Yield	14500 psi	100 MPa	
Break	13100 psi	90.0 MPa	
Tensile Strain (Break)	4.0 %	4.0 %	ISO 527-2/50
Flexural Modulus	798000 psi	5500 MPa	ISO 178
Flexural Stress	24700 psi	170 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	4.0 ft-lb/in ²	8.5 kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	3.8 ft-lb/in ²	8.0 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	293 °F	145 °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	284 °F	140 °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			ISO 11359-2
Flow	1.4E-5 in/in/°F	2.5E-5 cm/cm/°C	
Transverse	2.9E-5 in/in/°F	5.2E-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	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	
Dissipation Factor			IEC 60250
10 Hz	5.0E-3	5.0E-3	
100 Hz	2.5E-3	2.5E-3	
1 MHz	0.016	0.016	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹			UL 94
0.030 in (0.75 mm)	V-2	V-2	
0.06 in (1.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	• V-0 • 5VA	• V-0 • 5VA	
Glow Wire Flammability Index ¹			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 ¹			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 ¹	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	554 to 608 °F	290 to 320 °C	
Mold Temperature	176 to 248 °F	80 to 120 °C	

Notes

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

¹ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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