

EMERGE™ PC 8310-10

Advanced Resin

Overview

EMERGE™ PC 8310-10 advanced resin is a transparent, ignition resistant PC resin, also available in opaque colors, that contains no chlorinated or brominated or phosphorous based additives. The resin is designed to meet the German norm DIN VDE-0472/Part 815 on halogens. This resin combines good mechanical and high heat properties, maintains excellent processability and contains mold release agent. EMERGE™ PC 8310-10 advanced resin has a UL94 V0 rating at 2.5 mm.

Applications:

- A broad range of injection molded applications in the lighting, 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	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10 g/10 min	10 g/10 min	ISO 1133
Molding Shrinkage	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	348000 psi	2400 MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	8700 psi	60.0 MPa	
Break	8410 psi	58.0 MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0 %	6.0 %	
Break	> 100 %	> 100 %	
Flexural Modulus	341000 psi	2350 MPa	ISO 178
Flexural Stress	13800 psi	95.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	17 ft-lb/in ²	35 kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	33 ft-lb/in ²	70 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Annealed	288 °F	142 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	253 °F	123 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282 °F	139 °C	ISO 75-2/A
Vicat Softening Temperature	289 °F	143 °C	ISO 306/B50
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	ISO 11359-2
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+15 ohms-cm	> 1.0E+15 ohms-cm	IEC 60093
Electric Strength	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			IEC 60250
1 Hz	2.70	2.70	
50 Hz	2.70	2.70	
Dissipation Factor			IEC 60250
1 Hz	1.0E-3	1.0E-3	
50 Hz	1.0E-3	1.0E-3	
Comparative Tracking Index (Solution A)	225 V	225 V	IEC 60112

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹			UL 94
0.06 in (1.5 mm)	V-2	V-2	
0.10 in (2.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	V-0	V-0	
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)	1470 °F	800 °C	
0.08 in (2.0 mm)	1470 °F	800 °C	
0.12 in (3.0 mm)	1470 °F	800 °C	
Oxygen Index ¹	40 %	40 %	ISO 4589-2
Needle Flame Test ¹ (59.1 mil (1.50 mm))	PASS	PASS	IEC 60695-2-2
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Transmittance	87.0 to 91.0 %	87.0 to 91.0 %	ASTM D1003
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	158 to 212 °F	70 to 100 °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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