

EMERGE™ PC 8210-31

Advanced Resin

Overview

EMERGE™ PC 8210-31 advanced resin is a translucent, ignition resistant polycarbonate resin. This resin contains no bromine, chlorine, or phosphate flame retardants and is intended to comply with global environmental standards. It combines mechanical performance and high heat resistance with excellent processing characteristics in injection molded applications.

EMERGE™ PC 8210-31 has a UL 94 V-0 rating at 1.5 mm and 3.0 mm and UL 5VA rating at 3.0 mm.

Applications:

- Electrical
- Fixtures
- Enclosures

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)	31 g/10 min	31 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	7980 psi	55.0 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))	7.1 ft-lb/in ²	15 kJ/m ²	ISO 179/1eA
Notched Izod Impact Strength (73°F (23°C))	26 ft-lb/in ²	55 kJ/m ²	ISO 180/A
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Annealed	279 °F	137 °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	273 °F	134 °C	ISO 75-2/A
Vicat Softening Temperature	286 °F	141 °C	ISO 306/B50
Ball Indentation Temperature	> 253 °F	> 123 °C	IEC 60335-1
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	• V-0	• V-0	
	• 5VA	• 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	

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
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
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	500 to 572 °F	260 to 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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