

EMERGE™ PC 4310-10

Advanced Resin

Overview

EMERGE™ PC 4310-10 Advanced Resin is a high-performance polycarbonate resin offering high heat resistance and maximum toughness. This resin is available in a full range of colors that can be custom tailored to meet your product requirements.

Applications:

- Consumer electronics and information technology equipment
- Computer and business equipment
- Portable electronics

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10 g/10 min	10 g/10 min	ASTM D1238
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			ASTM D638
0.126 in (3.20 mm), Injection Molded	350000 psi	2410 MPa	
Tensile Strength			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	8700 psi	60.0 MPa	
Break, 0.126 in (3.20 mm), Injection Molded	10300 psi	71.0 MPa	
Tensile Elongation			ASTM D638
Break, 0.126 in (3.20 mm), Injection Molded	150 %	150 %	
Flexural Modulus			ASTM D790
0.126 in (3.20 mm), Injection Molded	350000 psi	2410 MPa	
Flexural Strength			ASTM D790
0.126 in (3.20 mm), Injection Molded	14000 psi	96.5 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	17 ft-lb/in	910 J/m	
Unnotched Izod Impact			ASTM D256
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	No Break	No Break	
Instrumented Dart Impact ¹			ASTM D3763
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, Total Energy	770 in-lb	87.0 J	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	118	118	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Annealed, 0.157 in (3.99 mm)	291 °F	144 °C	
264 psi (1.8 MPa), Unannealed, 0.157 in (3.99 mm)	262 °F	128 °C	
264 psi (1.8 MPa), Annealed, 0.157 in (3.99 mm)	286 °F	141 °C	
Vicat Softening Temperature	300 °F	149 °C	ASTM D1525 ²
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	2.0E+17 ohms·cm	2.0E+17 ohms·cm	ASTM D257
Dielectric Strength	420 V/mil	17 kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.00	3.00	
1 MHz	3.00	3.00	
Dissipation Factor			ASTM D150
60 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ³			UL 94
0.06 in (1.6 mm)	HB	HB	
0.13 in (3.2 mm)	HB	HB	
Oxygen Index ³	26 %	26 %	ASTM D2863

Notes

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

¹ 11.1 ft/sec (3.39 m/sec)

² Rate A (50°C/h), Loading 2 (50 N)

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



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