

EMERGE™ PC/PET 9100CR MED Advanced Resin

Overview

EMERGE™ PC/PET 9100CR advanced resin is a polycarbonate blend with excellent chemical resistance. This grade was designed for use in medical equipment housings and can withstand repeated exposure to a variety of cleaners and disinfectants commonly used in hospitals. This grade has good aesthetics and excellent toughness.

Main Characteristics:

- Excellent chemical resistance
- Tested under ISO 10993
- UL listing for HB

Applications:

- Medical device housings or enclosures

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.23 g/cm ³	1.23 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	8.5 g/10 min	8.5 g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow	6.0E-3 to 9.0E-3 in/in	0.60 to 0.90 %	
Across Flow	5.0E-3 to 8.0E-3 in/in	0.50 to 0.80 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹			ASTM D638
0.126 in (3.20 mm), Injection Molded	320000 psi	2210 MPa	
Tensile Strength ²			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	7250 psi	50.0 MPa	
Break, 0.126 in (3.20 mm), Injection Molded	8150 psi	56.2 MPa	
Tensile Elongation ²			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	4.7 %	4.7 %	
Break, 0.126 in (3.20 mm), Injection Molded	150 %	150 %	
Flexural Modulus ³			ASTM D790
0.126 in (3.20 mm), Injection Molded	305000 psi	2100 MPa	
Flexural Strength ³			ASTM D790
0.126 in (3.20 mm), Injection Molded	11200 psi	77.2 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-22°F (-30°C), 0.126 in (3.20 mm), Injection Molded	14 ft-lb/in	750 J/m	
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	17 ft-lb/in	910 J/m	
Instrumented Dart Impact			ASTM D3763
-40°F (-40°C), 0.126 in (3.20 mm), Injection Molded, Peak Energy	490 in-lb	55.4 J	
-40°F (-40°C), 0.126 in (3.20 mm), Injection Molded, Total Energy	710 in-lb	80.2 J	
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, Peak Energy	410 in-lb	46.3 J	
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, Total Energy	560 in-lb	63.3 J	



Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness R-Scale, 0.126 in (3.20 mm), Injection Molded	111	111	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed 264 psi (1.8 MPa), Unannealed	243 °F 189 °F	117 °C 87.2 °C	ASTM D648
Vicat Softening Temperature	291 °F	144 °C	ASTM D1525 ⁴
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	4.3E+15 ohms	4.3E+15 ohms	IEC 60093
Volume Resistivity	3.4E+15 ohms·cm	3.4E+15 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.0630 in (1.60 mm), in Oil	710 V/mil	28 kV/mm	
0.126 in (3.20 mm), in Oil	430 V/mil	17 kV/mm	
Relative Permittivity			IEC 60250
100 Hz	3.28	3.28	
1 MHz	3.12	3.12	
Dissipation Factor			IEC 60250
100 Hz	2.0E-3	2.0E-3	
1 MHz	0.020	0.020	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁵ (0.04 in (1.0 mm))	HB	HB	UL 94
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	250 °F	121 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	480 to 540 °F	249 to 282 °C	
Mold Temperature	110 to 210 °F	43 to 99 °C	

Notes

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

¹ 0.20 in/min (5.0 mm/min)

² 2.0 in/min (50 mm/min)

³ 0.051 in/min (1.3 mm/min)

⁴ Rate B (120°C/h), Loading 1 (10 N)

⁵ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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