

## EMERGE™ PC/PET 9100CR MED Advanced Resin

### Overview

EMERGE™ PC/PET 9100CR MED 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. EMERGE PC/PET 9100CR MED has been tested to ISO 10993 and is suitable for use in approved medical applications.

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 <sup>3</sup>	1.23 g/cm <sup>3</sup>	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 <sup>1</sup>			ASTM D638
0.126 in (3.20 mm), Injection Molded	320000 psi	2210 MPa	
Tensile Strength <sup>2</sup>			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 <sup>2</sup>			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 <sup>3</sup>			ASTM D790
0.126 in (3.20 mm), Injection Molded	305000 psi	2100 MPa	
Flexural Strength <sup>3</sup>			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	

<b>Hardness</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Rockwell Hardness			ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	111	111	
<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	243 °F	117 °C	
264 psi (1.8 MPa), Unannealed	189 °F	87.2 °C	
Vicat Softening Temperature	291 °F	144 °C	ASTM D1525 <sup>4</sup>
<b>Electrical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
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	
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating <sup>5</sup> (0.04 in (1.0 mm))	HB	HB	UL 94
<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	
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	