

EMERGE™ PC/PET 9500CR Advanced Resin

Overview

EMERGE™ PC/PET 9500CR Advanced Resin is a polycarbonate blend with excellent chemical and ignition resistance properties. This grade was designed for use in medical equipment housings and other applications that are subject to repeated exposure to a variety of cleaners and disinfectants commonly used in hospitals. This grade has good aesthetics and excellent toughness. It has a UL 94 rating of V0 at 2.0 mm.

Main Characteristics:

- Tested under ISO 10993 (Parts 5 & 10)

Applications:

- Medical device housings or enclosures

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.29 g/cm ³	1.29 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
260°C/5.0 kg	10 g/10 min	10 g/10 min	
265°C/5.0 kg	13 g/10 min	13 g/10 min	
Molding Shrinkage			
Flow	6.0E-3 to 9.5E-3 in/in	0.60 to 0.95 %	
Across 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 ¹			ASTM D638
0.126 in (3.20 mm), Injection Molded	338000 psi	2330 MPa	
Tensile Strength ²			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	7690 psi	53.0 MPa	
Break, 0.126 in (3.20 mm), Injection Molded	6530 psi	45.0 MPa	
Tensile Elongation ²			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	4.1 %	4.1 %	
Break, 0.126 in (3.20 mm), Injection Molded	150 %	150 %	
Flexural Modulus ³			ASTM D790
0.126 in (3.20 mm), Injection Molded	329000 psi	2270 MPa	
Flexural Strength ³			ASTM D790
0.126 in (3.20 mm), Injection Molded	11900 psi	82.0 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	14 ft-lb/in	750 J/m	
Instrumented Dart Impact			ASTM D3763
32°F (0°C), 0.126 in (3.20 mm), Injection Molded, Peak Energy	434 in-lb	49.0 J	
32°F (0°C), 0.126 in (3.20 mm), Injection Molded, Total Energy	549 in-lb	62.0 J	
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, Peak Energy	398 in-lb	45.0 J	
73°F (23°C), 0.126 in (3.20 mm), Injection Molded, Total Energy	531 in-lb	60.0 J	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	110	110	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	228 °F	109 °C	
264 psi (1.8 MPa), Unannealed	174 °F	79.0 °C	
Vicat Softening Temperature	284 °F	140 °C	ASTM D1525 ⁴
CLTE - Flow (-40 to 176°F (-40 to 80°C))	4.1E-5 in/in/°F	7.4E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	5.2E+15 ohms	5.2E+15 ohms	IEC 60093
Volume Resistivity	1.0E+18 ohms-cm	1.0E+18 ohms-cm	IEC 60093
Electric Strength			IEC 60243-1
0.0630 in (1.60 mm), in Oil	790 V/mil	31 kV/mm	
0.126 in (3.20 mm), in Oil	460 V/mil	18 kV/mm	
Relative Permittivity			IEC 60250
100 Hz	3.28	3.28	
1 MHz	3.12	3.12	
Dissipation Factor			IEC 60250
100 Hz	3.0E-3	3.0E-3	
1 MHz	0.020	0.020	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.06 in (1.5 mm) ⁵	V-1	V-1	
0.08 in (2.0 mm) ⁵	V-0	V-0	
0.10 in (2.5 mm) ⁶	5VA	5VA	
Glow Wire Flammability Index			IEC 60695-2-12
0.06 in (1.5 mm)	1520 °F	825 °C	
0.08 in (2.0 mm)	1760 °F	960 °C	
0.10 in (2.5 mm)	1760 °F	960 °C	
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 150 °F	43 to 66 °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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