EMERGE™ PC/PET 9100CR
Advanced Resin

Overview

EMERGE™ PC/PET 9100CR advanced resin is a polycarbonate blend with excellent chemical resistance. This grade was designed to have excellent resistance to a variety of cleaners and disinfectant chemicals. This grade has good aesthetics and excellent toughness.

Main Characteristics:

- Excellent chemical resistance
- UL listing for HB

Applications:

- Equipment housings or enclosures
- Consumer electronics

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.23	g/cm³	1.23	g/cm³	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					ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	111		111		
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
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 [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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