EMERGE™ PC 4310-15
Advanced Resin

Overview

EMERGE™ PC 4310-15 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/cm³	1.20	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	15	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	340000	psi	2340	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	16	ft·lb/in	850	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)	289	°F	143	°C	
264 psi (1.8 MPa), Unannealed, 0.157 in (3.99 mm)	260	°F	127	°C	
264 psi (1.8 MPa), Annealed, 0.157 in (3.99 mm)	284	°F	140	°C	
Vicat Softening Temperature	298	°F	148	°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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