

EMERGE™ PC 4701-15

Advanced Resin

Overview

EMERGE™ PC 4701-15 Advanced resin is formulated with 10% glass fiber and proprietary flame retardant package. It provides superb ignition resistance, rigidity, dimension stability and heat resistance. EMERGE PC 4701-15 is designed for power tools, electrical appliances and electronics parts.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.27 g/cm ³	1.27 g/cm ³	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	2.0E-3 to 5.0E-3 in/in	0.20 to 0.50 %	ASTM D955
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			ASTM D638
0.126 in (3.20 mm), Injection Molded	530000 psi	3650 MPa	
Tensile Strength			ASTM D638
Yield, 0.126 in (3.20 mm), Injection Molded	9500 psi	65.5 MPa	
Break, 0.126 in (3.20 mm), Injection Molded	9100 psi	62.7 MPa	
Tensile Elongation			ASTM D638
Break, 0.126 in (3.20 mm), Injection Molded	4.0 %	4.0 %	
Flexural Modulus			ASTM D790
0.126 in (3.20 mm), Injection Molded	550000 psi	3790 MPa	
Flexural Strength			ASTM D790
0.126 in (3.20 mm), Injection Molded	15800 psi	109 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	2.0 ft-lb/in	110 J/m	
Unnotched Izod Impact			ASTM D256
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	0.75 ft-lb/in	40 J/m	
Tensile Impact Strength ¹			ASTM D1822
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	70.0 ft-lb/in ²	147 kJ/m ²	
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	122	122	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Annealed	300 °F	149 °C	
264 psi (1.8 MPa), Unannealed	285 °F	141 °C	
264 psi (1.8 MPa), Annealed	275 °F	135 °C	
Vicat Softening Temperature	320 °F	160 °C	ASTM D1525 ²
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow (-40 to 180°F (-40 to 82°C))	2.1E-5 in/in/°F	3.8E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ³			UL 94
0.06 in (1.6 mm)	V-0	V-0	
0.13 in (3.2 mm)	5VA	5VA	
Oxygen Index ³	38 %	38 %	ASTM D2863

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	550 to 600 °F	288 to 316 °C
Mold Temperature	180 to 240 °F	82 to 116 °C

Notes

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

¹ Type S

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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