

EMERGE™ PC 4430E75-13 Advanced Resin

Overview

EMERGE™ PC 4430E75-13 Advanced Polycarbonate Resin is a high performance compound containing 75% post consumer recycled (PCR) polycarbonate. This resin provides good surface durability to meet the needs of consumer electronics applications without coating or painting. It has a good balance of flow and toughness. This resin contains mold release and it is UV stabilized.

Applications

- Consumer Electronics
- Electronic Accessories
- Opaque Housings and Enclosures
- Portable Consumer Goods

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13 g/10 min	13 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 ¹	319000 psi	2200 MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	7980 psi	55.0 MPa	
Break	8700 psi	60.0 MPa	
Tensile Elongation ²			ASTM D638
Yield	5.5 %	5.5 %	
Break	100 %	100 %	
Flexural Modulus ³	334000 psi	2300 MPa	ASTM D790
Flexural Strength ³	13100 psi	90.0 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-22°F (-30°C)	8.4 ft-lb/in	450 J/m	
73°F (23°C)	12 ft-lb/in	650 J/m	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	268 °F	131 °C	
264 psi (1.8 MPa), Unannealed	248 °F	120 °C	
Vicat Softening Temperature			
--	275 °F	135 °C	ASTM D1525 ⁴
--	289 °F	143 °C	ASTM D1525 ⁵
CLTE - Flow (-40 to 176°F (-40 to 80°C))	4.2E-5 in/in/°F	7.5E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁶			UL 94
0.020 in (0.50 mm), All	HB	HB	
0.12 in (3.0 mm), All	HB	HB	

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	248 °F	120 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Processing (Melt) Temp	500 to 572 °F	260 to 300 °C
Mold Temperature	176 to 248 °F	80 to 120 °C