EMERGE™ PC 8701-15

Trinseo - Advanced Resin

Tuesday, November 5, 2019

General Information

Product Description

EMERGE™ PC 8701 Advanced Resin is an ignition-resistant, 10% glass reinforced polycarbonate resin. This resin does not contain chlorine or bromine additives. It is a medium flow PC resin with a mold release system, intended for applications requiring high stiffness. EMERGE PC 8701 has a UL94 V-0 rating at 1.5 mm.

Main Characteristics:

- Glass reinforced
- Ignition resistant

Applications:

- Powered Device Housings
- Information technology equipment
- Electrical parts
- Other structural/internal parts

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• North America	
Filler / Reinforcement	• Glass Fiber, 10% Filler by Weight		
Additive	• Mold Release		
Features	• Bromine Free • Chlorine Free	• Flame Retardant • High Stiffness	• Medium Flow
Uses	• Electrical Housing • Electrical/Electronic Applications	• Housings • Structural Parts	
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.28	g/cm³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.40 to 0.60	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
0.157 in, Injection Molded	573000	psi	ISO 527-2/1
0.157 in, Injection Molded	580000	psi	ISO 527-2/50
Tensile Stress (Yield, 0.157 in, Injection Molded)	9430	psi	ISO 527-2/50
Tensile Stress (Break, 0.157 in, Injection Molded)	7250	psi	ISO 527-2/50
Tensile Strain (Yield, 0.157 in, Injection Molded)	4.0	%	ISO 527-2/50
Tensile Strain (Break, 0.157 in, Injection Molded)	9.0	%	ISO 527-2/50
Flexural Modulus [2] (0.157 in, Injection Molded)	551000	psi	ISO 178
Flexural Stress [2] (0.157 in, Injection Molded)	15200	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact Strength [3] (73°F, Injection Molded)	4.3	ft·lb/in²	ISO 180/A

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	286	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	271	°F	ISO 75-2/A
Heat Deflection Temperature (264 psi, Annealed)	282	°F	ISO 75-2/A
Vicat Softening Temperature			
--	311	°F	ISO 306/A120
--	293	°F	ISO 306/B50
Ball Indentation Temperature	> 266	°F	IEC 60335-1
CLTE - Flow (-40 to 176°F)	8.3E-6	in/in/°F	ASTM D696

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity (0.0787 in)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (0.0787 in)	> 1800	V/mil	IEC 60243-1
Dielectric Constant			IEC 60250
0.0787 in, 50 Hz	3.00		
0.0787 in, 1 MHz	3.10		
Dissipation Factor			IEC 60250
0.0787 in, 50 Hz	8.0E-3		
0.0787 in, 1 MHz	0.016		
Comparative Tracking Index (0.118 in, Solution A)	200	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating [4] (0.06 in)	V-0		UL 94
Glow Wire Ignition Temperature [4]			IEC 60695-2-13
0.04 in	1760	°F	
0.08 in	1760	°F	
0.12 in	1760	°F	
Oxygen Index [4]	29	%	ISO 4589-2

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	3.0 to 4.0	hr
Processing (Melt) Temp	554 to 599	°F
Mold Temperature	176 to 239	°F

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 0.079 in/min

[3] 4 mm

[4] This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.