EMERGE™ PC 8701-15

Trinseo - Advanced Resin

General Information

Product Description

EMERGE™ PC 8701 Advanced Resin is an ignition-resistant, 10% glass reinforced polycarbonate resin. This resin does not contain brominated or chlorinated flame retardant 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.

Applications:

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

General			
Filler / Reinforcement	• Glass Fiber, 10% Filler by Weight		
Additive	• Mold Release		
Features	• Bromine Free • Chlorine Free	• Flame Retardant • High Stiffness	• Ignition Resistant • Medium Flow
Uses	• Electrical Housing • Electrical/Electronic Applications	• Housings • Structural Parts	
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.28		ASTM D792
Density	1.28	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15	g/10 min	ISO 1133
Molding Shrinkage - Flow	3.5E-3 to 5.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	4.0E-3 to 5.5E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.40 to 0.60	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2]	580000	psi	ASTM D638
Tensile Modulus	580000	psi	ISO 527-1/1
Tensile Strength [3] (Yield)	9430	psi	ASTM D638
Tensile Stress (Yield)	9430	psi	ISO 527-2/5
Tensile Strength [3] (Break)	9430	psi	ASTM D638
Tensile Stress (Break)	6530	psi	ISO 527-2/5
Tensile Elongation [3] (Break)	4.0	%	ASTM D638
Tensile Strain (Break)	9.0	%	ISO 527-2/5
Flexural Modulus [4]	551000	psi	ASTM D790
Flexural Modulus [5]	551000	psi	ISO 178
Flexural Strength [4]	17400	psi	ASTM D790
Flexural Stress [5]	15200	psi	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	2.9	ft·lb/in²	ISO 179/1eA
Notched Izod Impact Strength [6] (73°F)	4.3	ft·lb/in²	ISO 180/1A
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	280	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Unannealed)	286	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	264	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	271	°F	
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ISO 75-2/A
Vicat Softening Temperature	293	°F	ISO 306/B50
Ball Indentation Temperature	> 266	°F	IEC 60335-1
CLTE - Flow (5 to 149°F)	2.2E-5	in/in/°F	ASTM E831
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Electric Strength	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
50 Hz	8.0E-3		
1 MHz	0.016		
Comparative Tracking Index (0.118 in, Solution A)	200	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating [7]			UL 94
0.06 in	V-0		
0.12 in	5V		
Glow Wire Flammability Index [7] (0.08 in)	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature [7]			IEC 60695-2-13
0.04 in	1760	°F	
0.08 in	1760	°F	
0.12 in	1760	°F	
Oxygen Index [7]	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	545 to 599	°F
Mold Temperature	176 to 230	°F