

EMERGE™ PC 8702-15

Trinseo - Advanced Resin

General Information

Product Description

EMERGE™ PC 8702-15 Advanced Resin is an ignition-resistant, 20 % glass reinforced polycarbonate resin. This resin does not contain brominated or chlorinated flame retardant additives (DIN VDE-0472/Part 815). It is a medium flow PC resin with a mold release system, intended for injection molding applications requiring high stiffness, thin wall. EMERGE PC 8702-15 has a UL94 V-0 rating at 1.5 mm.

Applications:

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

General

Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Additive	• Mold Release
Features	• Bromine Free • Chlorine Free • Flame Retardant • Ignition Resistant • Medium Flow
Uses	• Electrical/Electronic Applications • Structural Parts
Agency Ratings	• DIN VDE 0472 Part 815
Forms	• Pellets
Processing Method	• Injection Molding

Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.33		ASTM D792
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	2.0E-3 to 5.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	4.0E-3 to 6.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.20 to 0.40	%	ISO 294-4
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	841000	psi	ASTM D638
Tensile Modulus	841000	psi	ISO 527-1/1
Tensile Stress (Yield)	14500	psi	ISO 527-2/5
Tensile Strength ³ (Break)	14500	psi	ASTM D638
Tensile Stress (Break)	13100	psi	ISO 527-2/5
Tensile Elongation ³ (Break)	1.5	%	ASTM D638
Tensile Strain (Break)	3.5	%	ISO 527-2/5
Flexural Modulus ⁴	769000	psi	ASTM D790
Flexural Modulus ⁵	798000	psi	ISO 178
Flexural Strength ⁴	17400	psi	ASTM D790
Flexural Stress ⁵	21800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	4.0	ft·lb/in ²	ISO 179/1eA
Notched Izod Impact (73°F)	2.1	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	3.8	ft·lb/in ²	ISO 180/1A

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	293	°F	ASTM D648
Deflection Temperature Under Load (66 psi, Unannealed)	289	°F	ISO 75-2/B
Deflection Temperature Under Load (66 psi, Annealed)	298	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	273	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	280	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi, Annealed)	289	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Annealed)	289	°F	ISO 75-2/A
Vicat Softening Temperature	302	°F	ISO 306/B50
Ball Indentation Temperature	> 275	°F	IEC 60335-1
CLTE - Flow	1.4E-5	in/in/°F	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	3.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength	690	V/mil	ASTM D149
Electric Strength	690	V/mil	IEC 60243-1
Dielectric Constant (0.0630 in, 1 MHz)	3.10		ASTM D150
Comparative Tracking Index (0.118 in, Solution A)	175	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating ⁶			UL 94
0.030 in		V-2	
0.06 in		V-0	
0.12 in		5VA	
Glow Wire Ignition Temperature ⁶			IEC 60695-2-13
0.04 in	1760	°F	
0.08 in	1760	°F	
0.12 in	1760	°F	
Oxygen Index ⁶	35	%	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

Notes

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

² 0.039 in/min

³ 0.20 in/min

⁴ 0.051 in/min

⁵ 0.079 in/min

⁶ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.