TRINSEO™

EMERGE™ PC 8701ECO-14
Advanced Resin

Overview

EMERGE™ PC 8701ECO-14 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 8701ECO-14 has a UL94 V-0 rating at 1.0 mm.

Applications:

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.33	g/cm³	1.33	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	14	g/10 min	14	g/10 min	ASTM D1238
Molding Shrinkage - Flow					
--	3.5E-3 to 5.0E-3	in/in	0.35 to 0.50	%	ASTM D955
--	4.0E-3 to 6.0E-3	in/in	0.40 to 0.60	%	ISO 294-4
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus [1]	580000	psi	4000	MPa	ASTM D638
Tensile Strength [2]					ASTM D638
Yield	8990	psi	62.0	MPa	
Break	8270	psi	57.0	MPa	
Tensile Elongation [2]					ASTM D638
Yield	5.0	%	5.0	%	
Break	20	%	20	%	
Flexural Modulus [3]	551000	psi	3800	MPa	ASTM D790
Flexural Strength [3]	17400	psi	120	MPa	ASTM D790
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength (73°F (23°C))	2.9	ft·lb/in²	6.0	kJ/m²	ISO 179/1eA
Notched Izod Impact					
73°F (23°C), 0.126 in (3.20 mm)	1.8	ft·lb/in	97	J/m	ASTM D256
73°F (23°C) [4]	4.3	ft·lb/in²	9.0	kJ/m²	ISO 180/1A
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
66 psi (0.45 MPa), Unannealed	280	°F	138	°C	ASTM D648
66 psi (0.45 MPa), Unannealed	286	°F	141	°C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	264	°F	129	°C	ASTM D648
264 psi (1.8 MPa), Unannealed	271	°F	133	°C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	282	°F	139	°C	ISO 75-2/A
Vicat Softening Temperature	293	°F	145	°C	ISO 306/B50
Ball Indentation Temperature	> 266	°F	> 130	°C	IEC 60335-1
CLTE - Flow (5 to 149°F (-15 to 65°C))	2.2E-5	in/in/°F	4.0E-5	cm/cm/°C	ASTM E831

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating [5]			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.12 in (3.0 mm)	5V	5V	
Glow Wire Flammability Index [5]			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature [5]			IEC 60695-2-13
0.04 in (1.0 mm)	1760 °F	960 °C	
0.08 in (2.0 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Oxygen Index [5]	29 %	29 %	ISO 4589-2

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	545 to 599 °F	285 to 315 °C
Mold Temperature	176 to 230 °F	80 to 110 °C