TRINSEO™

EMERGE™ PC 8701HH-8
Advanced Resin

Overview

EMERGE™ PC 8701HH-8 Advanced Resin is an ignition-resistant, glass reinforced, high heat resistant, polycarbonate resin. This resin contains no brominated, chlorinated, or phosphate flame retardant additives. It is a medium flow PC resin with a mold release system, intended for injection molding applications. EMERGE ™ PC 8701HH has a UL 94 V-0 rating at 1.5 mm.

Applications:

- Electrical
- Utility [Smart] Meters
- Structural parts

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.28	g/cm³	1.28	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0	g/10 min	8.0	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3	in/in	0.40 to 0.60	%	ASTM D955 ISO 294-4
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus					
-- [1]	580000	psi	4000	MPa	ASTM D638
--	624000	psi	4300	MPa	ISO 527-1/1
Tensile Stress					
Yield	12300	psi	85.0	MPa	ISO 527-2/50
Break	7250	psi	50.0	MPa	ISO 527-2/5
Tensile Strain (Break)	10	%	10	%	ISO 527-2/50
Flexural Modulus [2]	595000	psi	4100	MPa	ISO 178
Flexural Stress [2]	20200	psi	139	MPa	ISO 178
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 Strength (73°F (23°C))	3.3	ft·lb/in²	7.0	kJ/m²	ISO 180/A
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					
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	279	°F	137	°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 60598-1
CLTE - Flow (5 to 149°F (-15 to 65°C))	2.2E-5	in/in/°F	4.0E-5	cm/cm/°C	ASTM E831

Electrical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Surface Resistivity	1.0E+14	ohms	1.0E+14	ohms	IEC 60093
Volume Resistivity (0.0787 in (2.00 mm))	1.0E+16	ohms·cm	1.0E+16	ohms·cm	IEC 60093
Electric Strength (0.0787 in (2.00 mm))	1800	V/mil	70	kV/mm	IEC 60243-1
Dielectric Constant					IEC 60250
0.0787 in (2.00 mm), 50 Hz	3.00		3.00		
0.0787 in (2.00 mm), 1 MHz	3.10		3.10		
Dissipation Factor					IEC 60250
0.0787 in (2.00 mm), 50 Hz	8.0E-3		8.0E-3		
0.0787 in (2.00 mm), 1 MHz	0.016		0.016		
Comparative Tracking Index					IEC 60112
0.118 in (3.00 mm), Solution A	200	V	200	V	
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [3]					UL 94
0.06 in (1.5 mm)	V-0		V-0		
0.12 in (3.0 mm)	5V		5V		
Glow Wire Flammability Index [3]					IEC 60695-2-12
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	
Glow Wire Ignition Temperature [3]					IEC 60695-2-13
0.04 in (1.0 mm)	1560	°F	850	°C	
0.08 in (2.0 mm)	1560	°F	850	°C	
0.12 in (3.0 mm)	1560	°F	850	°C	
Oxygen Index [3]	38	%	38	%	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