EMERGE™ PC 8410-22

Trinseo - Advanced Resin

General Information

Product Description

EMERGE™ PC 8410-22 advanced resin is a transparent, ignition resistant PC resin that contains no chlorinated, brominated or phosphate flame retardant additives. The resin is designed to meet the German norm DIN VDE-0472/Part 815 on halogens. This resin combines good mechanical and high heat properties and maintains excellent processability, it contains mould release agent. EMERGE ™ PC 8410-22 has a UL 94 V-0 rating at 3.0 mm.

Applications:

- Electrical
- Enclosures
- Display
- Lighting

General

Additive	• Mold Release		
Features	• Bromine Free • Chlorine Free • Flame Retardant	• Good Processability • High Flow • High Heat Resistance	• Ignition Resistant
Uses	• Electrical Housing	• Electrical/Electronic Applications	• Lighting Applications
Agency Ratings	• DIN VDE 0472 Part 815		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	22	g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Flow	0.50 to 0.70	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus [2]	334000	psi	ASTM D638
Tensile Modulus	348000	psi	ISO 527-1/1
Tensile Strength [3] (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength [3] (Break)	9430	psi	ASTM D638
Tensile Stress (Break)	10200	psi	ISO 527-2/50
Tensile Elongation [3] (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation [3] (Break)	120	%	ASTM D638
Tensile Strain (Break)	110	%	ISO 527-2/50
Flexural Modulus [4]	348000	psi	ASTM D790
Flexural Modulus [5]	341000	psi	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength [4]	13800	psi	ASTM D790
Flexural Stress [5]	13800	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	9.5	ft·lb/in²	ISO 179/1eA
Notched Izod Impact (73°F)	11	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	29	ft·lb/in²	ISO 180/1A
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Annealed)	288	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	255	°F	
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	252	°F	
Deflection Temperature Under Load (264 psi, Annealed)	282	°F	ISO 75-2/A
Vicat Softening Temperature	297	°F	ISO 306/B50
Ball Indentation Temperature	> 257	°F	IEC 60335-1
CLTE - Flow (-40 to 176°F)	3.6E-5	in/in/°F	ASTM D696
CLTE - Flow	3.9E-5	in/in/°F	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength	430	V/mil	IEC 60243-1
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
1 MHz	2.0E-3		
Arc Resistance	PLC 7		ASTM D495
Comparative Tracking Index (0.0787 in, Solution A)	225	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating [6]			UL 94
0.030 in	V-2		
0.06 in	V-2		
0.07 in	V-0		
0.12 in	V-0		
Glow Wire Flammability Index [6] (0.08 in)	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature [6] (0.08 in)	1470	°F	IEC 60695-2-13
Oxygen Index [6]	40	%	ISO 4589-2
Optical	**Nominal Value**	**Unit**	**Test Method**
Light Transmittance [7]	87.0 to 91.0	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	248	°F
Drying Time	3.0 to 4.0	hr
Processing (Melt) Temp	518 to 554	°F
Mold Temperature	158 to 230	°F