

# EMERGE™ PC 8310-10

## Trinseo - Advanced Resin

### General Information

#### Product Description

EMERGE™ PC 8310-10 advanced resin is a transparent, ignition resistant PC resin, also available in opaque colors, 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, maintains excellent processability and contains mold release agent. EMERGE™ PC 8310-10 advanced resin has a UL94 V-0 rating at 2.5 mm.

#### Applications:

- Electrical
- Information Technology Equipment
- Sockets, Plugs and Switches
- Lighting

#### General

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

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Density	1.20	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	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 <sup>2</sup>	334000	psi	ASTM D638
Tensile Modulus	348000	psi	ISO 527-1/1
Tensile Strength <sup>3</sup> (Yield)	8700	psi	ASTM D638
Tensile Stress (Yield)	8700	psi	ISO 527-2/50
Tensile Strength <sup>3</sup> (Break)	9430	psi	ASTM D638
Tensile Stress (Break)	8410	psi	ISO 527-2/50
Tensile Elongation <sup>3</sup> (Yield)	6.0	%	ASTM D638
Tensile Strain (Yield)	6.0	%	ISO 527-2/50
Tensile Elongation <sup>3</sup> (Break)	120	%	ASTM D638
Flexural Modulus <sup>4</sup>	348000	psi	ASTM D790
Flexural Modulus <sup>5</sup>	341000	psi	ISO 178
Flexural Strength <sup>4</sup>	13800	psi	ASTM D790

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Mechanical	Nominal Value	Unit	Test Method
Flexural Stress <sup>5</sup>	13800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	17	ft·lb/in <sup>2</sup>	ISO 179/1eA
Notched Izod Impact (73°F)	13	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	33	ft·lb/in <sup>2</sup>	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Annealed)	291	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	259	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	257	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi, Annealed)	286	°F	ISO 75-2/A
Vicat Softening Temperature	306	°F	ASTM D1525 <sup>6</sup>
Vicat Softening Temperature	289	°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 <sup>7</sup>			UL 94
0.06 in	V-2		
0.10 in	V-0		
Glow Wire Flammability Index <sup>7</sup> (0.08 in)	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature <sup>7</sup> (0.08 in)	1470	°F	IEC 60695-2-13
Oxygen Index <sup>7</sup>	35	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Light Transmittance	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 572	°F
Mold Temperature	158 to 230	°F