

## EMERGE™ PC 8330-15 Advanced Resin

### Overview

EMERGE™ PC 8330-15 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 and is UV stabilised. EMERGE™ PC 8330-15 has a UL 94 V-0 rating at 2.5 mm.

Applications:

- Electrical
- Fixtures
- Enclosures
- Display
- Lighting

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm <sup>3</sup>	1.20 g/cm <sup>3</sup>	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	15 g/10 min	15 g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955 ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- <sup>1</sup>	334000 psi	2300 MPa	ASTM D638
--	348000 psi	2400 MPa	ISO 527-1/1
Tensile Strength			
Yield <sup>2</sup>	8700 psi	60.0 MPa	ASTM D638
Yield	8700 psi	60.0 MPa	ISO 527-2/50
Break <sup>2</sup>	9430 psi	65.0 MPa	ASTM D638
Break	10200 psi	70.0 MPa	ISO 527-2/50
Tensile Elongation			
Yield <sup>2</sup>	6.0 %	6.0 %	ASTM D638
Yield	6.0 %	6.0 %	ISO 527-2/50
Break <sup>2</sup>	120 %	120 %	ASTM D638
Break	110 %	110 %	ISO 527-2/50
Flexural Modulus			
-- <sup>3</sup>	348000 psi	2400 MPa	ASTM D790
-- <sup>4</sup>	341000 psi	2350 MPa	ISO 178
Flexural Strength			
-- <sup>3</sup>	13800 psi	95.0 MPa	ASTM D790
-- <sup>4</sup>	13800 psi	95.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	12 ft-lb/in <sup>2</sup>	25 kJ/m <sup>2</sup>	ISO 179/1eA
Notched Izod Impact			
73°F (23°C)	12 ft-lb/in	650 J/m	ASTM D256
73°F (23°C)	31 ft-lb/in <sup>2</sup>	65 kJ/m <sup>2</sup>	ISO 180/1A

<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Deflection Temperature Under Load			
66 psi (0.45 MPa), Annealed	289 °F	143 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	257 °F	125 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	255 °F	124 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	284 °F	140 °C	ISO 75-2/A
Vicat Softening Temperature	298 °F	148 °C	ISO 306/B50
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow			
-40 to 176°F (-40 to 80°C)	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696
--	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	ISO 11359-2
<b>Electrical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+15 ohms-cm	> 1.0E+15 ohms-cm	IEC 60093
Electric Strength	430 V/mil	17 kV/mm	IEC 60243-1
Dissipation Factor			IEC 60250
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Comparative Tracking Index			IEC 60112
0.0787 in (2.00 mm), Solution A	225 V	225 V	
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating <sup>5</sup>			UL 94
0.06 in (1.5 mm)	V-2	V-2	
0.10 in (2.5 mm)	V-0	V-0	
Glow Wire Flammability Index <sup>5</sup>			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature <sup>5</sup>			IEC 60695-2-13
0.08 in (2.0 mm)	1470 °F	800 °C	
Oxygen Index <sup>5</sup>	35 %	35 %	ISO 4589-2
<b>Optical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Light Transmittance	87.0 to 91.0 %	87.0 to 91.0 %	ASTM D1003
<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	
Drying Temperature	248 °F	120 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	518 to 572 °F	270 to 300 °C	
Mold Temperature	158 to 230 °F	70 to 110 °C	