

# EMERGE™ PC 8600-10

## Advanced Resin

### Overview

EMERGE™ PC 8600 is translucent, ignition-resistant polycarbonate resin. This resin contains no bromine, chlorine or phosphate additives and is intended to comply with global environmental standards. It is an easy flow PC resin suitable for use in injection molded applications in the computer, electronics, electrical, and information technology equipment markets.

Applications:

- Information technology equipment
- Electronics and electrical appliances
- Battery chargers and adaptors

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/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10 g/10 min	10 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
<b>Tensile Modulus</b>			
0.126 in (3.20 mm), Injection Molded	320000 psi	2210 MPa	ASTM D638
0.157 in (4.00 mm), Injection Molded	319000 psi	2200 MPa	ISO 527-2/50
<b>Tensile Strength</b>			
Yield, 0.126 in (3.20 mm), Injection Molded <sup>1</sup>	8700 psi	60.0 MPa	ASTM D638
Yield, 0.157 in (4.00 mm), Injection Molded	8700 psi	60.0 MPa	ISO 527-2/50
Break, 0.126 in (3.20 mm), Injection Molded	8400 psi	57.9 MPa	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	8410 psi	58.0 MPa	ISO 527-2/50
<b>Tensile Elongation</b>			
Yield, 0.126 in (3.20 mm), Injection Molded	6.2 %	6.2 %	ASTM D638
Yield, 0.157 in (4.00 mm), Injection Molded	6.0 %	6.0 %	ISO 527-2/50
Break, 0.126 in (3.20 mm), Injection Molded	110 %	110 %	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	110 %	110 %	ISO 527-2/50
<b>Flexural Modulus</b>			
0.126 in (3.20 mm), Injection Molded	348000 psi	2400 MPa	ASTM D790
0.157 in (4.00 mm), Injection Molded <sup>2</sup>	348000 psi	2400 MPa	ISO 178
<b>Flexural Strength</b>			
0.126 in (3.20 mm), Injection Molded	13600 psi	93.8 MPa	ASTM D790
0.157 in (4.00 mm), Injection Molded <sup>2</sup>	13600 psi	94.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
<b>Notched Izod Impact</b>			
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	14 ft-lb/in	750 J/m	ASTM D256
73°F (23°C), Injection Molded <sup>3</sup>	4.8 ft-lb/in <sup>2</sup>	10 kJ/m <sup>2</sup>	ISO 180/A
<b>Instrumented Dart Impact</b>			
73°F (23°C), 0.126 in (3.20 mm), Total Energy	520 in-lb	58.8 J	ASTM D3763

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			
R-Scale, 0.126 in (3.20 mm), Injection Molded	123	123	ASTM D785
R-Scale, 0.157 in (4.00 mm)	123	123	ISO 2039-2
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	282 °F	139 °C	ASTM D648 ISO 75-2/B
264 psi (1.8 MPa), Unannealed	260 °F	127 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	257 °F	125 °C	ISO 75-2/A
Vicat Softening Temperature			
--	300 °F	149 °C	ASTM D1525 <sup>4</sup>
--	302 °F	150 °C	ISO 306/A120
--	291 °F	144 °C	ISO 306/B50
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow (-8 to 185°F (-22 to 85°C))	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696
RTI Elec	257 °F	125 °C	UL 746
RTI Imp	257 °F	125 °C	UL 746
RTI Str	257 °F	125 °C	UL 746
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating <sup>5</sup> (0.06 in (1.6 mm))	V-0	V-0	UL 94
Glow Wire Ignition Temperature <sup>5</sup>			IEC 60695-2-13
0.08 in (2.0 mm)	1760 °F	960 °C	
Oxygen Index <sup>5</sup>	35 %	35 %	ASTM D2863 ISO 4589-2
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	250 °F	121 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	520 to 550 °F	271 to 288 °C	
Mold Temperature	150 to 210 °F	66 to 99 °C	

## Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> 2.0 in/min (51 mm/min)

<sup>2</sup> 0.079 in/min (2.0 mm/min)

<sup>3</sup> 4 mm

<sup>4</sup> Rate B (120°C/h), Loading 1 (10 N)

<sup>5</sup> This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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