

## EMERGE™ PC/ABS 7700 EU Advanced Resin

### Overview

EMERGE™ PC/ABS 7700 EU Advanced Resin is an ignition-resistant PC/ABS blend that contains no chlorine or bromine additives. It has superior processability for injection molding applications. This grade has excellent aesthetics, is UV stabilized and is available in custom colors.

Main Characteristics:

- Tested under ISO 10993 (Parts 5 & 10)

Applications:

- Medical equipment housings

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm <sup>3</sup>	1.18 g/cm <sup>3</sup>	ISO 1183/B
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	12 g/10 min	12 g/10 min	ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
<b>Tensile Modulus</b>			
0.126 in (3.20 mm), Injection Molded	370000 psi	2550 MPa	ASTM D638
0.157 in (4.00 mm), Injection Molded	363000 psi	2500 MPa	ISO 527-2/1
<b>Tensile Strength</b>			
Yield, 0.126 in (3.20 mm), Injection Molded	8270 psi	57.0 MPa	ASTM D638
Yield, 0.157 in (4.00 mm), Injection Molded	8120 psi	56.0 MPa	ISO 527-2/50
Break, 0.126 in (3.20 mm), Injection Molded	6960 psi	48.0 MPa	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	6530 psi	45.0 MPa	ISO 527-2/50
<b>Tensile Elongation</b>			
Yield, 0.126 in (3.20 mm), Injection Molded	3.8 %	3.8 %	ASTM D638
Yield, 0.157 in (4.00 mm), Injection Molded	3.8 %	3.8 %	ISO 527-2/50
Break, 0.126 in (3.20 mm), Injection Molded	100 %	100 %	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	52 %	52 %	ISO 527-2/50
<b>Flexural Modulus</b>			ASTM D790
0.157 in (4.00 mm), Injection Molded	355000 psi	2450 MPa	
<b>Flexural Strength</b>			ASTM D790
0.157 in (4.00 mm), Injection Molded	12500 psi	86.0 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
<b>Charpy Notched Impact Strength</b>			ISO 179/1eA
-22°F (-30°C), Injection Molded	7.6 ft-lb/in <sup>2</sup>	16 kJ/m <sup>2</sup>	
73°F (23°C), Injection Molded	24 ft-lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	
<b>Notched Izod Impact Strength</b>			ISO 180/A
-22°F (-30°C), Injection Molded	8.1 ft-lb/in <sup>2</sup>	17 kJ/m <sup>2</sup>	
73°F (23°C), Injection Molded	24 ft-lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	

<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	192 °F	89.0 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	172 °F	78.0 °C	ISO 75-2/A
Vicat Softening Temperature			
--	219 °F	104 °C	ISO 306/A120
--	201 °F	94.0 °C	ISO 306/B50
CLTE			
Flow : -40 to 104°F (-40 to 40°C)	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	ASTM D696
Transverse : -40 to 104°F (-40 to 40°C)	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	
<b>Electrical</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Surface Resistivity	5.2E+15 ohms	5.2E+15 ohms	IEC 60093
Volume Resistivity	1.0E+18 ohms·cm	1.0E+18 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.0630 in (1.60 mm), in Oil	660 V/mil	26 kV/mm	
0.126 in (3.20 mm), in Oil	460 V/mil	18 kV/mm	
Relative Permittivity			IEC 60250
100 Hz	2.86	2.86	
1 MHz	2.80	2.80	
Dissipation Factor			IEC 60250
100 Hz	4.0E-3	4.0E-3	
1 MHz	7.0E-3	7.0E-3	
<b>Flammability</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Flame Rating <sup>1</sup>			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.08 in (2.0 mm)	5VB	5VB	
0.10 in (2.5 mm)	5VA	5VA	
Glow Wire Flammability Index <sup>1</sup>			IEC 60695-2-12
0.08 in (2.0 mm)	1760 °F	960 °C	
<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	
Drying Temperature	176 to 194 °F	80 to 90 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	464 to 527 °F	240 to 275 °C	
Mold Temperature	140 to 194 °F	60 to 90 °C	