

EMERGE™ PC/ABS 7700

Advanced Resin

Overview

EMERGE™ PC/ABS 7700 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:

- RoHS Compliant
- UV stabilized

Applications:

- Electrical housings
- Consumer Electronics
- Information technology equipment

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density			
--	1.17 g/cm ³	1.17 g/cm ³	ASTM D792
--	1.18 g/cm ³	1.18 g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	11 g/10 min	11 g/10 min	ASTM D1238
240°C/5.0 kg	20 g/10 min	20 g/10 min	ASTM D1238
260°C/2.16 kg	13 g/10 min	13 g/10 min	ISO 1133
Molding Shrinkage - Flow	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	ASTM D955 ISO 294-4
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
0.126 in (3.20 mm), Injection Molded	380000 psi	2620 MPa	ASTM D638
0.157 in (4.00 mm), Injection Molded	371000 psi	2560 MPa	ISO 527-2/1
Tensile Strength			
Yield, 0.126 in (3.20 mm), Injection Molded	8700 psi	60.0 MPa	ASTM D638
Yield, 0.157 in (4.00 mm), Injection Molded	7980 psi	55.0 MPa	ISO 527-2/50
Break, 0.126 in (3.20 mm), Injection Molded	7000 psi	48.3 MPa	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	6530 psi	45.0 MPa	ISO 527-2/50
Tensile Elongation			
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	65 %	65 %	ASTM D638
Break, 0.157 in (4.00 mm), Injection Molded	43 %	43 %	ISO 527-2/50
Flexural Modulus			ASTM D790
0.126 in (3.20 mm), Injection Molded	390000 psi	2690 MPa	
Flexural Strength			ASTM D790
0.126 in (3.20 mm), Injection Molded	14000 psi	96.5 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C), Injection Molded	7.1 ft-lb/in ²	15 kJ/m ²	
73°F (23°C), Injection Molded	19 ft-lb/in ²	40 kJ/m ²	
Notched Izod Impact			
0°F (-18°C), 0.126 in (3.20 mm), Injection Molded	3.7 ft-lb/in	200 J/m	ASTM D256
20°F (-7°C)	8.2 ft-lb/in	440 J/m	ASTM D256
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	9.0 ft-lb/in	480 J/m	ASTM D256
-22°F (-30°C), Injection Molded	6.7 ft-lb/in ²	14 kJ/m ²	ISO 180/A
73°F (23°C), Injection Molded	24 ft-lb/in ²	50 kJ/m ²	ISO 180/A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
R-Scale, 0.126 in (3.20 mm), Injection Molded	120	120	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	195 °F	90.6 °C	ASTM D648
66 psi (0.45 MPa), Unannealed	190 °F	88.0 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	175 °F	79.4 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	171 °F	77.0 °C	ISO 75-2/A
Vicat Softening Temperature			
--	220 °F	104 °C	ASTM D1525 ¹
--	219 °F	104 °C	ISO 306/A120
--	201 °F	94.0 °C	ISO 306/B50
CLTE			ASTM D696
Flow : -40 to 104°F (-40 to 40°C)	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	
Transverse : -40 to 104°F (-40 to 40°C)	3.8E-5 in/in/°F	6.8E-5 cm/cm/°C	
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
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	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ²			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 ²			IEC 60695-2-12
0.06 in (1.5 mm)	1700 °F	925 °C	
0.08 in (2.0 mm)	1700 °F	925 °C	
0.10 in (2.5 mm)	1700 °F	925 °C	
0.12 in (3.0 mm)	1740 °F	950 °C	
Oxygen Index ²	28 %	28 %	ASTM D2863

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	180 to 190 °F	82 to 88 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Processing (Melt) Temp	460 to 525 °F	238 to 274 °C
Mold Temperature	140 to 195 °F	60 to 91 °C

Notes

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

¹ Rate B (120°C/h), Loading 1 (10 N)

² This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.



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