

EMERGE™ PC/ABS 7740 Advanced Resin

Overview

EMERGE™ PC/ABS 7740 Advanced Resin is an opaque, ignition resistant PC/ABS for extrusion applications. It contains no chlorinated or brominated flame retardant additives and complies with DIN VDE 0472/Part 815 as Halogen Free. This resin combines easy process ability with ductility at low temperature. EMERGE PC/ABS is certified according to UL94 and can meet the requirements for railway applications R22 and R23 according to EN 45545-2 and applications in buses according to R118. Finally, this grade is available in multiple colours and delivers parts with satin gloss finish.

Applications:

- Profile extrusion
- Opaque sheet extrusion
- Cable trunking
- Small railway parts
- Bus parts

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm ³	1.18 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
230°C/3.8 kg	4.5 g/10 min	4.5 g/10 min	
260°C/5.0 kg	19 g/10 min	19 g/10 min	
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
Tensile Modulus	392000 psi	2700 MPa	ISO 527-1/1
Tensile Stress			ISO 527-2/50
Yield	9140 psi	63.0 MPa	
Break	7830 psi	54.0 MPa	
Tensile Strain			ISO 527-2/50
Yield	4.5 %	4.5 %	
Break	120 %	120 %	
Flexural Modulus	399000 psi	2750 MPa	ISO 178
Flexural Stress	13100 psi	90.0 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	6.2 ft-lb/in ²	13 kJ/m ²	
73°F (23°C)	22 ft-lb/in ²	46 kJ/m ²	
Notched Izod Impact Strength			ISO 180/1A
-22°F (-30°C)	6.2 ft-lb/in ²	13 kJ/m ²	
73°F (23°C)	21 ft-lb/in ²	44 kJ/m ²	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ISO 75-2/A
264 psi (1.8 MPa), Unannealed	187 °F	86.0 °C	
Vicat Softening Temperature	219 °F	104 °C	ISO 306/A120

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+16 ohms	1.0E+16 ohms	IEC 60093
Volume Resistivity	1.0E+16 ohms·cm	1.0E+16 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.0630 in (1.60 mm), in Oil	760 V/mil	30 kV/mm	
Relative Permittivity			IEC 60250
100 Hz	3.20	3.20	
1 MHz	3.10	3.10	
Dissipation Factor			IEC 60250
100 Hz	5.0E-3	5.0E-3	
1 MHz	7.0E-3	7.0E-3	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ¹			UL 94
0.06 in (1.5 mm)	V-0	V-0	
0.10 in (2.5 mm)	5VB	5VB	
0.12 in (3.0 mm)	5VA	5VA	
Glow Wire Flammability Index ¹			IEC 60695-2-12
0.04 in (1.0 mm)	1760 °F	960 °C	
0.08 in (2.0 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature ¹			IEC 60695-2-13
0.06 in (1.5 mm)	1290 °F	700 °C	
0.08 in (2.0 mm)	1290 °F	700 °C	
0.12 in (3.0 mm)	1290 °F	700 °C	
Oxygen Index ¹	32 %	32 %	ASTM D2863 ISO 4589-2
Injection	Nominal Value (English)	Nominal Value (SI)	
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	437 to 518 °F	225 to 270 °C	
Mold Temperature	140 to 176 °F	60 to 80 °C	