

EMERGE™ PC/ABS 7700

Advanced Resin

Trinseo

Message:

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:

Tested under ISO 10993 (Parts 5 & 10)

Applications:

Medical equipment housings

Consumer Electronics

Information technology equipment

General Information			
UL YellowCard	E54680-101355620	E213639-101888230	
Additive	UV Stabilizer		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Processability		
	Pleasing Surface Appearance		
Uses	Electrical/Electronic Applications		
	Housings		
	Medical/Healthcare Applications		
Appearance	Colors Available		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Specific Heat vs. Temperature (ASTM D3417)		
	Specific Volume vs Temperature (ISO 11403-2)		
	Tensile Creep (ASTM D2990)		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.17	g/cm³	ASTM D792
--	1.18	g/cm³	ISO 1183/B
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	11	g/10 min	ASTM D1238

260°C/2.16 kg	13	g/10 min	ISO 1133
Molding Shrinkage - Flow	0.40 to 0.60	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale, 3.20 mm, Injection Molded)	120		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
3.20 mm, Injection Molded	2620	MPa	ASTM D638
4.00 mm, Injection Molded	2560	MPa	ISO 527-2/1
Tensile Strength			
Yield, 3.20 mm, Injection Molded	60.0	MPa	ASTM D638
Yield, 4.00 mm, Injection Molded	55.0	MPa	ISO 527-2/50
Break, 3.20 mm, Injection Molded	48.3	MPa	ASTM D638
Break, 4.00 mm, Injection Molded	45.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield, 3.20 mm, Injection Molded	3.8	%	ASTM D638
Yield, 4.00 mm, Injection Molded	3.8	%	ISO 527-2/50
Break, 3.20 mm, Injection Molded	65	%	ASTM D638
Break, 4.00 mm, Injection Molded	43	%	ISO 527-2/50
Flexural Modulus (3.20 mm, Injection Molded)	2690	MPa	ASTM D790
Flexural Strength (3.20 mm, Injection Molded)	96.5	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C, Injection Molded	15	kJ/m ²	
23°C, Injection Molded	40	kJ/m ²	
Notched Izod Impact			
-18°C, 3.20 mm, Injection Molded	200	J/m	ASTM D256
-7°C	440	J/m	ASTM D256
23°C, 3.20 mm, Injection Molded	480	J/m	ASTM D256
-30°C, Injection Molded	14	kJ/m ²	ISO 180/A
23°C, Injection Molded	50	kJ/m ²	ISO 180/A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	90.6	°C	ASTM D648
0.45 MPa, Unannealed	88.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	79.4	°C	ASTM D648
1.8 MPa, Unannealed	77.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	104	°C	ASTM D1525, ISO 306/A120 3 ¹
--	94.0	°C	ISO 306/B50

CLTE			ASTM D696
Flow : -40 to 40°C	6.8E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.8E-5	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	5.2E+15	ohms	IEC 60093
Volume Resistivity	1.0E+18	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
1.60 mm, in Oil	26	kV/mm	
3.20 mm, in Oil	18	kV/mm	
Relative Permittivity			IEC 60250
100 Hz	2.86		
1 MHz	2.80		
Dissipation Factor			IEC 60250
100 Hz	4.0E-3		
1 MHz	7.0E-3		
Flammability	Nominal Value	Unit	Test Method
Flame Rating ²			UL 94
1.50 mm	V-0		
2.00 mm	5VB		
2.50 mm	5VA		
Glow Wire Flammability Index			IEC 60695-2-12
1.50 mm ³	925	°C	
2.00 mm ⁴	925	°C	
2.50 mm	925	°C	
3.00 mm ⁵	950	°C	
Injection	Nominal Value	Unit	
Drying Temperature	82.2 to 87.8	°C	
Drying Time	3.0 to 4.0	hr	
Processing (Melt) Temp	238 to 274	°C	
Mold Temperature	60.0 to 90.6	°C	
NOTE			
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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5.

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