

ULTEM™ 1110F resin

Polyether Imide

SABIC Innovative Plastics

Message:

Enhanced flow Polyetherimide (Tg 217°C). Resin is RoHS compliant. UL94 V0 and 5VA listing. US FDA and EU Food Contact compliant. Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU1110.

General Information			
Features	Compliance of Food Exposure		
Agency Ratings	FDA Food Exposure, Not Rated		
	European food contact, not rated		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.36	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
340°C/5.0 kg	12.0	cm ³ /10min	ISO 1133
360°C/5.0 kg	21.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	1.2	%	ISO 62
Equilibrium, 23°C, 50% RH	0.65	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	145	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3500	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	110	MPa	ISO 527-2/50
Fracture	80.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	6.0	%	ISO 527-2/50
Fracture	10	%	ISO 527-2/50
Flexural Modulus ²	3300	MPa	ISO 178
Flexural Stress	140	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ³			ISO 180/1A
-30°C	4.0	kJ/m ²	ISO 180/1A

23°C	4.0	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁴			
0.45 MPa, unannealed, 100 mm span	200	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	185	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	210	°C	ISO 306/A50
--	200	°C	ISO 306/B50
--	205	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.26	W/m/K	ISO 8302
RTI Elec	170	°C	UL 746
RTI Imp	170	°C	UL 746
RTI	170	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.50		IEC 60250
60 Hz	3.50		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.6E-3		IEC 60250
60 Hz	1.6E-3		IEC 60250
Comparative Tracking Index			IEC 60112
--	175	V	IEC 60112
Solution B	125	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
3.00 mm	5VA		UL 94
Glow Wire Flammability Index (3.20 mm)	960	°C	IEC 60695-2-12
Oxygen Index	47	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	150	°C	
Drying Time	4.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	80.0 - 100	°C	
Rear Temperature	340 - 380	°C	

Middle Temperature	360 - 400	°C
Front Temperature	370 - 410	°C
Nozzle Temperature	360 - 400	°C
Processing (Melt) Temp	360 - 400	°C
Mold Temperature	140 - 180	°C

NOTE		
1.	Tensile Bar	
2.	2.0 mm/min	
3.	80*10*4	
4.	120*10*4 mm	

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