

ULTEM™ 1000FC resin

Polyether Imide

SABIC Innovative Plastics Europe

Message:

ULTEM 1000FC resin is an amorphous, transparent polyetherimide (PEI) plastic offering a glass transition temperature (Tg) of 217°C. This inherently flame retardant resin has UL94 V0, V2 and 5VA ratings and is RoHS compliant. ULTEM 1000FC resin is an unreinforced general purpose grade offering high heat resistance, high strength and modulus and broad chemical resistance up to high temperatures. This grade is US FDA and EU Food Contact compliant and has NSF51 listing for selected colors.

General Information			
Features	Amorphous		
	Flame Retardant		
	Food Contact Acceptable		
	General Purpose		
	Good Chemical Resistance		
	High Heat Resistance		
	High Strength		
Uses	General Purpose		
Agency Ratings	EU Food Contact, Unspecified Rating		
	FDA Food Contact, Unspecified Rating		
	NSF 51 2		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.27	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	13.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	1.3	%	
Equilibrium, 23°C, 50% RH	0.70	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	140	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3200	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	105	MPa	
Break	85.0	MPa	

Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	60	%	
Flexural Modulus ²	3300	MPa	ISO 178
Flexural Stress	160	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ³	4.0	kJ/m ²	ISO 179/1eA
23°C ⁴	4.0	kJ/m ²	ISO 179/1eA
23°C	10	kJ/m ²	ISO 179/2C
Notched Izod Impact Strength ⁵			ISO 180/1A
-30°C	6.0	kJ/m ²	
23°C	6.0	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, Unannealed, 100 mm Span	200	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	190	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	215	°C	ISO 306/A50, ISO 306/B120
--	211	°C	ISO 306/B50
CLTE			ISO 11359-2
Flow : 23 to 150°C	5.0E-5	cm/cm/°C	
Transverse : 23 to 150°C	5.0E-5	cm/cm/°C	
Thermal Conductivity	0.24	W/m/K	ISO 8302
RTI Elec	170	°C	UL 746
RTI Imp	170	°C	UL 746
RTI Str	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
Electric Strength			IEC 60243-1
0.800 mm, in Oil	33	kV/mm	
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Oil	16	kV/mm	
Relative Permittivity			IEC 60250
50 Hz	2.90		
60 Hz	2.90		

1 MHz	2.90		
Dissipation Factor			IEC 60250
50 Hz	5.0E-4		
60 Hz	5.0E-4		
1 MHz	6.0E-3		
2.45 GHz	2.5E-3		
Comparative Tracking Index			IEC 60112
--	150	V	
Solution B	100	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.400 mm	V-2		
0.750 mm	V-0		
3.00 mm	5VA		
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 to 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	80.0 to 120	°C	
Rear Temperature	340 to 395	°C	
Middle Temperature	350 to 405	°C	
Front Temperature	360 to 415	°C	
Nozzle Temperature	350 to 405	°C	
Processing (Melt) Temp	370 to 410	°C	
Mold Temperature	140 to 180	°C	
NOTE			
1.	Tensile Bar		
2.	2.0 mm/min		
3.	80*10*4 sp=62mm		
4.	80*10*4 sp=62mm		
5.	80*10*4		
6.	80*10*4		
7.	120*10*4 mm		

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