

ULTEM™ 2310F resin

Polyether Imide

SABIC Innovative Plastics

Message:

30% Glass fiber filled, enhanced flow Polyetherimide (Tg 217C). Resin is RoHS compliant. UL94 V0 listing. US FDA and European Food Contact approved. 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 HU2310.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
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	1.51	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	8.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.20 - 0.40	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.90	%	ISO 62
Equilibrium, 23°C, 50% RH	0.50	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	165	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	9500	MPa	ISO 527-2/1
Tensile Stress (Break)	165	MPa	ISO 527-2/5
Tensile Strain (Break)	2.0	%	ISO 527-2/5
Flexural Modulus ²	8500	MPa	ISO 178
Flexural Stress	225	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	20.0	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	10	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ³			ISO 179/1eU
-30°C	40	kJ/m ²	ISO 179/1eU
23°C	40	kJ/m ²	ISO 179/1eU
Unnotched Izod Impact Strength ⁴			ISO 180/1U
-30°C	40	kJ/m ²	ISO 180/1U

23°C	40	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁵			
0.45 MPa, unannealed, 100 mm span	215	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	210	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	225	°C	ISO 306/A50
--	213	°C	ISO 306/B50
--	220	°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	2.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	6.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.33	W/m/K	ISO 8302
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			IEC 60243-1
0.800mm, in oil	35	kV/mm	IEC 60243-1
1.60mm, in oil	26	kV/mm	IEC 60243-1
3.20mm, in oil	15	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.30		IEC 60250
60 Hz	3.30		IEC 60250
1 MHz	3.40		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.6E-3		IEC 60250
60 Hz	1.6E-3		IEC 60250
1 MHz	2.3E-3		IEC 60250
2.45 GHz	5.3E-3		IEC 60250
Comparative Tracking Index			IEC 60112
--	150	V	IEC 60112
Solution B	100	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (3.20 mm)	960	°C	IEC 60695-2-12
Oxygen Index	48	%	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 - 120	°C	
Rear Temperature	350 - 400	°C	

Middle Temperature	360 - 410	°C
Front Temperature	370 - 420	°C
Nozzle Temperature	360 - 410	°C
Processing (Melt) Temp	370 - 410	°C
Mold Temperature	140 - 180	°C

NOTE		
1.	Tensile Bar	
2.	2.0 mm/min	
3.	80*10*4 sp=62mm	
4.	80*10*4	
5.	120*10*4 mm	

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