

ULTEM™ RESIN 1110F

REGION EUROPE

DESCRIPTION

Enhanced flow Polyetherimide (Tg 217C). ECO Conforming. US FDA and EU Food Contact compliant, NSF 51 listing. UL94 V0 and 5VA listing. 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.

TYPICAL PROPERTY VALUES

Revision 20180524

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	110	MPa	ISO 527
Tensile Stress, break, 50 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	10	%	ISO 527
Tensile Modulus, 1 mm/min	3500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	140	MPa	ISO 178
Flexural Modulus, 2 mm/min	3300	MPa	ISO 178
Hardness, H358/30	145	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched 80*10*4 +23°C	4	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
THERMAL			
Thermal Conductivity	0.26	W/m-°C	ISO 8302
CTE, 23°C to 150°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	210	°C	ISO 306
Vicat Softening Temp, Rate B/50	200	°C	ISO 306
Vicat Softening Temp, Rate B/120	205	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	200	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	185	°C	ISO 75/Ae
Relative Temp Index, Elec	170	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
PHYSICAL			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.5 – 0.7	%	SABIC method
Density	1.36	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	1.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.65	%	ISO 62
Melt Volume Rate, MVR at 340°C/5.0 kg	12	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 360°C/5.0 kg	21	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	17.2	kV/mm	IEC 60243-1
Dissipation Factor, 50/60 Hz	0.0016	-	IEC 60250
Comparative Tracking Index	175	V	IEC 60112
Comparative Tracking Index, M	125	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.75	mm	UL 94
UL Recognized, 94-5VA Rating (3)	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	47	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	360 – 400	°C	
Nozzle Temperature	360 – 400	°C	
Front - Zone 3 Temperature	370 – 410	°C	
Middle - Zone 2 Temperature	360 – 400	°C	
Rear - Zone 1 Temperature	340 – 380	°C	
Hopper Temperature	80 – 100	°C	
Mold Temperature	140 – 180	°C	

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