

ULTEM™ HU1110 resin

Polyether Imide

SABIC Innovative Plastics

Message:

Enhanced flow Polyetherimide (Tg 217C). ECO Conforming. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant. EtO and steam sterilizable. NSF 51 listing, compliant in recognized colors.

General Information			
Features	Comply with ECO		
	Ethylene oxide disinfection		
	High liquidity		
	Biocompatibility		
	Compliance of Food Exposure		
	Disinfect with steam		
Uses	Drug		
	Medical/nursing supplies		
Agency Ratings	EU Eco		
	ISO 10993		
	NSF 51		
	USP Class VI		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.36	g/cm ³	ASTM D792
--	1.27	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	16	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	21.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	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
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3720	MPa	ASTM D638
--	3500	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	110	MPa	ASTM D638

Yield	110	MPa	ISO 527-2/5
Fracture ³	85.0	MPa	ASTM D638
Fracture	80.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	7.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/5
Fracture ⁵	70	%	ASTM D638
Fracture	60	%	ISO 527-2/5
Flexural Modulus			
100mm span ⁶	3720	MPa	ASTM D790
50.0mm span ⁷	3420	MPa	ASTM D790
-- ⁸	3300	MPa	ISO 178
Flexural Stress			
--	140	MPa	ISO 178
Yield, 50.0mm span ⁹	174	MPa	ASTM D790
Yield, 100mm span ¹⁰	165	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹¹ (23°C)	5.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	56	J/m	ASTM D256
-30°C ¹²	4.0	kJ/m ²	ISO 180/1A
23°C ¹³	4.0	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	28.0	J	ASTM D3763
Dart Drop Impact (23°C)	23.0	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 6.40mm	199	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁴	210	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	219	°C	ASTM D1525 ¹⁵
--	200	°C	ISO 306/B50
--	205	°C	ISO 306/B120
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	5.5E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	5.5E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Flammability	Nominal Value	Test Method	
Flame Rating			UL 94
	V-2		
0.710 mm	V-0	UL 94	

3.00 mm	5VA	UL 94
Injection	Nominal Value	Unit
Drying Temperature	149	°C
Drying Time	4.0 - 6.0	hr
Drying Time, Maximum	24	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 - 60	%
Rear Temperature	332 - 399	°C
Middle Temperature	338 - 399	°C
Front Temperature	343 - 399	°C
Nozzle Temperature	343 - 399	°C
Processing (Melt) Temp	349 - 399	°C
Mold Temperature	135 - 163	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm
NOTE		
1.	5.0 mm/min	
2.	Type 1, 5.0 mm/min	
3.	Type 1, 5.0 mm/min	
4.	Type 1, 5.0 mm/min	
5.	Type 1, 5.0 mm/min	
6.	2.6 mm/min	
7.	1.3 mm/min	
8.	2.0 mm/min	
9.	1.3 mm/min	
10.	2.6 mm/min	
11.	80*10*4 sp=62mm	
12.	80*10*4	
13.	80*10*4	
14.	80*10*4 mm	
15.	标准 B (120°C/h), 载荷2 (50N)	

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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