

ULTEM™ 2310EPR resin

Polyether Imide
SABIC Innovative Plastics

Message:

30% Glass fiber filled, high flow Polyetherimide (Tg 217C) with internal mold release and enhanced electroplatability. Resin is RoHS compliant. UL94 V0 listing.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Additive	demoulding		
Features	Electroplateable		
	High liquidity		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.48	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	11	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	12.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow ¹	0.30 - 0.50	%	Internal method
Flow: 3.20mm	0.40 - 0.60	%	Internal method
Transverse flow: 3.20mm	0.40 - 0.60	%	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)	160	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	8580	MPa	ASTM D638
--	8980	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	158	MPa	ASTM D638
Yield	160	MPa	ISO 527-2/5
Fracture ⁴	158	MPa	ASTM D638
Fracture	160	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	2.1	%	ASTM D638
Yield	2.0	%	ISO 527-2/5

Fracture ⁶	2.1	%	ASTM D638
Fracture	2.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁷	9140	MPa	ASTM D790
-- ⁸	9500	MPa	ISO 178
Flexural Stress			
--	210	MPa	ISO 178
Yield, 50.0mm span ⁹	228	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰			ISO 179/1eA
-30°C	10	kJ/m ²	ISO 179/1eA
23°C	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹¹			ISO 179/1eU
-30°C	35	kJ/m ²	ISO 179/1eU
23°C	30	kJ/m ²	ISO 179/1eU
Notched Izod Impact			
23°C	85	J/m	ASTM D256
-30°C ¹²	10	kJ/m ²	ISO 180/1A
23°C ¹³	10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	450	J/m	ASTM D4812
-30°C ¹⁴	35	kJ/m ²	ISO 180/1U
23°C ¹⁵	35	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	9.00	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	205	°C	ASTM D648
0.45 MPa, unannealed, 6.40mm	208	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹⁶	207	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	201	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	205	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁷	196	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	217	°C	ASTM D1525 ¹⁸
--	212	°C	ISO 306/B50
--	214	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 150°C	1.8E-5	cm/cm/°C	ASTM E831
Flow: 23 to 150°C	1.8E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 150°C	3.0E-5	cm/cm/°C	ASTM E831

Horizontal: 23 to 150°C	3.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.31	W/m/K	ISO 8302
Electrical	Nominal Value		Test Method
Arc Resistance ¹⁹	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 4		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 4		UL 746
Flammability	Nominal Value		Test Method
Flame Rating (0.400 mm)	V-0		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.	Tensile Bar		
2.	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.	Type 1, 5.0 mm/min		
7.	1.3 mm/min		
8.	2.0 mm/min		
9.	1.3 mm/min		
10.	80*10*4 sp=62mm		
11.	80*10*4 sp=62mm		
12.	80*10*4		
13.	80*10*4		
14.	80*10*4		
15.	80*10*4		
16.	80*10*4 mm		

17.	80*10*4 mm
18.	标准 B (120°C/h), 载荷2 (50N)
19.	Tungsten electrode

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