

ULTEM™ DT1810EV resin

Polyether Imide

SABIC Innovative Plastics

Message:

Improved ductility, transparent, enhanced flow Polyetherimide blend (Tg 200C) with internal mold release and enhanced ductility. RoHS compliant. UL94 V0 listed.

General Information			
Additive	demoulding		
Features	Good liquidity		
	ductility		
RoHS Compliance	RoHS compliance		
Appearance	Clear/transparent		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.28	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	43	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	56.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.36	%	ISO 62
Equilibrium, 23°C, 50% RH	0.080	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3210	MPa	ASTM D638
--	2500	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	103	MPa	ASTM D638
Yield	98.0	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	7.0	%	ISO 527-2/5
Fracture ⁵	80	%	ASTM D638
Fracture	80	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	3320	MPa	ASTM D790
-- ⁷	3100	MPa	ISO 178

Flexural Stress			
--	135	MPa	ISO 178
Yield, 50.0mm span ⁸	145	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	2.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	35	J/m	ASTM D256
23°C	32	J/m	ASTM D256
-30°C ¹⁰	2.0	kJ/m ²	ISO 180/1A
23°C ¹¹	2.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			ASTM D4812
-30°C	No Break		ASTM D4812
23°C	No Break		ASTM D4812
Instrumented Dart Impact (23°C, Total Energy)	48.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	173	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	178	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹²	168	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	192	°C	ASTM D1525, ISO 306/B50 ¹³
--	195	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 150°C	6.0E-5	cm/cm/°C	ASTM E831
Flow: 23 to 150°C	5.5E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 150°C	6.0E-5	cm/cm/°C	ASTM E831
Horizontal: 23 to 150°C	5.5E-5	cm/cm/°C	ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	135	°C	
Drying Time	4.0 - 6.0	hr	
Drying Time, Maximum	12	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	310 - 332	°C	
Middle Temperature	321 - 343	°C	
Front Temperature	332 - 354	°C	
Nozzle Temperature	327 - 349	°C	
Processing (Melt) Temp	332 - 354	°C	
Mold Temperature	93.3 - 135	°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.	1.3 mm/min	
7.	2.0 mm/min	
8.	1.3 mm/min	
9.	80*10*4 sp=62mm	
10.	80*10*4	
11.	80*10*4	
12.	120*10*4 mm	
13.	标准 B (120°C/h), 载荷2 (50N)	

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