

ULTEM™ AUT230 resin

Polyether Imide

SABIC Innovative Plastics

Message:

Transparent polyetherimide (Tg 247 degC). Very low outgassing and plateout, for automotive lighting applications where highly metallized, reflective surfaces are required. Haze onset temperature of 230 degC (SABIC Innovative Plastics method).

General Information			
Features	The degassing effect is low to no		
Uses	Application in Automobile Field		
Appearance	Clear/transparent		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.30	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (367°C/6.6 kg)	16	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	8.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow ¹	0.50 - 0.70	%	Internal method
Flow: 3.20mm	0.50 - 0.70	%	Internal method
Transverse flow: 3.20mm	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	1.8	%	ISO 62
Equilibrium, 23°C, 50% RH	0.60	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	3510	MPa	ASTM D638
--	3110	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	96.0	MPa	ASTM D638
Yield	95.0	MPa	ISO 527-2/5
Fracture ⁴	96.0	MPa	ASTM D638
Fracture	78.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	6.0	%	ASTM D638
Yield	8.5	%	ISO 527-2/5
Fracture ⁶	25	%	ASTM D638
Fracture	17	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁷	3170	MPa	ASTM D790
-- ⁸	3080	MPa	ISO 178

Flexural Stress	123	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
-30°C	74	J/m	ASTM D256
23°C	69	J/m	ASTM D256
-30°C ⁹	5.0	kJ/m ²	ISO 180/1A
23°C ¹⁰	4.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	No Break		ASTM D4812, ISO 180/1U
-30°C ¹¹	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	33.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 6.40mm	237	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	217	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	230	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹²	228	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	242	°C	ASTM D1525, ISO 306/B50 ¹³
--	238	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 150°C	5.0E-5	cm/cm/°C	ASTM E831
Flow: 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 150°C	5.0E-5	cm/cm/°C	ASTM E831
Horizontal: 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Additional Information	Nominal Value	Unit	Test Method
Metallized Haze Onset	230	°C	Internal method
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.	80*10*4	
10.	80*10*4	
11.	80*10*4	
12.	80*10*4 mm	
13.	标准 B (120°C/h), 载荷2 (50N)	

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