

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	Low to No Outgassing		
Uses	Automotive Applications		
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 Volume-Flow Rate (MVR) (360°C/5.0 kg)	8.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow ¹	0.50 to 0.70	%	
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	1.8	%	
Equilibrium, 23°C, 50% RH	0.60	%	
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
Break ⁴	96.0	MPa	ASTM D638
Break	78.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	6.0	%	ASTM D638
Yield	8.5	%	ISO 527-2/5
Break ⁶	25	%	ASTM D638
Break	17	%	ISO 527-2/5
Flexural Modulus			
50.0 mm 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, 6.40 mm	237	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	217	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	230	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm 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
CLTE			
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
Transverse : -40 to 150°C	5.0E-5	cm/cm/°C	ASTM E831
Transverse : 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 to 6.0	hr	
Drying Time, Maximum	24	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	332 to 399	°C	
Middle Temperature	338 to 399	°C	
Front Temperature	343 to 399	°C	
Nozzle Temperature	343 to 399	°C	
Processing (Melt) Temp	349 to 399	°C	
Mold Temperature	135 to 163	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	

Vent Depth	0.025 to 0.076	mm
NOTE		
1.	Tensile Bar	
2.	5.0 mm/min	
3.	Type I, 5.0 mm/min	
4.	Type I, 5.0 mm/min	
5.	Type I, 5.0 mm/min	
6.	Type I, 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.	Rate B (120°C/h), Loading 2 (50 N)	

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