

ULTEM™ AUT210 resin

Polyether Imide

SABIC Innovative Plastics

Message:

Transparent Polyetherimide (Tg 227 degC). Very low outgassing and plateout, for automotive lighting applications where highly metallized, reflective surfaces are required. Haze onset temperature of 212 degC (SABIC IP method). Resin is subject to U.S. Commerce Control Laws (15CFR Chapter VII, Part 774).

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	1.29	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)	16.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	1.0	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3590	MPa	ASTM D638
--	3320	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	105	MPa	ASTM D638
Yield	103	MPa	ISO 527-2/5
Fracture ³	88.0	MPa	ASTM D638
Fracture	88.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	8.0	%	ASTM D638
Yield	7.0	%	ISO 527-2/5
Fracture ⁵	75	%	ASTM D638
Fracture	54	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	3330	MPa	ASTM D790
-- ⁷	3140	MPa	ISO 178
Flexural Strength ⁸ (Yield, 50.0 mm Span)	170	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength ⁹ (23°C)	16	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	38	J/m	ASTM D256
23°C	37	J/m	ASTM D256
-30°C ¹⁰	4.0	kJ/m ²	ISO 180/1A
23°C ¹¹	5.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	2400	J/m	ASTM D4812
-30°C ¹²	No Break		ISO 180/1U
23°C ¹³	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, 3.20mm	215	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	201	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	211	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁴	196	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	222	°C	ASTM D1525 ¹⁵
--	221	°C	ISO 306/B50
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	212	°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	360 - 382	°C	
Middle Temperature	371 - 393	°C	
Front Temperature	382 - 404	°C	
Nozzle Temperature	377 - 399	°C	
Processing (Melt) Temp	382 - 404	°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.	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.	80*10*4	
13.	80*10*4	
14.	120*10*4 mm	
15.	标准 B (120°C/h), 载荷2 (50N)	

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