SABIC Innovative Plastics Ultem AUT230M PEI (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Transparent polyetherimide (Tg 247 degC) with internal mold release. 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).This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Ultem-AUT230M-PEI-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D 792
Density	1.30 g/cc	0.0470 lb/inÂ³	ISO 1183
Moisture Absorption at Equilibrium	0.65 %	0.65 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	1.75 % @Temperature 23.0 Â°C	1.75 % @Temperature 73.4 Â°F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	8.0 g/10 min @Load 5.00 kg, Temperature 360 Â°C	8.0 g/10 min @Load 11.0 lb, Temperature 680 Â°F	[cm^3/10 min] Melt Volume Rate; ISO 1133
	15.5 g/10 min @Load 6.60 kg, Temperature 367 Â°C	15.5 g/10 min @Load 14.6 lb, Temperature 693 Â°F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	78.0 MPa	11300 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D 638
Tensile Strength, Yield	95.0 MPa	13800 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	16.3 %	16.3 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	25 %	25 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	Type I, 5 mm/min; ASTM D 638
	8.4 %	8.4 %	5 mm/min; ISO 527
Tensile Modulus	3.12 GPa	453 ksi	1 mm/min; ISO 527
	3.51 GPa	509 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	123 MPa	17800 psi	2 mm/min; ISO 178
Flexural Modulus	3.07 GPa	445 ksi	2 mm/min; ISO 178
	3.17 GPa	460 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.690 J/cm @Temperature 23.0 Â°C	1.29 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
	0.740 J/cm @Temperature -30.0 Â°C	1.39 ft-lb/in @Temperature -22.0 Â°F	ASTM D 256
Izod Impact, Unnotched	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	5.00 kJ/mÂ² @Temperature -30.0 Â°C	2.38 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
	6.00 kJ/mÂ² @Temperature 23.0 Â°C	2.86 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	147 kJ/mÂ² @Temperature -30.0 Â°C	69.9 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
	196 kJ/mÂ² @Temperature 23.0 Â°C	93.3 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
Impact Test	33.0 J @Temperature 23.0 Â°C	24.3 ft-lb @Temperature 73.4 Â°F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C	27.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 150 Â°C	@Temperature -40.0 - 302 Â°F	
	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	50.0 Âµm/m-Â°C @Temperature -40.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature -40.0 - 302 Â°F	ASTM E 831
	50.0 Âµm/m-Â°C @Temperature 23.0 - 150 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 302 Â°F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	237 Â°C @Thickness 6.40 mm	459 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	228 Â°C	442 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	217 Â°C @Thickness 3.20 mm	423 Â°F @Thickness 0.126 in	unannealed; ASTM D 648
	230 Â°C @Thickness 6.40 mm	446 Â°F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	240 Â°C	464 Â°F	Rate B/120; ISO 306
	242 Â°C	468 Â°F	Rate B/50; ASTM D 1525
	242 Â°C	468 Â°F	Rate B/50; ISO 306
Glass Transition Temp, Tg	247 Â°C	477 Â°F	

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Â°C +/- 2Â°C	Passes	IEC 60695-10-2
Metallized Haze Onset, Â°C	230	SABIC Method

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