ULTEM™ RESIN AUT230

REGION ASIA

DESCRIPTION

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

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Lighting, Automotive Exteriors

TYPICAL PROPERTY VALUES

Revision 20181121

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	96	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	96	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	25	%	ASTM D 638
Tensile Modulus, 5 mm/min	3510	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	3170	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	95	MPa	ISO 527
Tensile Stress, break, 5 mm/min	78	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	8.5	%	ISO 527
Tensile Strain, break, 5 mm/min	16.8	%	ISO 527
Tensile Modulus, 1 mm/min	3110	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	123	MPa	ISO 178
Flexural Modulus, 2 mm/min	3080	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	69	J/m	ASTM D 256
Izod Impact, notched, -30°C	74	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	33	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	242	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	217	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	237	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	230	°C	ASTM D 648
CTE, -40°C to 150°C, flow	5.E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	5.E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	5.E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 150°C, xflow	5.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	242	°C	ISO 306
Vicat Softening Temp, Rate B/120	238	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	228	°C	ISO 75/Af
Metallized Haze Onset	230	°C	SABIC method
PHYSICAL			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 367°C/6.6 kgf	15.5	g/10 min	ASTM D 1238
Density	1.3	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	1.75	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.6	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	8	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	24	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 400	°C	
Nozzle Temperature	345 – 400	°C	
Front - Zone 3 Temperature	345 – 400	°C	
Middle - Zone 2 Temperature	340 – 400	°C	
Rear - Zone 1 Temperature	330 – 400	°C	
Mold Temperature	135 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

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