

ULTEM™ RESIN AUT230

REGION EUROPE

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 Under the Hood

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	96	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	96	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	25	%	ASTM D638
Tensile Modulus, 5 mm/min	3510	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	3170	MPa	ASTM D790
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 D4812
Izod Impact, notched, 23°C	69	J/m	ASTM D256
Izod Impact, notched, -30°C	74	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	33	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	242	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	217	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	237	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	230	°C	ASTM D648
CTE, -40°C to 150°C, flow	5.E-05	1/°C	ASTM E831
CTE, -40°C to 150°C, xflow	5.E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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 D792
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 D1238
Density	1.3	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	1.75	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.6	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	8	cm ³ /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	380 – 405	°C	
Nozzle Temperature	375 – 400	°C	
Front - Zone 3 Temperature	380 – 405	°C	
Middle - Zone 2 Temperature	370 – 395	°C	
Rear - Zone 1 Temperature	360 – 380	°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	

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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