

Ultem* Resin AUT210

Americas: COMMERCIAL

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).

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	105	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	88	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	8	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	75	%	ASTM D 638
Tensile Modulus, 5 mm/min	3590	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	170	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3330	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	103	MPa	ISO 527
Tensile Stress, break, 5 mm/min	88	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	7	%	ISO 527
Tensile Strain, break, 5 mm/min	54	%	ISO 527
Tensile Modulus, 1 mm/min	3320	MPa	ISO 527
Flexural Modulus, 2 mm/min	3140	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	2440	J/m	ASTM D 4812
Izod Impact, notched, 23°C	37	J/m	ASTM D 256
Izod Impact, notched, -30°C	38	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/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	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	16	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	222	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	215	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	201	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	211	°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
CTE, 23°C to 150°C, xflow	5.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	221	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	196	°C	ISO 75/Ae
Metallized Haze Onset	212	°C	SABIC Method
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.29	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method

Melt Flow Rate, 337°C/6.6 kgf	11	g/10 min	ASTM D 1238
Density	1.29	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	1.03	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	16	cm ³ /10 min	ISO 1133

Source GMD, last updated:05/20/2008

Processing

Parameter	Value	Unit
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

Source GMD, last updated:05/20/2008

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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