

## Ultem\* Resin ATX3562R Americas: COMMERCIAL

50% Glass fiber and mineral filled, high flow Polyetherimide blend with internal mold release and enhanced dimensional stability. ECO Conforming.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D 638
Tensile Modulus, 5 mm/min	14940	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	180	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	12900	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	121	MPa	ISO 527
Tensile Stress, break, 5 mm/min	121	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.4	%	ISO 527
Tensile Strain, break, 5 mm/min	1.4	%	ISO 527
Tensile Modulus, 1 mm/min	14690	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	172	MPa	ISO 178
Flexural Modulus, 2 mm/min	13550	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	50	J/m	ASTM D 256
Izod Impact, notched, -30°C	49	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	111	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	12	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	5	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	184	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	183	°C	ASTM D 648
CTE, -40°C to 150°C, flow	1.6E-05	1/°C	ASTM E 831

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. 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) Own measurement according to UL.  
5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source, GMD, Last Update:

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>THERMAL</b>			
CTE, -40°C to 150°C, xflow	3.8E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	1.6E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	3.8E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	187	°C	ISO 306
Vicat Softening Temp, Rate B/120	195	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	195	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	182	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.69	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.2 - 0.3	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.3 - 0.5	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	20	g/10 min	ASTM D 1238
Density	1.69	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	20	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Volume Resistivity	6.E+15	Ohm-cm	ASTM D 257
Surface Resistivity	2.1E+15	Ohm	ASTM D 257

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	10	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	350 - 370	°C
Nozzle Temperature	350 - 370	°C
Front - Zone 3 Temperature	350 - 370	°C
Middle - Zone 2 Temperature	345 - 365	°C
Rear - Zone 1 Temperature	340 - 360	°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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