

## Ultem\* Resin EXUM0169

Americas: COMMERCIAL

Improved ductility, transparent, enhanced flow Polyetherimide blend (Tg 200C) with internal mold release and enhanced ductility. ECO Conforming.

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
	Value	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	103	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	85	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	80	%	ASTM D 638
Tensile Modulus, 5 mm/min	3210	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	145	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3320	MPa	ASTM D 790
Hardness, Rockwell M	108	-	ASTM D 785
Tensile Stress, yield, 5 mm/min	98	MPa	ISO 527
Tensile Stress, break, 5 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	7	%	ISO 527
Tensile Strain, break, 5 mm/min	80	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	135	MPa	ISO 178
Flexural Modulus, 2 mm/min	3100	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	32	J/m	ASTM D 256
Izod Impact, notched, -30°C	35	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	2085	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	48	J	ASTM D 3763
Instrumented Impact Total Energy, -20°C	8	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	2	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	192	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	173	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	178	°C	ASTM D 648
CTE, -40°C to 150°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	5.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	192	°C	ISO 306
Vicat Softening Temp, Rate B/120	195	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	168	°C	ISO 75/Ae
<b>PHYSICAL</b>			
	Value	Unit	Standard

Specific Gravity	1.28	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	43	g/10 min	ASTM D 1238
Density	1.28	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.36	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	56	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>	<b>Value</b>	<b>Unit</b>	<b>Standard</b>
Volume Resistivity	1.E+17	Ohm-cm	ASTM D 257
Surface Resistivity	1.6E+17	Ohm	ASTM D 257
Dissipation Factor, 1 MHz	0.0061	-	ASTM D 150

Source GMD, last updated:06/02/2006

## Processing

Parameter	Value	Unit
<b>Injection Molding</b>		
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	330 - 355	°C
Nozzle Temperature	325 - 350	°C
Front - Zone 3 Temperature	330 - 355	°C
Middle - Zone 2 Temperature	320 - 345	°C
Rear - Zone 1 Temperature	310 - 330	°C
Mold Temperature	95 - 135	°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:06/02/2006

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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