ULTEM™ RESIN EXUM0167

REGION AMERICAS

DESCRIPTION

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

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
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	3500	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
IMPACT			
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	35	J/m	ASTM D 256
Izod Impact, notched, -30°C	38	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	2135	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	50	J	ASTM D 3763
Instrumented Impact Total Energy, -20°C	10	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	2	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	2	kJ/m²	ISO 179/1eA
THERMAL			
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, -20°C to 150°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -20°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

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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
PHYSICAL			
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	23	g/10 min	ASTM D 1238
Density	1.28	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.37	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.09	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	28	cm³/10 min	ISO 1133
ELECTRICAL			
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
INJECTION MOLDING			
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	

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