

# ULTEM™ RESIN HU2110

REGION AMERICAS

## DESCRIPTION

10% Glass fiber filled, enhanced flow Polyetherimide (Tg 217C). UL94 V0 and 5VA listing. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI), food contact compliant; Steam, Gamma, EtO, and E-beam sterilizable.

## TYPICAL PROPERTY VALUES

Revision 20180906

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	115	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D 638
Tensile Modulus, 5 mm/min	4610	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	225	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	6850	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	165	MPa	ISO 527
Tensile Stress, break, 5 mm/min	165	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	9500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	228	MPa	ISO 178
Flexural Modulus, 2 mm/min	6890	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	48	J/m	ASTM D 256
Izod Impact, notched, -30°C	64	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	8	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	64	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	70	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	65	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/120	213	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	205	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.34	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.4	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	11.3	g/10 min	ASTM D 1238

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Density	1.42	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.9	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.5	%	ISO 62
<b>INJECTION MOLDING</b>			
Drying Temperature	150	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	24	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 400	°C	
Nozzle Temperature	345 – 400	°C	
Front - Zone 3 Temperature	345 – 400	°C	
Middle - Zone 2 Temperature	340 – 400	°C	
Rear - Zone 1 Temperature	330 – 400	°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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