



## ULTEM™ Resin HFATX200

### Americas: OBSOLETE

High flow Polyetherimide blend with internal mold release. ECO Conforming.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	930	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	830	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	20	%	ASTM D 638
Tensile Modulus, 5 mm/min	29500	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1480	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	32600	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 5 mm/min	95	MPa	ISO 527
Tensile Stress, break, 5 mm/min	84	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6.7	%	ISO 527
Tensile Strain, break, 5 mm/min	27	%	ISO 527
Tensile Modulus, 1 mm/min	3080	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	138	MPa	ISO 178
Flexural Modulus, 2 mm/min	2950	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	152	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	356	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10 <sup>4</sup> +23°C	131	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10 <sup>4</sup> -30°C	125	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10 <sup>4</sup> +23°C	4	kJ/m <sup>2</sup>	ISO 180/1A

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(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.

(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.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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<b>IMPACT</b>			
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	6	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	180	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	115	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	201	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	199	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	180	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	186	°C	ASTM D 648
CTE, -40°C to 150°C, flow	5.3E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	5.3E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	5.3E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.3E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	192	°C	ISO 306
Vicat Softening Temp, Rate B/120	201	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	175	°C	ISO 75/Ae
<b>PHYSICAL</b>			
Specific Gravity	1.25	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.6 - 0.8	%	SABIC Method
Mold Shrinkage, flow, 3.2 mm (5)	0.6 - 0.8	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 295°C/6.6 kgf	8	g/10 min	ASTM D 1238
Melt Flow Rate, 337°C/6.6 kgf	66	g/10 min	ASTM D 1238

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 (6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>PHYSICAL</b>			
Density	1.25	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
Melt Volume Rate, MVR at 340°C/5.0 kg	40	cm <sup>3</sup> /10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	140	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	330 - 370	°C
Nozzle Temperature	330 - 370	°C
Front - Zone 3 Temperature	330 - 370	°C
Middle - Zone 2 Temperature	325 - 365	°C
Rear - Zone 1 Temperature	320 - 360	°C
Mold Temperature	120 - 150	°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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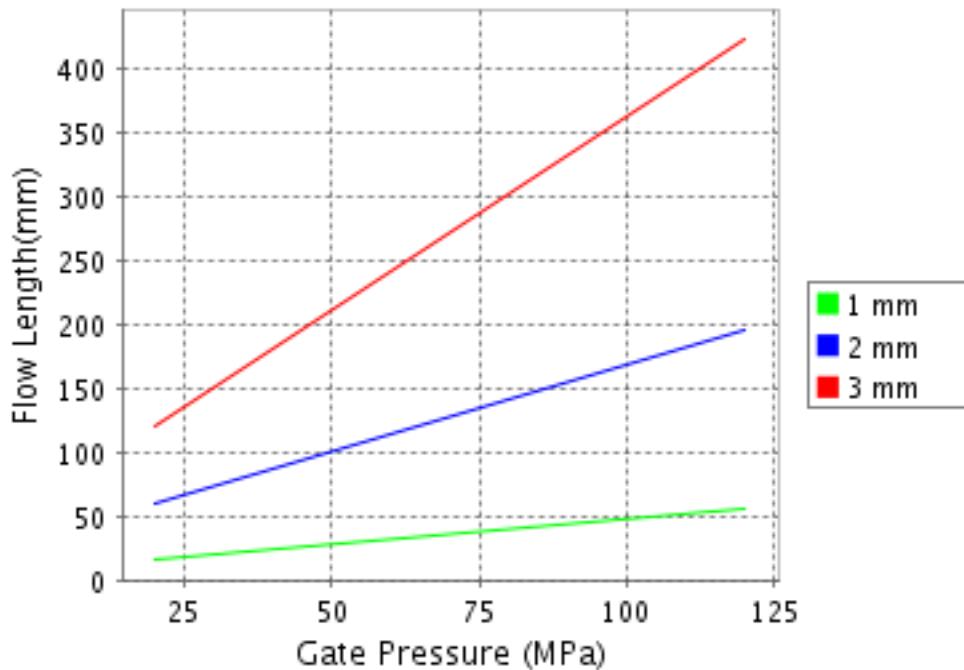
### CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

ULTEM® HFATX200

Melt Temperature : 350°C

Mold Temperature : 150°C



**Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.**

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