

## Lexan\* Resin XHT3141

### Europe-Africa-Middle East: COMMERCIAL

XHT3141 is a high flow, high heat polycarbonate copolymer. It is available in a range of opaque and limited transparent colors.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	710	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	560	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	70	%	ASTM D 638
Tensile Modulus, 5 mm/min	27500	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1220	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	26500	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 50 mm/min	70	MPa	ISO 527
Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	70	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	9	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	5	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	693	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	9	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	9	kJ/m <sup>2</sup>	ISO 180/1A

<sup>1</sup> 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.

<sup>2</sup> Only typical data for material selection purpose. Not to be used for part or tool design.

<sup>3</sup> This rating is not intended to reflect hazards presented this or any other material under actual fire conditions.

<sup>4</sup> Own measurement according to UL.

Source, GMD, Last Update:

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<b>IMPACT</b>			
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	9	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	170	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	166	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	156	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
Thermal Conductivity @ 25 °C	0.2	W/m-°C	ASTM C 177
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	168	°C	ISO 306
Vicat Softening Temp, Rate B/120	170	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	164	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	152	°C	ISO 75/Af
Relative Temp Index, Elec	150	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	150	°C	UL 746B
Metallized Haze Onset	165	°C	SABIC Method
<b>PHYSICAL</b>			
Specific Gravity	1.2	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 - 0.9	%	SABIC Method

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>PHYSICAL</b>			
Melt Flow Rate, 330°C/2.16 kgf	33	g/10 min	ASTM D 1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.3	%	ISO 62
Melt Volume Rate, MVR at 330°C/2.16kg	30	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+17	Ohm	ASTM D 257
Dielectric Strength, in oil, 3.2 mm	23	kV/mm	ASTM D 149
Relative Permittivity, 100 Hz	2.9	-	ASTM D 150
Relative Permittivity, 1 MHz	2.8	-	ASTM D 150
Dissipation Factor, 100 Hz	0.031	-	ASTM D 150
Dissipation Factor, 1 MHz	0.011	-	ASTM D 150
Hot Wire Ignition (PLC)	3	PLC Code	UL 746A
High Ampere Arc Ign, surface (PLC)	0	PLC Code	UL 746A
Comparative Tracking Index (UL) (PLC)	3	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value (3)	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	875	°C	IEC 60695-2-13

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	300 - 355	°C
Nozzle Temperature	295 - 350	°C
Front - Zone 3 Temperature	300 - 355	°C
Middle - Zone 2 Temperature	290 - 345	°C
Rear - Zone 1 Temperature	280 - 330	°C
Mold Temperature	95 - 150	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 90	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

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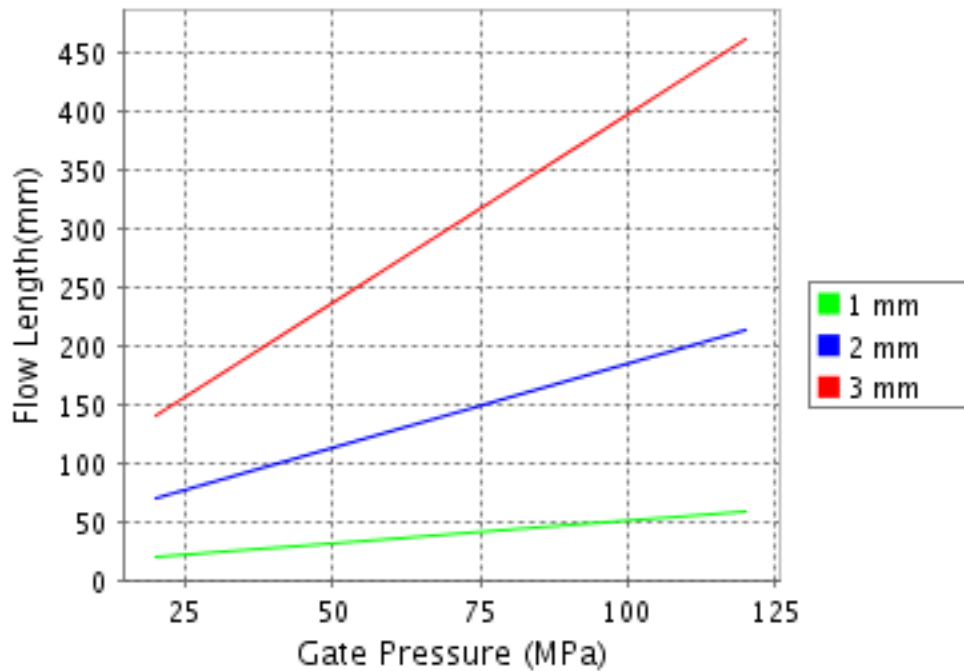
**CALCULATED FLOW LENGTH INDICATION**

**Moldflow® Radial Flow Analysis**

**Lexan® XHT3141**

**Melt Temperature : 325°C**

**Mold Temperature : 115°C**



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

**® Moldflow is a registered trademark of the Moldflow Corporation.**

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