



**NORYL™ Resin LTA6020**  
**Asia Pacific: COMMERCIAL**

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	730	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1070	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	26300	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 50 mm/min	71	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	8	%	ISO 527
Tensile Modulus, 1 mm/min	2680	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
<b>IMPACT</b>			
Charpy Impact, unnotched, 23°C	18	kJ/m <sup>2</sup>	ISO 179/2C
Izod Impact, notched, 23°C	22	cm-kgf/cm	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	16	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -10°C	11	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -40°C	8	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>			
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2

(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.

(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.

Source GMD, last updated:

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<b>THERMAL</b>			
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/120	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	144	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	123	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.13	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	4	g/10 min	ASTM D 1238
Density	1.13	g/cm <sup>3</sup>	ISO 1183
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	20	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94V-1 Flame Class Rating (3)	1	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	105	°C
Drying Time	3 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	280 - 300	°C
Front - Zone 3 Temperature	270 - 290	°C
Middle - Zone 2 Temperature	280 - 300	°C
Rear - Zone 1 Temperature	260 - 280	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	80 - 100	°C

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