



NORYL™ Resin LS6010
Americas: COMMERCIAL

NORYL LS6010 resin is a high performance modified PPE-PS blend that exhibits an excellent balance of nonhalogenated flame retardance, lower smoke production upon burning and low specific gravity for light weight parts. NORYL LS6010 is available in custom colors and may be an excellent material candidate for applications requiring light weight parts and strong flame, smoke and toxicity performance.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	650	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	540	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	20	%	ASTM D 638
Tensile Modulus, 5 mm/min	22600	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1010	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	24300	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	64	MPa	ISO 527
Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.7	%	ISO 527
Tensile Strain, break, 50 mm/min	8.3	%	ISO 527
Tensile Modulus, 1 mm/min	2440	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	100	MPa	ISO 178
Flexural Modulus, 2 mm/min	2360	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	30	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	18	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	530	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	18	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	14	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	143	°C	ASTM D 1525



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	122	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	6.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.7E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	146	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.11	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 280°C/5.0 kgf	5.6	g/10 min	ASTM D 1238
Density	1.11	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	5	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
Flame Spread Index (1.52mm)	15	-	ASTM E 162
Vertical Burn a (60s, 1.52mm) passes at	0	sec	FAR 25.853
Vertical Burn b (12s, 1.52mm) passes at	4	sec	FAR 25.853
NBS Smoke Density, Flaming, 4 min (1.52mm)	30	-	ASTM E 662
Draeger Tube Toxicity, Flaming (1.52mm)	Pass	-	Based on ASTM E 662
NBS Smoke Density, Non-Flaming, 4 min (1.52mm)	7	-	ASTM E 662
Draeger Tube Toxicity, Non-Flaming (1.52mm)	Pass	-	Based on ASTM E 662



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	95 - 105	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	12	hrs
Melt Temperature	280 - 305	°C
Nozzle Temperature	295 - 305	°C
Front - Zone 3 Temperature	295 - 305	°C
Middle - Zone 2 Temperature	290 - 300	°C
Rear - Zone 1 Temperature	280 - 295	°C
Mold Temperature	65 - 100	°C
Screw Speed	40 - 80	rpm
Shot to Cylinder Size	30 - 70	%
Sheet Extrusion		
Drying Temperature	95 - 105	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.07	%
Melt Temperature	220 - 260	°C
Barrel - Zone 1 Temperature	220 - 260	°C
Barrel - Zone 2 Temperature	220 - 260	°C
Barrel - Zone 3 Temperature	220 - 260	°C
Barrel - Zone 4 Temperature	220 - 260	°C
Adapter Temperature	220 - 260	°C
Die Temperature	220 - 260	°C
Roll Stack Temp - Top	90 - 150	°C
Roll Stack Temp - Middle	90 - 150	°C
Roll Stack Temp - Bottom	90 - 150	°C
Profile Extrusion		
Drying Temperature	95 - 105	°C
Drying Time	2 - 4	hrs



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Profile Extrusion		
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.07	%
Melt Temperature	220 - 260	°C
Barrel - Zone 1 Temperature	220 - 260	°C
Barrel - Zone 2 Temperature	220 - 260	°C
Barrel - Zone 3 Temperature	220 - 260	°C
Barrel - Zone 4 Temperature	220 - 260	°C
Hopper Temperature	80 - 120	°C
Adapter Temperature	220 - 260	°C
Die Temperature	220 - 260	°C
Calibrator Temperature	30 - 60	°C
Water Bath Temperature	30 - 50	°C



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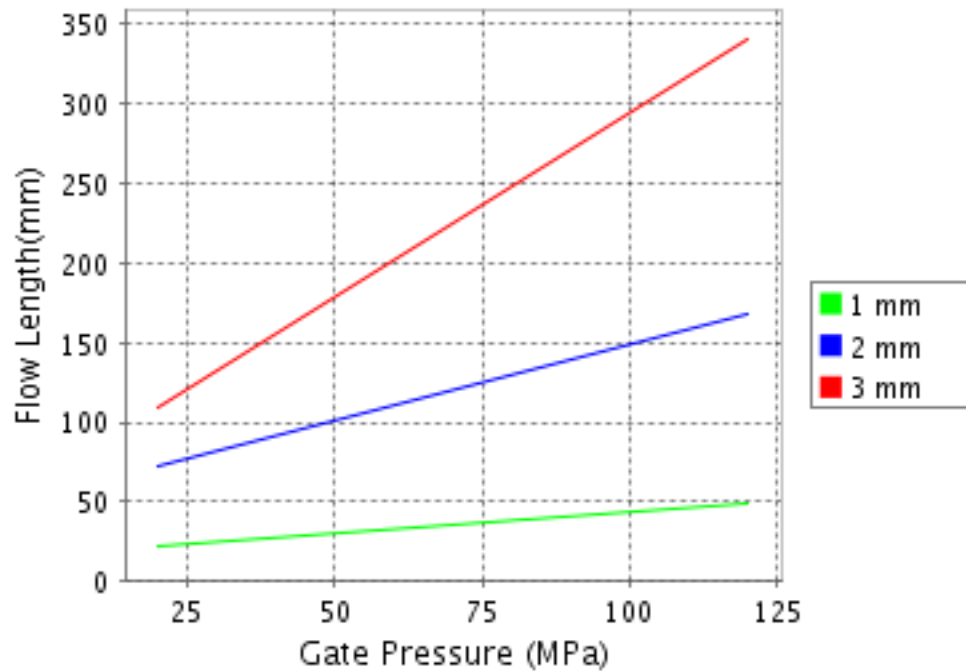
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

NORYL® LS6010

Melt Temperature : 295°C

Mold Temperature : 85°C



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

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