



**NORYL™ Resin PX9406P**  
**Americas: COMMERCIAL**

NORYL PX9406P resin is an FR (non-halogenated) grade potentially suitable for a variety of electronics applications. RTI (impact) = 105 C. F1 listed in BK color.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	770	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	4.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	9.7	%	ASTM D 638
Tensile Modulus, 50 mm/min	28500	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yield, 6.4 mm	1160	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1150	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	28900	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 6.4 mm	28900	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 50 mm/min	76	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.7	%	ISO 527
Tensile Strain, break, 50 mm/min	9.4	%	ISO 527
Tensile Modulus, 1 mm/min	2730	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	114	MPa	ISO 178
Flexural Modulus, 2 mm/min	2580	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	13	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	6	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	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

(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.  
 (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>IMPACT</b>			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2mm, unannealed	118	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	122	°C	ASTM D 648
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/120	150	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
Relative Temp Index, Elec	110	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	110	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.1	-	ASTM D 792
Melt Volume Rate, MVR at 280°C/5.0 kg	10	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index	250	V	IEC 60112
<b>FLAME CHARACTERISTICS</b>			
UL Compliant, 94V-0 Flame Class Rating (3)(4)	0.75	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VA Rating (3)(4)	2.5	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VB Rating (3)(4)	2	mm	UL 94 by SABIC-IP
Glow Wire Flammability Index 960°C, passes at	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.8 mm	750	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	775	°C	IEC 60695-2-13

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

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	105 - 110	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	275 - 305	°C
Nozzle Temperature	275 - 305	°C
Front - Zone 3 Temperature	265 - 305	°C
Middle - Zone 2 Temperature	255 - 300	°C
Rear - Zone 1 Temperature	245 - 295	°C
Mold Temperature	70 - 100	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%
Vent Depth	0.038 - 0.051	mm

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