

# NORYL<sup>TM</sup> RESIN PX9406

REGION AMERICAS

## DESCRIPTION

Nonbrominated, nonchlorinated, flame retarded. Improved productivity and reliability. 252F HDT. UL94 V-0 rated. Electrical applications.

## TYPICAL PROPERTY VALUES

Revision 20200903

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	75	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	9.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	18	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	111	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	2640	MPa	ASTM D 790
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	1121	J/m	ASTM D 4812
Izod Impact, notched, 23°C	160	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	42	J	ASTM D 3763
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	150	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	133	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	122	°C	ASTM D 648
Relative Temp Index, Elec <sup>(1)</sup>	110	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(1)</sup>	105	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(1)</sup>	110	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.11	-	ASTM D 792
Water Absorption, (23°C/24hrs)	0.06	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.5 – 0.7	%	SABIC method
<b>ELECTRICAL</b>			
Volume Resistivity	2.E+16	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+16	Ohm	ASTM D 257
Dielectric Strength, in oil, 3.2 mm	18.8	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	2.57	-	ASTM D 150
Relative Permittivity, 1 MHz	2.49	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0052	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0026	-	ASTM D 150
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥0.75	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥0.75	mm	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
<b>FLAME CHARACTERISTICS <sup>(1)</sup></b>			
UL Yellow Card Link	<u>E121562-221212</u>	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.5 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	775	°C	IEC 60695-2-13
UV-light, water exposure /immersion	F2	-	UL 746C
<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	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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