

# NORYL™ RESIN PCN2910

REGION ASIA

## DESCRIPTION

NORYL PCN2910 resin is a 35% glass fiber and mineral reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This high modulus, injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VB at 2.3mm, V0 at 3mm, and V1 at 1.5mm. NORYL PCN2910 resin exhibits good dimensional stability, low specific gravity, and Low Warpage. It is an excellent candidate for printer chassis applications where high modulus and tight tolerance molding are required.

GENERAL INFORMATION	
Features	Flame Retardant, Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Non Cl/Br flame retardant, Non halogenated flame retardant, Dimensional stability, High stiffness/Strength
Fillers	Glass Fiber, Mineral
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 5 mm/min	123	MPa	ASTM D638
Tensile Stress, brk, Type I, 10 mm/min	115	MPa	SABIC - Japan Method
Tensile Strain, brk, Type I, 5 mm/min	1.5	%	ASTM D638
Tensile Strain, yld, Type I, 10 mm/min	5	%	SABIC - Japan Method
Tensile Modulus, 5 mm/min	11370	MPa	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	159	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	8940	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	106	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.3	%	ISO 527
Tensile Modulus, 1 mm/min	10600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	160	MPa	ISO 178
Flexural Modulus, 2 mm/min	9130	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	331	J/m	ASTM D4812
Izod Impact, notched, 23°C	68	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	7	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	14	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m <sup>2</sup>	ISO 180/1A
Charpy Impact, notched, 23°C	4	kJ/m <sup>2</sup>	ISO 179/2C

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	20	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL <sup>(1)</sup></b>			
Vicat Softening Temp, Rate B/50	140	°C	ASTM D1525
HDT, 1.82 MPa, 6.4 mm, unannealed	125	°C	ASTM D648
CTE, -30°C to 30°C	0.000021 – 0.000033	1/°C	TMA
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	129	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	65	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	65	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	65	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.38	-	ASTM D792
Mold Shrinkage, flow <sup>(3)</sup>	0.25 – 0.3	%	SABIC method
Melt Flow Rate, 300°C/2.16 kgf	11	g/10 min	ASTM D1238
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E207780-228572</a>	-	-
UL Yellow Card Link 2	<a href="#">E45587-237063</a>	-	-
UL Recognized, 94-5VB Flame Class Rating	≥2.3	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	105 – 110	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	295 – 315	°C	
Nozzle Temperature	295 – 315	°C	
Front - Zone 3 Temperature	280 – 315	°C	
Middle - Zone 2 Temperature	270 – 310	°C	
Rear - Zone 1 Temperature	260 – 305	°C	
Mold Temperature	75 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

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

(3) 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.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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