

NORYL™ RESIN N1250

REGION ASIA

DESCRIPTION

NORYL N1250 resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VA at 2.5mm and V0 at 0.75mm. NORYL N1250 resin offers thin wall FR capability, enhanced dimensional stability, high heat resistance, low moisture absorption, and good electrically insulating properties. It may be an excellent candidate for a variety of consumer electronic applications such as charger and adapter housings.

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, No PFAS intentionally added

Fillers

Unreinforced

Polymer Types

Polyphenylene Ether + PS (PPE+PS)

Processing Techniques

Injection Molding

INDUSTRY**SUB INDUSTRY**

Automotive

Automotive EV

Building and Construction

Building Component

Consumer

Home Appliances, Commercial Appliance

Electrical and Electronics

Energy Management, Mobile Phone - Computer - Tablets

Industrial

Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES**TYPICAL VALUES****UNITS****TEST METHODS****MECHANICAL ⁽¹⁾**

Tensile Stress, brk, Type I, 50 mm/min

62

MPa

ASTM D638

Tensile Strain, yld, Type I, 50 mm/min

5

%

ASTM D638

Tensile Strain, brk, Type I, 50 mm/min

15

%

ASTM D638

Tensile Modulus, 50 mm/min

2700

MPa

ASTM D638

Flexural Stress, yld, 1.3 mm/min, 50 mm span

120

MPa

ASTM D790

Flexural Modulus, 1.3 mm/min, 50 mm span

2800

MPa

ASTM D790

Tensile Stress, yield, 50 mm/min

75

MPa

ISO 527

Tensile Stress, break, 50 mm/min

55

MPa

ISO 527

Tensile Strain, yield, 50 mm/min

4.5

%

ISO 527

Tensile Strain, break, 50 mm/min

8

%

ISO 527

Tensile Modulus, 1 mm/min

2620

MPa

ISO 527

Flexural Stress, yield, 2 mm/min

109

MPa

ISO 178

Flexural Modulus, 2 mm/min

2530

MPa

ISO 178

IMPACT ⁽¹⁾

Izod Impact, notched, 23°C

100

J/m

ASTM D256

Izod Impact, notched 80°10°4 +23°C

8

kJ/m²

ISO 180/1A

Izod Impact, notched 80°10°4 -30°C

6

kJ/m²

ISO 180/1A

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CHEMISTRY THAT MATTERS™

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m ²	ISO 179/1eA
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 6.4 mm, unannealed	135	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	123	°C	ASTM D648
CTE, -30°C to 30°C	7.00E-05	1/°C	TMA
CTE, -40°C to 40°C, flow	6.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.8E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/120	139	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	119	°C	ISO 75/Af
Relative Temp Index, Elec ⁽²⁾	110	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	105	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	110	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.1	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.07	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.5	%	ISO 294
Density	1.1	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.25	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	12	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽¹⁾			
Dielectric Strength, in oil, 3.2 mm	49	kV/mm	IEC 60243-1
Comparative Tracking Index ⁽⁴⁾	250	V	IEC 60112
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
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E207780-228585	-	-
UL Yellow Card Link 2	E207780-100198008	-	-
UL Yellow Card Link 3	E45587-100198007	-	-
UL Yellow Card Link 4	E45587-237098	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.4	mm	UL 94
Glow Wire Flammability Index, 0.75 mm	960	°C	IEC 60695-2-12
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, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm	750	°C	IEC 60695-2-13
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

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Glow Wire Ignitability Temperature, 3.0 mm	775	°C	IEC 60695-2-13
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING ⁽⁵⁾			
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) 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) Value shown here is based on internal measurement.
- (5) 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.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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