

# NORYL™ RESIN TP1000

## DESCRIPTION

NORYL TP1000 resin is a high heat, transparent, hydro-stable, non-reinforced, high-purity blend of polyphenylene ether (PPE) + general purpose polystyrene (GPPS). This injection moldable material is FDA food contact compliant and black spec controlled, which can be an excellent candidate for food contact, small appliance housings, and for industrial additive use.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Transparent/Translucent, Food contact, Dimensional stability, No PFAS intentionally added
Fillers	Unreinforced
Processing Techniques	Injection Molding
INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances
Electrical and Electronics	Circuit Boards/Additives
Industrial	Material Handling

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yield	81	MPa	SABIC - Japan Method
Tensile Strain, break	80	%	SABIC - Japan Method
Flexural Stress	119	MPa	ASTM D790
Flexural Modulus	2800	MPa	ASTM D790
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	31	J/m	ASTM D256
<b>THERMAL <sup>(1)</sup></b>			
HDT, 1.82 MPa, 6.4 mm, unannealed	149	°C	ASTM D648
CTE, -30°C to 30°C	6.00E-05	1/°C	TMA
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.08	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.07	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm <sup>(2)</sup>	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	14.8	g/10 min	ASTM D1238
<b>INJECTION MOLDING <sup>(3)</sup></b>			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 325	°C	
Nozzle Temperature	300 – 325	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	290 – 325	°C	
Middle - Zone 2 Temperature	275 – 320	°C	
Rear - Zone 1 Temperature	265 – 315	°C	
Mold Temperature	80 – 110	°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) 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.
- (3) 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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