



NORYL* Resin N1050

Asia Pacific: COMMERCIAL

Noryl* N1050 is an unfilled, injection moldable modified polyphenylene ether resin. Designed for good dimensional stability and good flow, this resin also uses non-chlorinated, non-brominated FR additives to achieve a UL94 V0 rating at 1.5 mm and 5VA at 2.5 mm with a specific density of 1.11 g/cm³. Noryl N1050 may be an excellent material candidate for application requiring electrically insulating properties, low moisture absorption and low warpage.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yield	63	MPa	SABIC - Japan Method
Tensile Strain, break	40 - 40	%	SABIC - Japan Method
Flexural Stress	98	MPa	ASTM D 790
Flexural Modulus	2530	MPa	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	117	J/m	ASTM D 256
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	105	°C	ASTM D 648
CTE, -30°C to 30°C	7.E-05 - 7.E-05	1/°C	TMA
PHYSICAL			
Specific Gravity	1.1	-	ASTM D 792
Water Absorption, 24 hours	0.07	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 250°C/10.0 kgf	17	g/10 min	ASTM D 1238
ELECTRICAL			
Surface Resistivity	1.E+16	Ohm	ASTM D 257
Relative Permittivity, 50/60 Hz	2.78	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.003	-	ASTM D 150
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.5	mm	UL 94

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. 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) Own measurement according to UL.
 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.

Source, GMD, Last Update:03/08/2012

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	75 - 80	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 275	°C
Nozzle Temperature	250 - 275	°C
Front - Zone 3 Temperature	240 - 275	°C
Middle - Zone 2 Temperature	225 - 270	°C
Rear - Zone 1 Temperature	215 - 265	°C
Mold Temperature	55 - 75	°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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