

NORYL™ RESIN N1250

REGION AMERICAS

DESCRIPTION

NORYL N1250 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 V0 UL94 rating at 0.75 mm and V0-5VA at 2.5 mm with a specific density of 1.11 g/cm³. NORYL N1250 has a heat Vicat resistance of 137 deg C and it may be an excellent material candidate for application requiring electrically insulating properties, low moisture absorption, low warpage and thin wall flame resistance.

TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	75	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	64	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	25	%	ASTM D 638
Tensile Modulus, 50 mm/min	2680	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	113	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2680	MPa	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	133	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	40	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	137	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	116	°C	ASTM D 648
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
CTE, -40°C to 40°C, flow	6.12E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.84E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	110	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	115	°C	UL 746B
PHYSICAL			
Specific Gravity	1.12	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	28	g/10 min	ASTM D 1238
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Resistance {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating	0.4	mm	UL 94

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
UL Recognized, 94V-0 Flame Class Rating	0.76	mm	UL 94
UL Recognized, 94-5VA Rating	2.48	mm	UL 94
INJECTION MOLDING			
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	

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