

## Noryl\* Resin N110S

## Europe-Africa-Middle East: COMMERCIAL

NORYL N110S is an unfilled material with a Vicat B/120 of 115 °C according ISO 306. NORYL N110S has been listed for potable water

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	30	%	ISO 527
Tensile Modulus, 1 mm/min	2200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	60	MPa	ISO 178
Flexural Modulus, 2 mm/min	2000	MPa	ISO 178
Hardness, H358/30	95	MPa	ISO 2039-1
IMPACT	Value	Unit	Standard
Izod Impact, notched 80*10*4 +23°C	11	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m <sup>2</sup>	ISO 179/1eA
THERMAL	Value	Unit	Standard
Thermal Conductivity	0.22	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	9.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	120	°C	ISO 306
Vicat Softening Temp, Rate B/50	115	°C	ISO 306
Vicat Softening Temp, Rate B/120	115	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	105	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	95	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.7	%	SABIC Method
Density	1.05	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 280°C/3.8 kg	15	cm <sup>3</sup> /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Volume Resistivity	1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	19	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	2.6	-	IEC 60250
Relative Permittivity, 1 MHz	2.6	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.004	-	IEC 60250
Dissipation Factor, 1 MHz	0.001	-	IEC 60250
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94

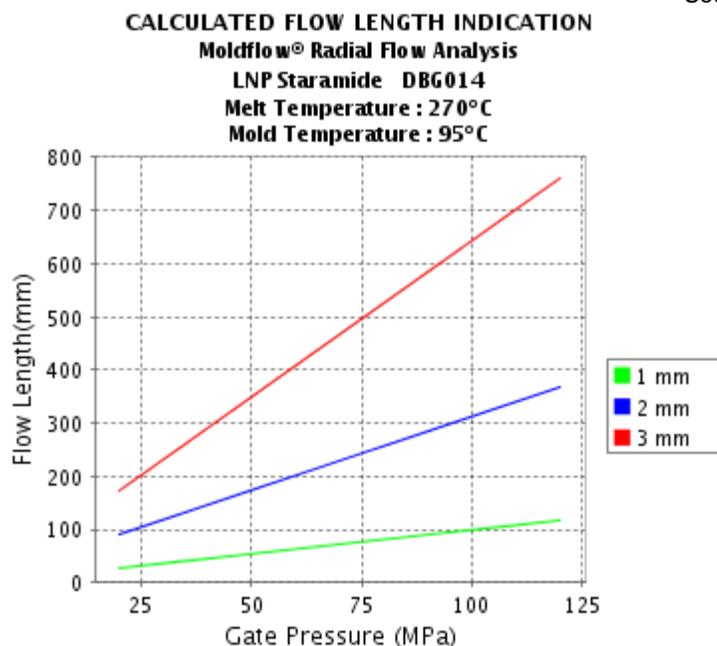
UL Recognized, 94HB Flame Class Rating 2nd value (3)	3	mm	UL 94
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Source GMD, last updated:01/05/1993

## Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	80 - 100	°C
Drying Time	2 - 4	hrs
Melt Temperature	280 - 300	°C
Nozzle Temperature	260 - 280	°C
Front - Zone 3 Temperature	280 - 300	°C
Middle - Zone 2 Temperature	260 - 280	°C
Rear - Zone 1 Temperature	240 - 260	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 100	°C

Source GMD, last updated:01/05/1993



**Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.**  
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PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. 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) Internal measurements according to UL standards.

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