

Noryl* Resin GFN1

Europe-Africa-Middle East: COMMERCIAL

NORYL GFN1 is a standard 10 % glass fibre reinforced material with a HDT/A of 110C according ISO 75. NORYL GFN1 can be used for all applications where a higher modulus is required. NORYL GFN1 is available in all colours.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	50	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	4	%	ISO 527
Tensile Modulus, 1 mm/min	4000	MPa	ISO 527
Flexural Stress, break, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	3500	MPa	ISO 178
Hardness, H358/30	100	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	20	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	20	kJ/m ²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	25	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	25	kJ/m ²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.24	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	135	°C	ISO 306
Vicat Softening Temp, Rate B/50	125	°C	ISO 306
Vicat Softening Temp, Rate B/120	130	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	130	°C	ISO 75/Be

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.

Source, GMD, Last Update: 06/05/1998

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	115	°C	ISO 75/Ae
Relative Temp Index, Elec	50	°C	UL 746B
Relative Temp Index, Mech w/impact	50	°C	UL 746B
Relative Temp Index, Mech w/o impact	50	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2)	0.3 - 0.5	%	SABIC Method
Density	1.17	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm ³ /10 min	ISO 1133
ELECTRICAL			
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	18	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	2.8	-	IEC 60250
Relative Permittivity, 1 MHz	2.8	-	IEC 60250
Dissipation Factor, 50/60 Hz	0	-	IEC 60250
Dissipation Factor, 1 MHz	0.001	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 750°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	26	%	ISO 4589

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	100 - 120	°C
Drying Time	2 - 3	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	80 - 120	°C

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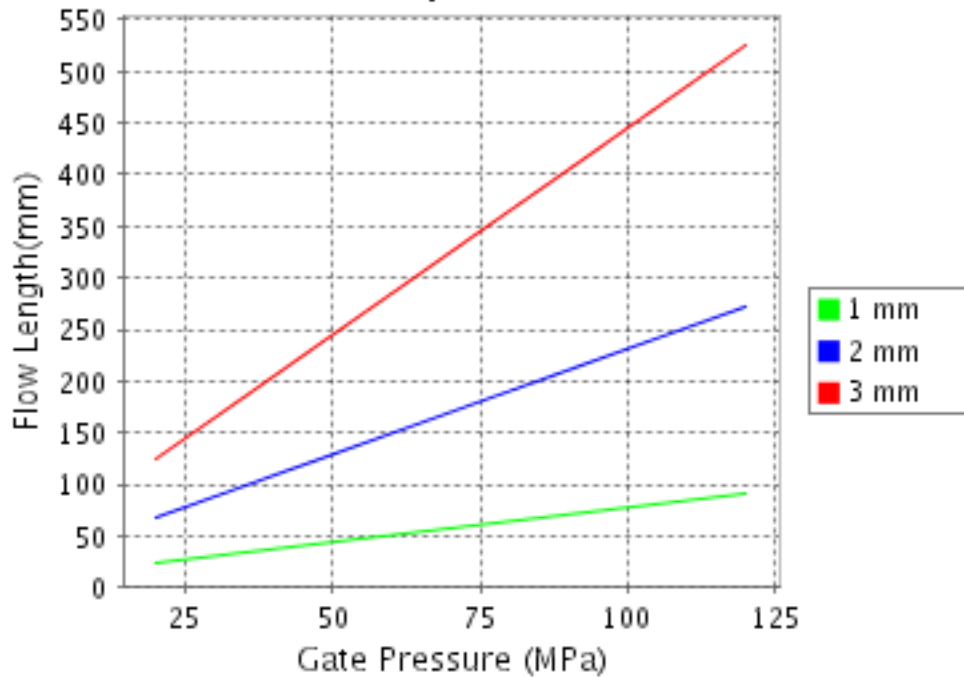
CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

Noryl® GFN1

Melt Temperature : 290°C

Mold Temperature : 100°C



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

® Moldflow is a registered trademark of the Moldflow Corporation.

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