SABIC Innovative Plastics™

Noryl* Resin GFN1630V

Americas: COMMERCIAL

Noryl* GFN1630V Polyphenylene Oxide (PPO) + Polystyrene (PS) resin is a 30 % Glass Reinforced, injection moldable grade with improved hydrolytic stability; this grade has been developed for fluid engineering applications. Noryl* GFN1630V has been certified for potable water applications up to 85C in Europe and North America in limited colours.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	119	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	119	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.6	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D 638
Tensile Modulus, 5 mm/min	9100	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	175	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	7300	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	70	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	120	MPa	ISO 527
Tensile Stress, break, 5 mm/min	120	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	8500	MPa	ISO 527
Flexural Stress, break, 2 mm/min	175	MPa	ISO 178
Flexural Modulus, 2 mm/min	7200	MPa	ISO 178
Hardness, H358/30	130	MPa	ISO 2039-1
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	530	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	530	J/m	ASTM D 4812
Izod Impact, notched, 23°C	96	J/m	ASTM D 256
Izod Impact, notched, -30°C	79	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	15	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	30	kJ/m²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eU
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	152	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	148	°C	ASTM D 648
CTE, -40°C to 40°C, flow	3.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	3.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°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	155	°C	ISO 306
Vicat Softening Temp, Rate B/50	149	°C	ISO 306
Vicat Softening Temp, Rate B/120	158	°C	ISO 306

HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	145	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	140	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.29	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.1 - 0.3	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.2 - 0.5	%	SABIC Method
Melt Flow Rate, 300°C/5.0 kgf	10	g/10 min	ASTM D 1238
Density	1.3	g/cm³	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 300°C/10.0 kg	17	cm³/10 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	18	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0006	-	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
Oxygen Index (LOI)	26	%	ISO 4589

Source GMD, last updated:11/02/2006

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	100 - 120	°C
Drying Time	2 - 4	hrs
Melt Temperature	280 - 300	°C
Nozzle Temperature	280 - 300	°C
Front - Zone 3 Temperature	290 - 310	°C
Middle - Zone 2 Temperature	270 - 290	°C
Rear - Zone 1 Temperature	250 - 270	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	80 - 120	°C

Source GMD, last updated:11/02/2006

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

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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