

## SABIC Innovative Plastics Noryl V0150BT PPE+HIPS

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polystyrene (PS)

### Material Notes:

Noryl\* V0150BT is an unfilled, injection moldable modified polyphenylene ether resin.. Designed for high heat resistance and thin wall FR performance, this resin delivers a UL94 V0 rating at 1.5 mm and a UL94 5Va rating at 2.0 mm. Noryl V0150BT is also halogen free according to VDE/DIN 472 part 815 and may be an excellent material candidate where flame resistance and high temperature resistance is required. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Noryl-V0150BT-PPEHIPS.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Noryl-V0150BT-PPEHIPS.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.11 g/cc	1.11 g/cc	ASTM D 792
Density	1.11 g/cc	0.0401 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.12 %	0.12 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.45 % @Temperature 23.0 <sup>o</sup> C	0.45 % @Temperature 73.4 <sup>o</sup> F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	8.0 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	8.0 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	ASTM D 1238
	19 g/10 min @Load 5.00 kg, Temperature 300 <sup>o</sup> C	19 g/10 min @Load 11.0 lb, Temperature 572 <sup>o</sup> F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	100 MPa	14500 psi	ISO 2039-1
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527
	70.0 MPa	10200 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	4.0 %	4.0 %	Type I, 50 mm/min; ASTM D 638
	4.5 %	4.5 %	50 mm/min; ISO 527
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
	2.60 GPa	377 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	100 MPa	14500 psi	2 mm/min; ISO 178
	105 MPa	15200 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.45 GPa	355 ksi	2 mm/min; ISO 178
	2.65 GPa	384 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	1.30 J/cm @Temperature -30.0 °C	2.44 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	2.00 J/cm @Temperature 23.0 °C	3.75 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	8.00 kJ/m <sup>2</sup> @Temperature -40.0 °C	3.81 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	80*10*4; ISO 180/1A
	14.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	6.66 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1A
	20.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	9.52 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	0.700 J/cm <sup>2</sup> @Temperature -30.0 °C	3.33 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	2.00 J/cm <sup>2</sup> @Temperature 23.0 °C	9.52 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	50.0 J @Temperature 23.0 °C	36.9 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Mechanical Properties	Metric	English	Comments
100 Cycles	@Load 1.00 kg	@Load 2.20 lb	
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 176 $\text{Å}^\circ\text{F}$	
	73.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	40.6 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTME 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 176 $\text{Å}^\circ\text{F}$	
	71.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	39.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTME 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	135 $\text{Å}^\circ\text{C}$	275 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	120 $\text{Å}^\circ\text{C}$	248 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	125 $\text{Å}^\circ\text{C}$	257 $\text{Å}^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	145 $\text{Å}^\circ\text{C}$	293 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D 1525
	145 $\text{Å}^\circ\text{C}$	293 $\text{Å}^\circ\text{F}$	Rate B/50; ISO 306
	150 $\text{Å}^\circ\text{C}$	302 $\text{Å}^\circ\text{F}$	Rate B/120; ISO 306
	155 $\text{Å}^\circ\text{C}$	311 $\text{Å}^\circ\text{F}$	Rate A/50; ISO 306
UL RTI, Electrical	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	105 $\text{Å}^\circ\text{C}$	221 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	115 $\text{Å}^\circ\text{C}$	239 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	5VA	5VA	UL 94
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Oxygen Index	36 %	36 %	LOI; ISO 4589

Thermal Properties Glow Wire Test	Metric 775 Â°C	English 1430 Â°F	Comments Glow Wire Ignitability Temperature; IEC 60695-2-13
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	775 Â°C	1430 Â°F	Glow Wire Ignitability Temperature; IEC 60695-2-13
	@Thickness 2.00 mm	@Thickness 0.0787 in	
	775 Â°C	1430 Â°F	Glow Wire Ignitability Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	960 Â°C	1760 Â°F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	2.5	2.5	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	2.6	2.6	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dissipation Factor	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Comparative Tracking Index	0.0040	0.0040	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	0.0080	0.0080	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Comparative Tracking Index	>= 250 V	>= 250 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Â°C +/- 2Â°C	PASSES	IEC 60695-10-2

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