

SABIC Innovative Plastics Noryl V01505 PPE+HIPS

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

Material Notes:

Noryl* V01505 is a 15% milled fibre reinforced, injection moldable grade. Designed for good dimensional stability and low warpage, this resin also uses non-chlorinated, non-brominated FR additives to achieve a V0 UL94 rating at 2.0 mm and a UL94 V1 rating at 1.5 mm. Noryl V01505 is may be an excellent material candidate for application requiring low warpage and flame resistance. 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-V01505-PPEHIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	ASTM D 792
Density	1.25 g/cc	0.0452 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.060 %	0.060 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.40 % @Temperature 23.0 ^o C	0.40 % @Temperature 73.4 ^o F	ISO 62
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	on tensile bar; SABIC Method
	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	15 g/10 min @Load 3.80 kg, Temperature 280 ^o C	15 g/10 min @Load 8.38 lb, Temperature 536 ^o F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	42 g/10 min @Load 5.00 kg, Temperature 300 ^o C	42 g/10 min @Load 11.0 lb, Temperature 572 ^o F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	135 MPa	19600 psi	ISO 2039-1
Tensile Strength at Break	50.0 MPa	7250 psi	Type I, 5 mm/min; ASTM D 638
	50.0 MPa	7250 psi	5 mm/min; ISO 527
Tensile Strength, Yield	50.0 MPa	7250 psi	Type I, 5 mm/min; ASTM D 638
	50.0 MPa	7250 psi	5 mm/min; ISO 527
Elongation at Break	6.0 %	6.0 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D 638
	5.0 %	5.0 %	5 mm/min; ISO 527
Tensile Modulus	3.10 GPa	450 ksi	5 mm/min; ASTM D 638
	3.30 GPa	479 ksi	1 mm/min; ISO 527
Flexural Strength	85.0 MPa	12300 psi	2 mm/min; ISO 178
Flexural Yield Strength	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	3.00 GPa	435 ksi	2 mm/min; ISO 178
	3.10 GPa	450 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.450 J/cm @Temperature -30.0 °C	0.843 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	0.500 J/cm @Temperature 23.0 °C	0.937 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched (ISO)	20.0 kJ/m ² @Temperature -30.0 °C	9.52 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1U
	25.0 kJ/m ² @Temperature 23.0 °C	11.9 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.00 J/cm ² @Temperature 23.0 °C	14.3 ft-lb/in ² @Temperature 73.4 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cm ² @Temperature -30.0 °C	14.3 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Impact Test	11.0 J @Temperature 23.0 °C	8.11 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763
Taber Abrasion, mg/1000 Cycles	75	75	CS-17; SABIC Method
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 176 $\text{Å}^\circ\text{F}$	
	74.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	41.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 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	52.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	28.9 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	60.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 176 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	0.270 W/m-K	1.87 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	ISO 8302
Hot Ball Pressure Test	$\leq 105 \text{ Å}^\circ\text{C}$	$\leq 221 \text{ Å}^\circ\text{F}$	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	100 $\text{Å}^\circ\text{C}$	212 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	97.0 $\text{Å}^\circ\text{C}$	207 $\text{Å}^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	Rate B/50; ISO 306
	120 $\text{Å}^\circ\text{C}$	248 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D 1525
	125 $\text{Å}^\circ\text{C}$	257 $\text{Å}^\circ\text{F}$	Rate A/50; ISO 306
	125 $\text{Å}^\circ\text{C}$	257 $\text{Å}^\circ\text{F}$	Rate B/120; ISO 306
UL RTI, Electrical	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	50.0 $\text{Å}^\circ\text{C}$	122 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	UL 94
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Oxygen Index	32 %	32 %	LOI: ISO 4589
Thermal Properties	Metric	English	Comments
	960 A°C	1760 A°F	
Glow Wire Test	@Thickness 3.20 mm	@Thickness 0.126 in	Glow Wire Flammability Index; IEC 60695-2-12

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	2.7	2.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	2.8	2.8	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	26.0 kV/mm	660 kV/in	
	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; IEC 60243-1
	33.0 kV/mm	838 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.0050	0.0050	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.010	0.010	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	

Descriptive Properties	Value	Comments
Ball Pressure Test, 75Å°C +/- 2Å°C	PASSES	IEC 60695-10-2

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