

LNPTTM VERTONTM COMPOUND PVN1AESP

DESCRIPTION

LNP VERTON PVN1AESP is a compound based on Polyamide 6 (Nylon 6) resin containing 50% long glass fiber and proprietary lubricant. Added features include Easy Molding, Wear Resistant and Structural.

GENERAL INFORMATION	
Applications	Gear/Bearing/Slider, Infrastructure, Oil/Gas
Features	Wear resistant, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber, Proprietary Filler
Polymer Types	Polyamide 6 (Nylon 6)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Exteriors
Building and Construction	Building Component
Consumer	Sport/Leisure, Home Appliances, Commercial Appliance
Industrial	Electrical, Industrial General

TYPICAL PROPERTY VALUES

Revision 20240808

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 5 mm/min	220	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D638
Tensile Modulus, 5 mm/min	16000	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	320	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	12000	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	220	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.7	%	ISO 527
Tensile Modulus, 1 mm/min	16000	MPa	ISO 527
Flexural Strength, 2 mm/min	320	MPa	ISO 178
Flexural Modulus, 2 mm/min	12000	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, unnotched, 23°C	1300	J/m	ASTM D4812
Izod Impact, notched, 23°C	250	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C	40	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	36	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	90	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	70	kJ/m ²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	40	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	90	kJ/m ²	ISO 179/1eU
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	36	kJ/m ²	ISO 179/1eA

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	81	kJ/m ²	ISO 179/1eU
Multiaxial Impact	13	J	ISO 6603
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	215	°C	ISO 306
Vicat Softening Temp, Rate B/120	210	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	220	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	215	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	1.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.1E-05	1/°C	ISO 11359-2
PHYSICAL ⁽¹⁾			
Specific Gravity	1.6	-	ASTM D792
Density	1.61	g/cm ³	ISO 1183
Mold Shrinkage, flow, 24 hrs ^{(2) (3)}	0.20 – 0.35	%	ISO 294
Mold Shrinkage, flow ⁽³⁾	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow ⁽³⁾	0.4 – 0.7	%	SABIC method
Wear Factor Washer	28	10 ⁻¹⁰ in ⁵ -min/ft-lb-hr	ASTM D3702 Modified: Instr.
Dynamic COF	0.60	-	ASTM D3702 Modified: Instr.
Static COF	0.68	-	ASTM D3702 Modified: Instr.
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.15 – 0.25	%	
Melt Temperature	265 – 275	°C	
Nozzle Temperature	265 – 275	°C	
Front - Zone 3 Temperature	275 – 290	°C	
Middle - Zone 2 Temperature	265 – 275	°C	
Rear - Zone 1 Temperature	250 – 260	°C	
Mold Temperature	80 – 95	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	0.05 – 0.15	rpm	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Shrinkage tested on T-bar

(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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