

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

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 ⁻⁴ in ³ /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	