

# LNPT<sup>™</sup> THERMOTUF<sup>™</sup> COMPOUND VF004S

VF-1004 HS

REGION AMERICAS

## DESCRIPTION

LNP THERMOTUF VF004S compound is based on Super Tough Nylon resin containing 20% glass fiber. Added features of this grade include: Impact Modified, Heat Stabilized.

GENERAL INFORMATION	
Features	Heat Stabilized, High stiffness/Strength, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyamide 66 (Nylon 66)
Processing Techniques	Injection Molding

  

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Consumer	Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, brk, Type I, 5 mm/min	102	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.8	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 50 mm/min	6470	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	156	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5620	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	97	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.6	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	6000	MPa	ISO 527
Flexural Modulus, 2 mm/min	5080	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	704	J/m	ASTM D4812
Izod Impact, notched, 23°C	128	J/m	ASTM D256
Multiaxial Impact	6	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	22	J	ASTM D3763
Izod Impact, unnotched 80°10°4 +23°C	42	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80°10°4 +23°C	12	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL <sup>(1)</sup></b>			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	256	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	240	°C	ASTM D648
CTE, -30°C to 30°C, flow	2.99E-05	1 /°C	ASTM D696
CTE, -30°C to 30°C, xflow	8.12E-05	1 /°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	248	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	235	°C	ISO 75/Af
<b>PHYSICAL <sup>(1)</sup></b>			
Density	1.23	g/cm <sup>3</sup>	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.74	%	ASTM D570
Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>	0.4 – 0.6	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>	0.8 – 1	%	ASTM D955
Density	1.23	g/cm <sup>3</sup>	ISO 1183
Moisture Absorption (23°C / 50% RH)	1.1	%	ISO 62
<b>INJECTION MOLDING <sup>(3)</sup></b>			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15	%	
Melt Temperature	280 – 295	°C	
Front - Zone 3 Temperature	295 – 305	°C	
Middle - Zone 2 Temperature	275 – 290	°C	
Rear - Zone 1 Temperature	260 – 270	°C	
Mold Temperature	95 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	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) 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.

(3) 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.

## ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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