

# LNPT<sup>™</sup> THERMOCOMP<sup>™</sup> COMPOUND RF003ES

RF-1003 EM HS

## DESCRIPTION

LNP THERMOCOMP RF003ES compound is based on Nylon 6/6 resin containing 15% glass fiber. Added features of this grade include: Easy Molding, Heat Stabilized.

GENERAL INFORMATION	
Features	Good Processability, Heat Stabilized, High stiffness/Strength, 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, yld, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.8	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.8	%	ASTM D638
Tensile Modulus, 5 mm/min	5940	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	174	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	174	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4740	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	115	MPa	ISO 527
Tensile Stress, break, 5 mm/min	115	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.2	%	ISO 527
Tensile Strain, break, 5 mm/min	3.2	%	ISO 527
Tensile Modulus, 1 mm/min	5960	MPa	ISO 527
Flexural Strength, 2 mm/min	128	MPa	ISO 178
Flexural Modulus, 2 mm/min	4140	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	489	J/m	ASTM D4812
Izod Impact, notched, 23°C	32	J/m	ASTM D256
Multiaxial Impact	1	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	2	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	29	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	3	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL <sup>(1)</sup></b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	247	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	221	°C	ASTM D648
CTE, -30°C to 30°C, flow	4.2E-05	1/°C	ASTM D696
CTE, -30°C to 30°C, xflow	8.2E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	240	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	203	°C	ISO 75/Af
Relative Temp Index, Elec <sup>(2)</sup>	130	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	105	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	115	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Density	1.26	g/cm <sup>3</sup>	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	1.1	%	ASTM D570
Mold Shrinkage, flow, 24 hrs <sup>(3)</sup>	0.7 – 1	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs <sup>(3)</sup>	1 – 3	%	ASTM D955
Density	1.25	g/cm <sup>3</sup>	ISO 1183
Moisture Absorption (23°C / 50% RH)	1.6	%	ISO 62
<b>ELECTRICAL <sup>(1)</sup></b>			
Hot-Wire Ignition (HWI), PLC 4	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E121562-101281596</a>	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15 – 0.25	%	
Melt Temperature	280 – 305	°C	
Front - Zone 3 Temperature	295 – 305	°C	
Middle - Zone 2 Temperature	280 – 295	°C	
Rear - Zone 1 Temperature	265 – 275	°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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(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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