

LNPTM THERMOCOMPTM COMPOUND RF007H

RF-1007 HC

DESCRIPTION

LNP THERMOCOMP RF007H compound is based on Nylon 6/6 resin containing 35% glass fiber. Added features of this grade include: Healthcare.

GENERAL INFORMATION	
Features	Healthcare/Formula lock, High stiffness/Strength, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyamide 66 (Nylon 66)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Hygiene and Healthcare	Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

MECHANICAL (1) Tensile Stress, brk, Type I, 5 mm/min 185 MPa ASTM D638 Tensile Strain, brk, Type I, 5 mm/min 2.5 % ASTM D638 Tensile Modulus, 50 mm/min 11380 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 250 MPa ASTM D790 Flexural Stress, brk, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Flexural Stress, break, 5 mm/min 185 MPa BSO 527 Tensile Strain, break, 5 mm/min 11170 MPa ISO 527 Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min, 50 mm span 2.6 MPa ISO 527 Tensile Strain, break, 5 mm/min 11170 MPa ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 178 Flexural Stress 56 MPa ISO 178 Flexural Stress 58 J/m ASTM D4812 Izod Impact, unnotched, 23°C 788 J/m ASTM D4812 Izod Impact, unnotched, 23°C 9 J/m <	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, brk, Type I, 5 mm/min 2.5 % ASTM D638 Tensile Modulus, 50 mm/min 11380 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 250 MPa ASTM D790 Flexural Stress, brk, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Tensile Stress, break, 5 mm/min 185 MPa ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress 150 527 MPa ISO 527 Flexural Stress 150 178 ISO 527 Flexural Stress 150 178 ISO 527 Flexural Stress 150 178 ISO 178 Flexural Modulus, 2 mm/min 9440 MPa ISO 178 Izod Impact, unnotched, 23°C 78 J/m ASTM D4812 Izod Impact, unnotched, 23°C 78 J/m ASTM D256 Izod Impact, unnotched 80°10°4 + 23°C 9 J/m ISO 180/10 Izod Impact, unnotched 80°10°4 + 23°C 8	MECHANICAL (1)			
Tensile Modulus, 50 mm/min 11380 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 250 MPa ASTM D790 Flexural Stress, brk, 1.3 mm/min, 50 mm span 249 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Tensile Stress, break, 5 mm/min 185 MPa ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress 266 MPa ISO 178 Flexural Modulus, 2 mm/min 940 MPa ISO 178 Flexural Modulus, 2 mm/min 540 MPa ISO 178 Flexural Modulus, 2 mm/min 740 MPa ISO 178 Impact 150 MPa ISO 178 Impact 150 150 ASTM D4812 Instrumented Darl Impact (1014 Energy, 23°C) 78 17 ASTM D5660 Intermeted Darl Impact Total Energy, 23°C 9 150 ASTM D5610 Intermeted Darl Impact (1014 Energy, 23°C) 25 150 17 ASTM D648	Tensile Stress, brk, Type I, 5 mm/min	185	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span 250 MPa ASTM D790 Flexural Stress, brk, 1.3 mm/min, 50 mm span 249 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Tensile Stress, break, 5 mm/min 185 MPa ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress 266 MPa ISO 178 Flexural Modulus, 2 mm/min 940 MPa ISO 178 IndexCT ¹ 3 1/m ASTM D4812 Izod Impact, unnotched, 23°C 78 1/m ASTM D256 Multiaxial Impact 3 3 1/m ASTM D256 Multiaxial Impact Total Energy, 23°C 9 1/m ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 5 1/m ISO 180/11 Izod Impact, unnotched 80°10°4 + 23°C 8 1/m SO 180/12 Izod Impact, unnotched 80°10°4 + 23°C 8 1/m SO 180/12 Izod Impact, unnotched 80°10°4 + 23°C 8 ASTM D648	Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span 249 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Tensile Stress, break, 5 mm/min 185 MPa ISO 527 Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 178 Flexural Stress 266 MPa ISO 178 Flexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT (¹) J/m ASTM D4812 ASTM D4812 Izod Impact, unnotched, 23°C 78 J/m ASTM D256 Multiaxial Impact 3 J/m ASTM D3763 Instrumented Dart Impact Total Energy, 23°C 9 J/m ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 55 J/m ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 8 J/m ASTM D3763 Itotal Mapatin, notched 80°10°4 + 23°C 8 J/m ASTM D484 Itotal Mapatin, notched 80°10°4 + 23°C 8 J/m ASTM D484	Tensile Modulus, 50 mm/min	11380	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 8100 MPa ASTM D790 Tensile Stress, break, 5 mm/min 185 MPa 150 527 Tensile Strain, break, 5 mm/min 2.6 % 150 527 Tensile Modulus, 1 mm/min 11170 MPa 150 727 Flexural Stress 266 MPa 150 178 Flexural Modulus, 2 mm/min 9440 MPa 50 178 IMPACT (1) V V ASTM D4812 Izod Impact, unnotched, 23°C 788 J/m ASTM D4812 Izod Impact, notched, 23°C 78 J/m ASTM D566 Multiaxial Impact 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3 3 4 3	Flexural Stress, yld, 1.3 mm/min, 50 mm span	250	MPa	ASTM D790
Tensile Stress, break, 5 mm/min 185 MPa ISO 527 Tensile Strain, break, 5 mm/min 2.6 % ISO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress 266 MPa ISO 178 Elexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT ************************************	Flexural Stress, brk, 1.3 mm/min, 50 mm span	249	MPa	ASTM D790
Tensile Strain, break, 5 mm/min 2.6 % SO 527 Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress MPa ISO 178 Flexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT ************************************	Flexural Modulus, 1.3 mm/min, 50 mm span	8100	MPa	ASTM D790
Tensile Modulus, 1 mm/min 11170 MPa ISO 527 Flexural Stress 266 MPa ISO 178 Flexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT (*)** ************************************	Tensile Stress, break, 5 mm/min	185	MPa	ISO 527
Flexural Stress 266 MPa ISO 178 Flexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT (¹) V V Izod Impact, unnotched, 23°C 788 J/m ASTM D4812 Izod Impact, notched, 23°C 78 J/m ASTM D256 Multiaxial Impact J ISO 6603 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, notched 80*10*4 + 23°C 55 kJ/m² ISO 180/1A IteRMAL (¹) J ISO 180/1A ISO 180/1A THERMAL (¹) S S S S S S S S S S M G ASTM D648 G C ASTM D696 C C ASTM D696 C C ASTM D696 C C ASTM D648 C C ASTM D648 C C AST	Tensile Strain, break, 5 mm/min	2.6	%	ISO 527
Flexural Modulus, 2 mm/min 9440 MPa ISO 178 IMPACT (¹) ASTM D4812 IMPACT (¹) IMPACT (¹) ASTM D4812 IMPACT (¹) IMPACT (¹) ASTM D256 IMPACT (¹) IMPACT (¹) IMPACT (¹) ASTM D3763 IMPACT (¹) IMPACT (¹)	Tensile Modulus, 1 mm/min	11170	MPa	ISO 527
Izod Impact, unnotched, 23°C 788 J/m ASTM D4812 Izod Impact, notched, 23°C 788 J/m ASTM D256 Multiaxial Impact 3°C 788 J/m ASTM D256 Multiaxial Impact 506 39 J/m ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 99 J/m ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 55 J/m² ISO 180/10 Izod Impact, notched 80°10°4 +23°C 88 J/m² ISO 180/10 THERMAL 1'' HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 252 °C ASTM D648 TE, -30°C to 30°C, flow 3C MT D696	Flexural Stress	266	MPa	ISO 178
Izod Impact, unnotched, 23°C 788 J/m ASTM D4812 Izod Impact, notched, 23°C 78 J/m ASTM D256 Multiaxial Impact 3 J ISO 6603 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80*10*4 + 23°C \$5 kJ/m² ISO 180/10 Izod Impact, notched 80*10*4 + 23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ V C ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 252 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 252 1/°C ASTM D696	Flexural Modulus, 2 mm/min	9440	MPa	ISO 178
Izod Impact, notched, 23°C 78 J/m ASTM D256 Multiaxial Impact 3 J ISO 6603 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80*10*4 +23°C 55 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 3.5E-D5 1/°C ASTM D696	IMPACT (1)			
Multiaxial Impact 3 J ISO 6603 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 55 kJ/m² ISO 180/1U THERMAL ⁽¹⁾ J S S S HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 3.5E-05 1/°C ASTM D696	Izod Impact, unnotched, 23°C	788	J/m	ASTM D4812
Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 55 kJ /m² ISO 180/1U Izod Impact, notched 80°10°4 + 23°C 8 kJ /m² ISO 180/1A THERMAL (¹¹) *** *** ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 260 ***< ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 252 ***< ASTM D648 CTE, -30°C to 30°C, flow 1/°C ASTM D696	Izod Impact, notched, 23°C	78	J/m	ASTM D256
Izod Impact, unnotched 80*10*4 +23°C 55 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 8 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 1/°C ASTM D696	Multiaxial Impact	3	J	ISO 6603
Izod Impact, notched 80*10*4 +23°C 8 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 1/°C ASTM D696	Instrumented Dart Impact Total Energy, 23°C	9	J	ASTM D3763
THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 2.5E-05 1/°C ASTM D696	Izod Impact, unnotched 80*10*4 +23°C	55	kJ/m²	ISO 180/1U
HDT, 0.45 MPa, 3.2 mm, unannealed 260 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 2.5E-05 1/°C ASTM D696	Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
HDT, 1.82 MPa, 3.2mm, unannealed 252 °C ASTM D648 CTE, -30°C to 30°C, flow 2.5E-05 1/°C ASTM D696	THERMAL (1)			
CTE, -30°C to 30°C, flow 2.5E-05 1/°C ASTM D696	HDT, 0.45 MPa, 3.2 mm, unannealed	260	°C	ASTM D648
·	HDT, 1.82 MPa, 3.2mm, unannealed	252	°C	ASTM D648
CTE 20°C to 20°C vflow 7.25.05 11°C ACTAL DOGG	CTE, -30°C to 30°C, flow	2.5E-05	1/°C	ASTM D696
7.3E-US 1/ C ASIM D090	CTE, -30°C to 30°C, xflow	7.3E-05	1/°C	ASTM D696

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CHEMISTRY THAT MATTERS"



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	258	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	245	°C	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.42	-	ASTM D792
Density	1.42	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.73	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽²⁾	0.2 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽²⁾	1 – 3	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	1	%	ISO 62
INJECTION MOLDING (3)			
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) 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.

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