

LNPTM THERMOCOMPTM COMPOUND RX00713H

FORMERLY KNOWN AS "PDX-R-00713 EES"

DESCRIPTION

LNP THERMOCOMP RX00713H compound is based on Nylon 6/6 resin containing 40% 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 200 MPa ASTM D638 Tensile Stress, brk, Type I, 5 mm/min 200 MPa ASTM D638 Tensile Modulus, 50 mm/min 13040 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 309 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 11700 MPa ASTM D790 Tensile Stress, break, 5 mm/min 2.9 % ISO 527 Tensile Modulus, 1 mm/min 13300 MPa ISO 178 Flexural Stress 34 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 Impact, (1) Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Izod Impact, notched, 23°C 113 J/m ASTM D256 Multiaxial Impact 3 J ISO 180/1U Izod Impact, unnotched 80°10°4 +23°C 75 kJ /m² ISO 180/1A Izod Impact, unno	PROPERTIES	TVDICAL VALUES	LIMITE	TEST METHODS
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Tensile Strain, brk, Type I, 5 mm/min 3 % ASTM D638 Tensile Modulus, 50 mm/min 13040 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 309 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 11700 MPa ASTM D790 Tensile Stress, break, 5 mm/min 202 MPa ISO 527 Tensile Strain, break, 5 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 Flexural Modulus, 2 mm/min 1220 J/m ASTM D4812 Impact (") Iso 178 ASTM D4812 Izod Impact, unotched, 23°C 1220 J/m ASTM D4812 Izod Impact, protched, 23°C 9 J ASTM D3763 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80°10°4 + 23°C 75 Kl/m² ISO 180/1U Izod Impact, notched 80°10°4 + 23°C 25 Kl/m² ASTM D648	MECHANICAL (1)			
Tensile Modulus, 50 mm/min 13040 MPa ASTM D638 Flexural Stress, brk, 1.3 mm/min, 50 mm span 309 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 11700 MPa ASTM D790 Tensile Stress, break, 5 mm/min 202 MPa ISO 527 Tensile Modulus, 1 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 Flexural Modulus, 2 mm/min 1220 J/m ASTM D4812 Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Izod Impact, notched, 23°C 1220 J/m ASTM D256 Multiaxial Impact 3 J S0 6603 Instrumented Dart Impact Total Energy, 23°C 9 J S0 180/10 Izod Impact, unnotched 80°10°4 + 23°C 75 kl/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 11 kl/m² S0 180/10 Itory Kl/m² S0 180/10 S0 180/10 It	Tensile Stress, brk, Type I, 5 mm/min	200	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span 309 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 11700 MPa ASTM D790 Tensile Stress, break, 5 mm/min 202 MPa ISO 527 Tensile Strain, break, 5 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 Impact (¹¹) 1220 J/m ASTM D4812 Izod Impact, unnotched, 23°C 1220 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 75 I/m I/m² ISO 180/10 Izod Impact, ontched 80°10°4 + 23°C 1 I/m² ASTM D3763 Iton, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 247E05 1°C ASTM D696 CTE, 30°C to 30°C, xflow 8.4E05 1°C AST	Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span 11700 MPa ASTM D790 Tensile Stress, break, 5 mm/min 202 MPa 150 527 Tensile Strain, break, 5 mm/min 2.9 % 150 527 Tensile Modulus, 1 mm/min 13030 MPa 150 527 Flexural Stress 304 MPa 150 178 Flexural Modulus, 2 mm/min 11330 MPa 150 178 IMPACT ************************************	Tensile Modulus, 50 mm/min	13040	MPa	ASTM D638
Tensile Stress, break, 5 mm/min 202 MPa ISO 527 Tensile Strain, break, 5 mm/min 2.9 % ISO 527 Tensile Modulus, 1 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 IMPACT (1) J/m ASTM D4812 STM D4812 Izod Impact, unnotched, 23°C 1220 J/m ASTM D256 Multiaxial Impact 3 J/m ASTM D256 Multiaxial Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80*10*4 +23°C 75 kJ/m² ISO 180/10 Izod Impact, unnotched 80*10*4 +23°C 11 kJ/m² ISO 180/10 Izod Impact, unnotched 80*10*4 +23°C 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 2.47E-05 1/°C ASTM D696 CTE, 30°C to 30°C, flow 3.4E-05 1/°C ASTM D696	Flexural Stress, brk, 1.3 mm/min, 50 mm span	309	MPa	ASTM D790
Tensile Strain, break, 5 mm/min 2.9 % SO 527 Tensile Modulus, 1 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Elexural Modulus, 2 mm/min 11330 MPa ISO 178 IMPACT (*) ************************************	Flexural Modulus, 1.3 mm/min, 50 mm span	11700	MPa	ASTM D790
Tensile Modulus, 1 mm/min 13030 MPa ISO 527 Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 IMPACT (¹) "**********************************	Tensile Stress, break, 5 mm/min	202	MPa	ISO 527
Flexural Stress 304 MPa ISO 178 Flexural Modulus, 2 mm/min 11330 MPa ISO 178 IMPACT (1) IMPACT (23°C Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Multiaxial Impact 13 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 75 kl/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 11 kl/m² ISO 180/10 Itod Impact, unnotched 80°10°4 + 23°C 25 Kl/m² ISO 180/10 HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 3.4E-05 1/°C ASTM D696	Tensile Strain, break, 5 mm/min	2.9	%	ISO 527
Flexural Modulus, 2 mm/min 11330 MPa ISO 178 IMPACT (*) Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Izod Impact, notched, 23°C 113 J/m ASTM D256 Multiaxial Impact 3 J/m ASTM D256 Sio 6603 Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80*10*4 + 23°C 75 kJ/m² ISO 180/10 ISO 180/10 Izod Impact, notched 80*10*4 + 23°C 11 12 Izod Impact, notched 80*10*4 + 23°C 12 Izod Impact, notched 80*10*4 + 23°C 12 Izod Impact, notched 80*10*4 + 23°C 13 Izod Impact, notched 80*10*4 + 23°C 14 Izod Impact, notched 80*10*4 + 23°C 15 Izod Impact, notched 80*10*4	Tensile Modulus, 1 mm/min	13030	MPa	ISO 527
IMPACT (1) Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Izod Impact, notched, 23°C 113 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 75 kJ/m² ISO 180/1U ItDEMAL(1) THERMAL(1) SO 180/1A SO 180/1A HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Flexural Stress	304	MPa	ISO 178
Izod Impact, unnotched, 23°C 1220 J/m ASTM D4812 Izod Impact, notched, 23°C 113 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 75 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 + 23°C 11 kJ/m² ISO 180/1A THERMAL ⁽¹⁾ V STM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Flexural Modulus, 2 mm/min	11330	MPa	ISO 178
Izod Impact, notched, 23°C 113 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 75 kJ/m² ISO 180/1U Izod Impact, notched 80*10*4 +23°C 11 kJ/m² ISO 180/1A THERMAL (1) L C ASTM D648 HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	IMPACT (1)			
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Instrumented Dart Impact Total Energy, 23°C 9 J ASTM D3763 Izod Impact, unnotched 80°10°4 +23°C 75 kJ/m² ISO 180/10 Izod Impact, notched 80°10°4 +23°C 11 kJ/m² ISO 180/1A THERMAL (¹) HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Izod Impact, notched, 23°C	113	J/m	ASTM D256
Izod Impact, unnotched 80°10°4 +23°C 75 kJ/m² ISO 180/1U Izod Impact, notched 80°10°4 +23°C 11 kJ/m² ISO 180/1A THERMAL (¹) HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Multiaxial Impact	3	J	ISO 6603
Izod Impact, notched 80*10*4 +23°C 11 kJ/m² ISO 180/1A THERMAL (1) HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 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 264 °C ASTM D648 HDT, 1.82 MPa, 3.2 mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Izod Impact, unnotched 80*10*4 +23°C	75	kJ/m²	ISO 180/1U
HDT, 0.45 MPa, 3.2 mm, unannealed 264 °C ASTM D648 HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
HDT, 1.82 MPa, 3.2mm, unannealed 255 °C ASTM D648 CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	THERMAL (1)			
CTE, -30°C to 30°C, flow 2.47E-05 1/°C ASTM D696 CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	HDT, 0.45 MPa, 3.2 mm, unannealed	264	°C	ASTM D648
CTE, -30°C to 30°C, xflow 8.4E-05 1/°C ASTM D696	HDT, 1.82 MPa, 3.2mm, unannealed	255	°C	ASTM D648
·	CTE, -30°C to 30°C, flow	2.47E-05	1/°C	ASTM D696
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm 260 °C ISO 75/Bf	CTE, -30°C to 30°C, xflow	8.4E-05	1/°C	ASTM D696
	HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	260	°C	ISO 75/Bf

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CHEMISTRY THAT MATTERS"



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	250	°C	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.48	-	ASTM D792
Density	1.48	g/cm³	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.55	%	ASTM D570
Mold Shrinkage, flow, 24 hrs ⁽²⁾	0.3 – 0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs ⁽²⁾	1 – 3	%	ASTM D955
Moisture Absorption (23°C / 50% RH)	0.81	%	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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