

# LNPT<sup>™</sup> LUBRILLOY<sup>™</sup> COMPOUND U2000A

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## DESCRIPTION

LNP LUBRILLOY U2000A compound is based on Polyphthalamide (PPA) resin containing proprietary lubricant. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant, High temperature resistance
Fillers	Unreinforced
Polymer Types	Polyphthalamide (PPA)
Processing Techniques	Injection Molding

  

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood, Automotive Exteriors

## TYPICAL PROPERTY VALUES

Revision 20241017

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yield	81	MPa	ASTM D638
Tensile Stress, break	81	MPa	ASTM D638
Tensile Strain, yield	3.6	%	ASTM D638
Tensile Strain, break	3.6	%	ASTM D638
Tensile Modulus, 50 mm/min	3440	MPa	ASTM D638
Flexural Modulus	2750	MPa	ASTM D790
Tensile Stress, yield	78	MPa	ISO 527
Tensile Stress, break	78	MPa	ISO 527
Tensile Strain, yield	3.4	%	ISO 527
Tensile Strain, break	3.4	%	ISO 527
Tensile Modulus, 1 mm/min	3530	MPa	ISO 527
Flexural Stress	109	MPa	ISO 178
Flexural Modulus	2900	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, unnotched, 23°C	1345	J/m	ASTM D4812
Izod Impact, notched, 23°C	58	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	4	J	ASTM D3763
Multiaxial Impact	16	J	ISO 6603
Izod Impact, notched 80°10*4 +23°C	5	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL <sup>(1)</sup></b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	163	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	106	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.02E-05	1/°C	ASTM E831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	7.02E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.1E-05	1/°C	ISO 11359-2
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	183	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	103	°C	ISO 75/Af
<b>PHYSICAL <sup>(1)</sup></b>			
Density	1.14	g/cm <sup>3</sup>	ASTM D792
Moisture Absorption, (23°C/50% RH/24 hrs)	0.3	%	ASTM D570
Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>	1.6 – 1.8	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>	1.6 – 1.8	%	ASTM D955
Mold Shrinkage, flow, 24 hrs <sup>(2)</sup>	1.7	%	ISO 294
Mold Shrinkage, xflow, 24 hrs <sup>(2)</sup>	1.7	%	ISO 294
Wear Factor Washer	20	10 <sup>-10</sup> in <sup>4</sup> -min/ft-lb-hr	ASTM D3702 Modified: Manual
Dynamic COF	0.22	-	ASTM D3702 Modified: Manual
Static COF	0.22	-	ASTM D3702 Modified: Manual
Density	1.14	g/cm <sup>3</sup>	ISO 1183
<b>INJECTION MOLDING <sup>(3)</sup></b>			
Drying Temperature	120 – 150	°C	
Drying Time	4	Hrs	
Maximum Moisture Content	0.15	%	
Melt Temperature	310 – 315	°C	
Front - Zone 3 Temperature	305 – 315	°C	
Middle - Zone 2 Temperature	305 – 315	°C	
Rear - Zone 1 Temperature	305 – 315	°C	
Mold Temperature	120 – 150	°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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