

## LNPTM LUBRICOMPTM COMPOUND KFP032

KFL-4532 REGION AMERICAS

## **DESCRIPTION**

LNP LUBRICOMP KFP032 compound is based on Acetal (POM) Copolymer resin containing 10% glass fiber, 25% PTFE/silicone. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant
Fillers	Glass Fiber, PTFE/Silicone
Polymer Types	Acetal (POM) Copolymer
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

MECHANICAL (¹)           Tensile Stress, brk, Type I, 5 mm/min         67         MPa         ASTM D638           Tensile Strain, brk, Type I, 5 mm/min         2.6         %         ASTM D638           Tensile Modulus, 5 mm/min         5020         MPa         ASTM D638           Flexural Stress, yld, 1.3 mm/min, 50 mm span         100         MPa         ASTM D790           Flexural Stress, brk, 1.3 mm/min, 50 mm span         4180         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         4810         MPa         ASTM D790           Tensile Stress, break, 5 mm/min         64         MPa         S0 527           Tensile Modulus, 1 mm/min         4810         MPa         S0 527           Flexural Stress         95         MPa         S0 178           Flexural Modulus, 2 mm/min         4120         MPa         S0 178           Flexural Modulus, 2 mm/min         381         J/m         ASTM D4812           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         5         J/m         ASTM D790           Izod Impact, unnotched 80°10'4 + 23°C         24         J/m         ASTM D790           Izod Impact, unnotched 80°10'4 + 23°C	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Tensile Strain, brk, Type I, 5 mm/min         2.6         %         ASTM D638           Tensile Modulus, 5 mm/min         5020         MPa         ASTM D638           Flexural Stress, yld, 1.3 mm/min, 50 mm span         100         MPa         ASTM D790           Flexural Stress, brk, 1.3 mm/min, 50 mm span         94         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         4180         MPa         ASTM D790           Tensile Stress, break, 5 mm/min         64         MPa         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 527           Flexural Stress         95         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           IMPACT <sup>(1)</sup> ISO 178         ISO 178           Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D3763           Instrumented Dart Impact Total Energy, 23°C         5         J/m         ASTM D3763           Izod Impact, unnotched 80°10°4 + 23°C         24         J/m²         Iso 180/10           Izod Impact, notched 80°10°4 + 23°C         3         Iso 180/10         Iso 180/10	MECHANICAL (1)			
Tensile Modulus, 5 mm/min         5020         MPa         ASTM D638           Flexural Stress, yld, 1.3 mm/min, 50 mm span         100         MPa         ASTM D790           Flexural Stress, brk, 1.3 mm/min, 50 mm span         94         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         4180         MPa         ASTM D790           Tensile Stress, break, 5 mm/min         64         MPa         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 527           Flexural Stress         95         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         SO 178           Instrumental Modulus, 2 mm/min         4120         MPa         ASTM D4812           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         5         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J/m         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         3         B         J/m         ISO 180/10	Tensile Stress, brk, Type I, 5 mm/min	67	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span   100   MPa   ASTM D790     Flexural Stress, brk, 1.3 mm/min, 50 mm span   94   4180   MPa   ASTM D790     Flexural Modulus, 1.3 mm/min, 50 mm span   4180   MPa   50 527     Fensile Stress, break, 5 mm/min   25   %   100 527     Fensile Strain, break, 5 mm/min   4810   MPa   150 527     Flexural Modulus, 1 mm/min   4810   MPa   150 178     Flexural Stress   95   MPa   150 178     Flexural Modulus, 2 mm/min   4120   MPa   150 178     Flexural Modulus, 2 mm/min   4120   MPa   150 178     Flexural Modulus, 2 mm/min   4120   MPa   451 178     Flexural Modulus, 2 mm/min   4120   MPa   451 178     Flexural Modulus, 2 mm/min   4120   MPa   451 178     Flexural Modulus, 2 mm/min   451 178   451 17	Tensile Strain, brk, Type I, 5 mm/min	2.6	%	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span         94         MPa         ASTM D790           Flexural Modulus, 1.3 mm/min, 50 mm span         4180         MPa         ASTM D790           Tensile Stress, break, 5 mm/min         64         MPa         ISO 527           Tensile Strain, break, 5 mm/min         4810         MPa         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 178           Flexural Stress         95         MPa         ISO 178           Impact (")         Iso 178         Iso 178           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J/m         ASTM D3763           Izod Impact, unnotched 80°10°4 + 23°C         24         KJ/m²         ISO 180/1U           Izod Impact, notched 80°10°4 + 23°C         3         KJ/m²         ISO 180/1U	Tensile Modulus, 5 mm/min	5020	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span         4180         MPa         ASTM D790           Tensile Stress, break, 5 mm/min         64         MPa         ISO 527           Tensile Strain, break, 5 mm/min         4810         MPa         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 178           Flexural Stress         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           ImpACT (¹)         ISO 178         ISO 178           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Izod Impact, unnotched 80°10°4+23°C         5         I/m²         ISO 180/10           Izod Impact, unnotched 80°10°4+23°C         3         I/m²         ISO 180/10	Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D790
Tensile Stress, break, 5 mm/min         64         MPa         ISO 527           Tensile Strain, break, 5 mm/min         2.5         %         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 527           Flexural Stress         95         MPa         ISO 178           Impact Inpact, unnotched, 2 mm/min         4120         MPa         ISO 178           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Flexural Stress, brk, 1.3 mm/min, 50 mm span	94	MPa	ASTM D790
Tensile Strain, break, 5 mm/min         2.5         %         ISO 527           Tensile Modulus, 1 mm/min         4810         MPa         ISO 527           Flexural Stress         95         MPa         ISO 178           IMPACT (1)         Uso 178         ISO 178           Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Flexural Modulus, 1.3 mm/min, 50 mm span	4180	MPa	ASTM D790
Tensile Modulus, 1 mm/min         4810         MPa         ISO 527           Flexural Stress         95         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           IMPACT (1)         Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80°10°4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80°10°4 + 23°C         3         kJ/m²         ISO 180/1A	Tensile Stress, break, 5 mm/min	64	MPa	ISO 527
Flexural Stress         MPa         ISO 178           Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           IMPACT (1)         Izod Impact, unnotched, 23°C         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Tensile Strain, break, 5 mm/min	2.5	%	ISO 527
Flexural Modulus, 2 mm/min         4120         MPa         ISO 178           IMPACT (1)         Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Tensile Modulus, 1 mm/min	4810	MPa	ISO 527
IMPACT (1)         Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Flexural Stress	95	MPa	ISO 178
Izod Impact, unnotched, 23°C         381         J/m         ASTM D4812           Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	Flexural Modulus, 2 mm/min	4120	MPa	ISO 178
Izod Impact, notched, 23°C         40         J/m         ASTM D256           Instrumented Dart Impact Total Energy, 23°C         5         J         ASTM D3763           Izod Impact, unnotched 80*10*4 + 23°C         24         kJ/m²         ISO 180/1U           Izod Impact, notched 80*10*4 + 23°C         3         kJ/m²         ISO 180/1A	IMPACT (1)			
Instrumented Dart Impact Total Energy, 23°C   5   J   ASTM D3763     Izod Impact, unnotched 80°10°4 +23°C   24   Izod Impact, notched 80°10°4 +23°C   3   Izod Impact, notched 80°10°4 +23°C   Izod Impact, notched 80°10°4   Izod Impact, notched 80°10°4   Izod Impact, no	Izod Impact, unnotched, 23°C	381	J/m	ASTM D4812
Izod Impact, unnotched 80*10*4 +23°C   24   kJ/m²   ISO 180/1U     Izod Impact, notched 80*10*4 +23°C   3   kJ/m²   ISO 180/1A	Izod Impact, notched, 23°C	40	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C         3         kJ/m²         ISO 180/1A	Instrumented Dart Impact Total Energy, 23°C	5	J	ASTM D3763
the first state of the state of	Izod Impact, unnotched 80*10*4 +23°C	24	kJ/m²	ISO 180/1U
(1)	Izod Impact, notched 80*10*4 +23°C	3	kJ/m²	ISO 180/1A
THERMAL (1)	THERMAL (1)			
<b>HDT, 0.45 MPa, 3.2 mm, unannealed</b> 162 °C ASTM D648	HDT, 0.45 MPa, 3.2 mm, unannealed	162	°C	ASTM D648



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 1.82 MPa, 3.2mm, unannealed	155	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	161	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	148	°C	ISO 75/Af
PHYSICAL (1)			
Specific Gravity	1.52	-	ASTM D792
Density	1.51	g/cm³	ASTM D792
INJECTION MOLDING (2)			
Drying Temperature	80	°C	
Drying Time	4	Hrs	
Melt Temperature	200 – 215	°C	
Front - Zone 3 Temperature	210 – 220	°C	
Middle - Zone 2 Temperature	195 – 205	°C	
Rear - Zone 1 Temperature	175 – 190	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	

<sup>(1)</sup> 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.

## **DISCLAIMER**

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<sup>(2)</sup> 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.