

LNPTM LUBRICOMPTM COMPOUND RFL36XXY

RFL-4036

DESCRIPTION

LNP LUBRICOMP RFL36XXY compound is based on Nylon 6/6 resin containing 30% glass fiber, 15% PTFE. Added features of this grade include: Wear Resistant.

GENERAL INFORMATION	
Features	Wear resistant, High stiffness/Strength
Fillers	Glass Fiber, PTFE
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 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL (1)			
Tensile Stress, brk, Type I, 5 mm/min	139	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.1	%	ASTM D638
Tensile Modulus, 50 mm/min	11230	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	236	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9740	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	138	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.1	%	ISO 527
Tensile Modulus, 1 mm/min	9800	MPa	ISO 527
Flexural Stress	211	MPa	ISO 178
Flexural Modulus, 2 mm/min	9700	MPa	ISO 178
IMPACT (1)			
Izod Impact, unnotched, 23°C	907	J/m	ASTM D4812
Izod Impact, notched, 23°C	106	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	10	J	ASTM D3763
Multiaxial Impact	2	J	ISO 6603
Izod Impact, unnotched 80*10*4 +23°C	51	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -40°C	7	kJ/m²	ISO 180/1A
THERMAL (1)			
HDT, 1.82 MPa, 3.2mm, unannealed	248	°C	ASTM D648



PROPERTIES TYPICAL VALUES UNITS TEST METHODS CTE, 40°C to 40°C, flow 3.78-05 1,°C ASTM E831 CTE, 40°C to 40°C, flow 5.56.95 1,°C ASTM E831 CTE, 40°C to 40°C, flow 5.78-05 1,°C BO 113.99 CTE, 40°C to 40°C, flow 5.56.95 1,°C BO 113.99 HDT/RI, 1.8 MPa Flatw 80°10°4 spe 54mm 28 °C 0.013.99 Relative Temp Index, Mech w/no impact ¹⁰ 55 °C 0.17468 Relative Temp Index, Mech w/no impact ¹⁰ 55 °C 0.17468 Relative Temp Index, Mech w/no impact ¹⁰ 55 °C 0.17468 Relative Temp Index, Mech w/no impact ¹⁰ 55 °C 0.17468 Relative Temp Index, Mech w/no impact ¹⁰ 55 °C 0.17468 Relative Temp Index, Mech w/no impact ¹⁰ 5.5 % ASTM 0792 Relative Temp Index, Mech w/no impact ¹⁰ 5.2 % ASTM 0792 Mold Strinkage, flow, 24 hrs ¹⁰ 1.2 % ASTM 0792 Mold Strinkage, flow, 24 hrs ¹⁰ 1.5				
CFL, 40°C to 40°C, filow 55E05 1°C ASIM E3139-2 CFL, 40°C to 40°C, flow 578E05 1°C 15139-2 CFL, 40°C to 40°C, flow 55E05 1°C 15139-2 CFL, 40°C to 40°C, flow 52E05 1°C 15139-2 CFL, 40°C to 40°C, flow 248 °C 1507-2 Relative Temp Index, Mech w/Impact (°I) 25 °C 11746-8 Relative Temp Index, Mech w/Impact (°I) 55 °C 10746-8 Relative Temp Index, Mech w/Impact (°I) 51 °C 45 45 Relative Temp Index, Mech w/Impact (°I) 51 °C 35 45 45 45 45 45 45 45 46 45 46 45 <th< th=""><th>PROPERTIES</th><th>TYPICAL VALUES</th><th>UNITS</th><th>TEST METHODS</th></th<>	PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CFE, 40°C to 40°C, s100 3.78.05 1°C 105 (1359-2) CFE, 40°C to 40°C, s100 5.50.50 1°C 10.11319-2 BLT/AL 1.8 MPa Flatw 80°10*4 spe46mm 28 °C 10.746 Belative Temp Index, Blec [6° 10 °C U.7468 Relative Temp Index, Mech w/ impact [6°) 65 °C U.7468 Relative Temp Index, Mech w/ impact [6°) 55 °C U.7468 Relative Temp Index, Mech w/ impact [6°) 55 °C U.7468 Relative Temp Index, Mech w/ impact [6°) 50 °C U.7468 Relative Temp Index, Mech w/ impact [6°) 50 °C STM D570 Relative Temp Index, Mech w/ impact [6°) 60 STM D570 STM D570 MolStyrich Space [6°) 6.2 \$C STM D570 STM D570 Mold Shrinkage, flow, 24 hrs [6°) 1.2 \$C STM D570 STM D570 STM D570 STM D570 STM D5702 Medified: Manual D570 STM D5702 Medified: Manual D570 Med	CTE, -40°C to 40°C, flow	3.79E-05	1/°C	ASTM E831
CF. 40°C to 10°C x flow 55.65 1,°C 15.70 (most) 15.70 (most) <th>CTE, -40°C to 40°C, xflow</th> <td>5.5E-05</td> <td>1/°C</td> <td>ASTM E831</td>	CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ASTM E831
BDT/AI, 1.8 MPa Flative 80°10°4.9 speakmen 248 °C 100 MPA (200 MPA) Relative Temp Index, Idec (**) 120 °C 10 MPA (200 MPA) Relative Temp Index, Mech w/ Impact (**) 65 °C 00 MPA 10 MPA Relative Temp Index, Mech w/ Impact (**) 55 °C 00 MPA 40 MPA Physical (**) 55 70 MPA ASTM D95 40 MPA Moisture Absorption, (23°C/50°K RH/24 hrs) 60.2 8 ASTM D95 Moisture Absorption, (23°C/50°K RH/24 hrs) 10.2 2 ASTM D95 Mold Shrinkage, flow, 24 hrs (**) 10.2 2 ASTM D95 Mold Shrinkage, xflow, 24 hrs (**) 1.2 2 ASTM D95 Mold Shrinkage, xflow, 24 hrs (**) 1.2 2 ASTM D95 Mold Shrinkage, xflow, 24 hrs (**) 1.2 2 ASTM D95 Mold Shrinkage, xflow, 24 hrs (**) 1.2 2 ASTM D97 Mold Shrinkage, xflow, 24 hrs (**) 1.2 2 ASTM D97 Static CoF 2 2 ASTM D97 ASTM D97	CTE, -40°C to 40°C, flow	3.78E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec (2) 120 °C U1 7468 Relative Temp Index, Mech v/Impact (2) 65 °C U1 7468 Relative Temp Index, Mech v/Impact (2) 65 °C U1 7468 Net State to Temp Index, Mech v/Impact (2) 55 °C U1 7468 Net State to Temp Index, Mech v/Impact (2) State to Temp Index, Mech v/Impact (2) Mech Temp Index, Mech v/Impact (2) U1 7468 Net State (2) State (2) ATM D792 Mech Temp Index, Mech v/Impact (2) ATM D792 Molds Shrinkage, stow, 24 hrs (3) 0.5 3 ATM D792 ATM D792 Mold Shrinkage, xflow, 24 hrs (3) 1.1 3 ATM D955 ATM D792 Mold Shrinkage, xflow, 24 hrs (3) 1.1 3 So 294 ATM D792 Mold Shrinkage, xflow, 24 hrs (3) 1.1 3 So 294 ATM D792 ATM D792 <th>CTE, -40°C to 40°C, xflow</th> <th>5.5E-05</th> <th>1/°C</th> <th>ISO 11359-2</th>	CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ISO 11359-2
Relative Temp Index, Mech w/Impact (2) 65 ***Co. 10 17.46B Relative Temp Index, Mech w/Impact (2) 55 **Co. 20 11.74B HYSTICAL (3) Tempts (2) 51 31 31 31M D979 Booksture Absorption, (23°C)50x RH/24 krs) 0.52 42 ASTM D957 Mold Shrinkage, flow, 24 hrs (3) 1.12 \$**Co. 20 ASTM D955 Mold Shrinkage, flow, 24 hrs (3) 1.15 \$**Co. 20 ASTM D950 Mold Shrinkage, flow, 24 hrs (3) 1.15 \$**Co. 20 ASTM D950 Addiffed: Manual and part of the part of th	HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	248	°C	ISO 75/Af
Relative Temp Index, Mech w/lo impact (*) 59 "Company of the Prist CAL" (*) 15.1	Relative Temp Index, Elec (2)	120	°C	UL 746B
PHYSICAL.** PHYSICAL.** PCROPS ASTM D792 Density 1.51 g/cm² ASTM D792 Moisture Absorption, (23°C/50% RH/24 hrs) 0.62 % ASTM D795 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 0.5 % ASTM D955 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 3.2 % ASTM D955 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 1.15 % S0 294 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 1.2 % S0 294 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 1.2 % S0 294 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 1.2 % S0 294 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 1.2 % S0 294 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 9 2.2 ASTM D3702 Modified: Manual Post Pactor Washer 1.2 9 2.2 ASTM D3702 Modified: Manual Post Pactor Washer 1.2 1.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2	Relative Temp Index, Mech w/impact (2)	65	°C	UL 746B
Density1.519/m²ASTM D792Moisture Absorption, (23°C/50% RH/24 hrs)0.62\$ASTM D570Mold Shrinkage, flow, 24 hrs (3)0.5\$ASTM D955Mold Shrinkage, xflow, 24 hrs (3)1.1\$\$Mold Shrinkage, xflow, 24 hrs (3)0.32\$\$\$Mold Shrinkage, xflow, 24 hrs (3)1.5\$\$\$Mold Shrinkage, xflow, 24 hrs (3)1.5\$\$\$Wear Factor Washer1.2\$\$\$\$Wear Factor Washer0.59\$\$\$\$Dynamic COF0.59\$\$\$\$Batic COF0.46\$\$\$\$Bushity1.51\$\$\$\$U'Yellow Card Link1.51\$\$\$\$U'Yellow Card Link 21.52562-101344610\$\$\$U'Yellow Card Jink 21.52562-101344610\$\$\$U'Yellow Card Jink 21.52562-101344610\$\$\$U'Yellow Card Jink 21.52562-101344610\$\$\$U'Yellow Card Jink 21.52562-10134610\$<	Relative Temp Index, Mech w/o impact (2)	65	°C	UL 746B
Moisture Absorption, (23°C/50% RH/24 hrs) 0.62 % ASTM D570 Mold Shrinkage, flow, 24 hrs ⁽³⁾ 0.5 % ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽³⁾ 1.1 % ASTM D955 Mold Shrinkage, xflow, 24 hrs ⁽³⁾ 0.32 % ISO 294 Wear Factor Washer 1.15 % SIX D3702 Modified: Manual D184 Dynamic COF 0.46 3 ASTM D3702 Modified: Manual D184 Estatic COF 0.46 3 ASTM D3702 Modified: Manual D184 Europe Density 1.51 growal ISD 18302 Modified: Manual D184 U.Yellow Card Link [121562-101344610] 9 ASTM D3702 Modified: Manual D184 U.Yellow Card Link 2 [207780-101282824] 1 2 2 U.Yellow Card Link 2 [207780-101282824] 1 2 2 U.Yellow Card Link 2 [207780-101282824] 1 2 2 INJECTION MOLDING (4) 1 1 2 2 Polying Time 4 HIS 2 2 Melt Temperature	PHYSICAL (1)			
Mold Shrinkage, flow, 24 hrs (3)1.1\$ASTM D955Mold Shrinkage, xflow, 24 hrs (3)0.32\$\$\$Mold Shrinkage, flow, 24 hrs (3)1.5\$\$\$Wear Factor Washer1.5\$\$\$Dyamic COF0.59-\$\$\$Static COF0.46-\$\$\$Butte COF0.59-\$\$\$Butte COF0.46-\$\$\$Butte COF0.46-\$\$\$Butte COF0.5-\$\$\$Butte COF0.5-\$\$\$Butte COF0.5-\$\$\$Butte COF0.5-\$\$\$Butte COF0.5\$\$Butte COF0.5Butte COF0.5Butte COF0.5Butte COF0.5Butte COF0.5Butter COF0.5Butter COF0.5Butter COF0.5Butter COF0.5Butter COF0.5Butter COF0.5 </th <th>Density</th> <td>1.51</td> <td>g/cm³</td> <td>ASTM D792</td>	Density	1.51	g/cm³	ASTM D792
Mold Shrinkage, xflow, 24 hrs (3)1.12333	Moisture Absorption, (23°C/50% RH/24 hrs)	0.62	%	ASTM D570
Mold Shrinkage, flow, 24 hrs (³)0.32%SO 294Mold Shrinkage, xflow, 24 hrs (³)1.5%SO 294Wear Factor Washer1210-10 in-5-min/ft-lb-nASTM D3702 Modified: ManualDynamic COF0.59-ASTM D3702 Modified: ManualBattic COF0.46-ASTM D3702 Modified: ManualDensity1.5g/cm³SO 183LAME CHARACTERISTICS (²)U.Yellow Card Link£121562-101344610U.Yellow Card Link 2£207780-101282824U.Yellow Card Link 2£207780-101282824Dying Temperature80C-Drying Time4Hrs-Maximum Moisture Content91-0.25*-Melt Temperature80-0.30C-Melt Temperature295-305C-Middle-Zone 2 Temperature295-305C-Middle-Zone 2 Temperature295-275C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-Mold Temperature295-210C-	Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs (3)1.15%150 294Wear Factor Washer1210~10 in^5-min/ft-lb-mATM D3702 Modified: ManualDynamic COF0.59-ASTM D3702 Modified: ManualStatic COF0.46-ASTM D3702 Modified: ManualDensity1.51g/cm³150 183ELME CHARACTERISTICS (2)UL Yellow Card Link 2E212562-101344610UL Yellow Card Link 2E207780-101282824UL Recognized, 94HB Flame Class Rating2.75mmUL 94Dying TemperatureDrying Temperature80C-Maximum Moisture Content9.15 - 0.25%-Melt Temperature280 - 305C-Front - Zone 3 Temperature295 - 305C-Middle - Zone 2 Temperature280 - 295C-Meld Temperature280 - 295C-Mold Temperature265 - 275C-Mold Temperature95 - 110C-	Mold Shrinkage, xflow, 24 hrs ⁽³⁾	1.1	%	ASTM D955
Wear Factor Washer1210^10 in^5-min/ft-lb-rrATM D3702 Modiffied: ManualDynamic COF0.59-ATM D3702 Modiffied: ManualStatic COF0.46-ATM D3702 Modiffied: ManualDensity1.51g/cm³ISO 1183ILAME CHARACTERISTICS (2)UL Yellow Card Link£121562-101344610UL Yellow Card Link 2£207780-101282824UL Recognized, 94HB Flame Class Rating20.75mmU1.94INJECTION MOLDING (4)Drying Temperature80CDrying Time4HrsMaximum Moisture Content0.15 - 0.25%Melt Temperature280 - 305CFront - Zone 3 Temperature295 - 305CMiddle - Zone 2 Temperature280 - 295CMiddle - Zone 2 Temperature280 - 295CRear-Zone 1 Temperature265 - 275CMold Temperature95 - 110C	Mold Shrinkage, flow, 24 hrs ⁽³⁾	0.32	%	ISO 294
Dynamic COF 0.59 - Common Tool C	Mold Shrinkage, xflow, 24 hrs ⁽³⁾	1.15	%	ISO 294
Static COF 0.46 - Common Temperature ASTM D3702 Modified: Manual Ma	Wear Factor Washer	12	10^-10 in^5-min/ft-lb-hr	ASTM D3702 Modified: Manual
Density I,51 g/cm³ ISO 1183 FLAME CHARACTERISTICS (²) UL Yellow Card Link E207780-101344610 -	Dynamic COF	0.59	-	ASTM D3702 Modified: Manual
FLAME CHARACTERISTICS ⁽²⁾ UL Yellow Card Link 2	Static COF	0.46	-	ASTM D3702 Modified: Manual
UL Yellow Card Link 2 E121562-101344610 -	Density	1.51	g/cm³	ISO 1183
UL Yellow Card Link 2E207780-101282824UL Recognized, 94HB Flame Class Rating\$\int_{0.75}\$mmUL 94INJECTION MOLDING (4)Drying Temperature80°C-Drying Time4Hrs-Maximum Moisture Content0.15 - 0.25%-Melt Temperature280 - 305°C-Front - Zone 3 Temperature295 - 305°CMiddle - Zone 2 Temperature280 - 295°CRear - Zone 1 Temperature265 - 275°CMold Temperature95 - 110°C	FLAME CHARACTERISTICS (2)			
UL Recognized, 94HB Flame Class Rating ≥0.75 mm UL 94 INJECTION MOLDING (4) US C Drying Temperature 80 °C C Drying Time 4 Hrs C Maximum Moisture Content 0.15 - 0.25 % C Melt Temperature 280 - 305 °C C Front - Zone 3 Temperature 295 - 305 °C C Middle - Zone 2 Temperature 280 - 295 °C C Rear - Zone 1 Temperature 265 - 275 °C C Mold Temperature 95 - 110 °C C	UL Yellow Card Link	E121562-101344610	-	
INJECTION MOLDING (4) 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	UL Yellow Card Link 2	E207780-101282824	-	
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	UL Recognized, 94HB Flame Class Rating	≥0.75	mm	UL 94
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	INJECTION MOLDING (4)			
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	Drying Temperature	80	°C	
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	Drying Time	4	Hrs	
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	Maximum Moisture Content	0.15 - 0.25	%	
Middle - Zone 2 Temperature 280 – 295 °C Rear - Zone 1 Temperature 265 – 275 °C Mold Temperature 95 – 110 °C	Melt Temperature	280 – 305	°C	
Rear - Zone 1 Temperature 265 – 275 °C Mold Temperature 95 – 110 °C	Front - Zone 3 Temperature	295 – 305	°C	
Mold Temperature 95 – 110 °C	Middle - Zone 2 Temperature	280 – 295	°C	
The state of the s	Rear - Zone 1 Temperature	265 – 275	°C	
Back Pressure 0.2 – 0.3 MPa	Mold Temperature	203 213		
			°C	
Screw Speed 30 – 60 rpm	Back Pressure	95 – 110		

⁽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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

⁽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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