LNP™ LUBRICOMP™ COMPOUND UFL36AS

UFL-4036 A HS

DESCRIPTION

LNP LUBRICOMP UFL36AS is a Polyphthalamide (PPA) base resin containing 30% Glass Fiber, 15% PTFE. Added features of this material are: Heat Stabilized, Wear Resistant.

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors, Automotive Under the Hood, Automotive Lighting, Automotive Exteriors
Building and Construction	Outdoor, Lawn and Landscape, Construction
Consumer	Home Appliances, Commercial Appliance
Electrical and Electronics	Electrical Components and Infrastructure
Mass Transportation	Specialty Vehicles

TYPICAL PROPERTY VALUES

Revision 20191223

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Modulus, 5 mm/min	11200	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	1.7	%	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	189	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	9900	MPa	ASTM D 790
Flexural Strength, 1.3 mm/min, 50 mm span	250	MPa	ASTM D 790
Tensile Modulus, 1 mm/min	11500	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.3	%	ISO 527
Tensile Stress, break, 5 mm/min	188	MPa	ISO 527
Flexural Modulus, 2 mm/min	10100	MPa	ISO 178
Flexural Modulus, 2 mm/min, 80°C	8400	MPa	ISO 178
Flexural Modulus, 2 mm/min, 100°C	7600	MPa	ISO 178
Flexural Modulus, 2 mm/min, 120°C	5400	MPa	ISO 178
Flexural Modulus, 2 mm/min, 150°C	3800	MPa	ISO 178
Flexural Modulus, 2 mm/min, 180°C	3500	MPa	ISO 178
Flexural Modulus, 2 mm/min, 200°C	3100	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2.8	%	ISO 178
Flexural Strain, break, 2 mm/min, 80°C	3.1	%	ISO 178
Flexural Strain, break, 2 mm/min, 100°C	3.9	%	ISO 178
Flexural Strain, break, 2 mm/min, 120°C	5.3	%	ISO 178
Flexural Strain, break, 2 mm/min, 150°C	5	%	ISO 178
Flexural Strain, break, 2 mm/min, 180°C	4.8	%	ISO 178
Flexural Strain, break, 2 mm/min, 200°C	4.8	%	ISO 178
Flexural Stress, yield, 2 mm/min	260	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 80°C	214	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 100°C	194	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 120°C	141	MPa	ISO 178

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Flexural Stress, yield, 2 mm/min, 150°C	97	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 180°C	82	MPa	ISO 178
Flexural Stress, yield, 2 mm/min, 200°C	71	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, unnotched, 23°C	730	J/m	ASTM D 4812
Instrumented Impact Total Energy, 23°C	8	J	ASTM D 3763
Izod Impact, notched 80*10*3 -40°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -40°C	45	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	55	kJ/m²	ISO 179/1eU
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	283	°C	ASTM D 648
Vicat Softening Temp, Rate B/50	262	°C	ASTM D 1525
CTE, -30°C to 30°C, flow	2.1E-05	1/°C	ASTM D 696
CTE, -30°C to 30°C, xflow	4.5E-05	1/°C	ASTM D 696
Thermal Conductivity	0.24	W/m-K	ASTM D 5930
Specific Heat	1722	J/kg-K	ASTM E 1269
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	275	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	293	°C	ISO 75/Bf
Vicat Softening Temp, Rate B/50	262	°C	ISO 306
Vicat Softening Temp, Rate B/120	258	°C	ISO 306
CTE, 23°C to 60°C, flow	2.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	5.8E-05	1/°C	ISO 11359-2
PHYSICAL			
Specific Gravity	1.58	-	ASTM D 792
Moisture Absorption, 50% RH, 24 hrs	0.1 – 0.2	%	ASTM D 570
Water Absorption, 24 hours	0.3 – 0.4	%	ASTM D 570
Melt Flow Rate, 340°C/1.2 kgf	28	g/10 min	ASTM D 1238
Dynamic COF	0.51	-	ASTM D 3702 Modified: Manual
Static COF	0.57	-	ASTM D 3702 Modified: Manual
Wear Factor Washer	5	10^-10 in^5-min/ft-lb-hr	ASTM D 3702 Modified: Manual
Density	1.58	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.1 – 0.2	%	ISO 62
Water Absorption, 23°C/24hrs	0.3 – 0.4	%	ISO 62-1
Melt Volume Rate, MVR at 340°C/1.2 kg	24	g/cm³	ISO 1133
Mold Shrinkage, flow	0.2 – 0.4	%	SABIC method
Mold Shrinkage, xflow	0.8 – 1	%	SABIC method
INJECTION MOLDING			
Drying Temperature	120 – 150	°C	
Drying Time	4	hrs	
Maximum Moisture Content	0.15	%	
Melt Temperature	315 – 330	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Rear - Zone 1 Temperature	310 – 320	°C	
Middle - Zone 2 Temperature	315 – 325	°C	
Front - Zone 3 Temperature	325 – 340	°C	
Mold Temperature	150 – 170	°C	
Back Pressure	0.2 – 0.3	MPa	
Screw Speed	30 – 60	rpm	

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