

SABIC Innovative Plastics LNP Lubricomp XL004 Amorphous Polyamide

Category : Polymer , Thermoplastic , Nylon

Material Notes:

LNP* Lubricomp* XL-4040 is a compound based on Amorphous Nylon, containing PTFE. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-LNP-Lubricomp-XL004-Amorphous-Polyamide.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.23 g/cc	1.23 g/cc	ASTM D 792
Density	1.23 g/cc	0.0444 lb/in ³	ASTM D 792
Moisture Absorption at Equilibrium	0.44 %	0.44 %	23 ^o C / 50% RH; ISO 62
	0.32 %	0.32 %	50% RH; ASTM D 570
Linear Mold Shrinkage, Flow	@Time 86400 sec	@Time 24.0 hour	
	0.0020 - 0.0040 cm/cm	0.0020 - 0.0040 in/in	ASTM D 955
Linear Mold Shrinkage, Transverse	@Time 86400 sec	@Time 24.0 hour	
	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	ASTM D 955

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	Type I, 5 mm/min; ASTM D 638
	59.0 MPa	8560 psi	5 mm/min; ISO 527
Tensile Strength, Yield	5.00 MPa	725 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	3.9 %	3.9 %	Type I, 5 mm/min; ASTM D 638
	9.5 %	9.5 %	5 mm/min; ISO 527
Elongation at Yield	3.9 %	3.9 %	Type I, 5 mm/min; ASTM D 638
	5.9 %	5.9 %	5 mm/min; ISO 527
Tensile Modulus	2.64 GPa	383 ksi	1 mm/min; ISO 527
	2.74 GPa	397 ksi	50 mm/min; ASTM D 638
Flexural Strength	88.0 MPa	12800 psi	ISO 178

Mechanical Properties	Metric	English	Comments
	2.60 GPa	377 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.300 J/cm @Temperature 23.0 °C	0.562 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	6.97 J/cm @Temperature 23.0 °C	13.1 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	4.00 kJ/m ² @Temperature 23.0 °C	1.90 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	46.0 kJ/m ² @Temperature 23.0 °C	21.9 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1U
Impact Test	1.00 J	0.738 ft-lb	Multiaxial Impact; ISO 6603
	5.00 J @Temperature 23.0 °C	3.69 ft-lb @Temperature 73.4 °F	Instrumented Impact Energy @ peak; ASTM D 3763
Coefficient of Friction, Dynamic	0.25	0.25	ASTM D 3702 Modified
Coefficient of Friction, Static	0.14	0.14	ASTM D 3702 Modified
K (wear) Factor	22.2 x 10 ⁻⁸ mm ³ /N-M	11.0 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	Washer; ASTM D 3702 Modified

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	69.0 μm/m-°C @Temperature -30.0 - 30.0 °C	38.3 μin/in-°F @Temperature -22.0 - 86.0 °F	ASTM D 696
CTE, linear, Transverse to Flow	72.0 μm/m-°C @Temperature -30.0 - 30.0 °C	40.0 μin/in-°F @Temperature -22.0 - 86.0 °F	ASTM D 696
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	131 °C @Thickness 3.20 mm	268 °F @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af

Thermal Properties	120 Å°C Metric	248 Å°F English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	Unfinished, ASTM D 648

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