

LNP™ LUBRICOMP™ KL004L compound

Acetal (POM) Copolymer

SABIC Innovative Plastics

Message:

LNP LUBRICOMP KL004L is a compound based on Acetal Copolymer resin containing PTFE. Added features of this material include: Internally Lubricated, Low Extractible.
Also known as: LNP* LUBRICOMP* Compound 404 LE
Product reorder name: KL004L

General Information			
Additive	PTFE lubricant		
Features	Low extract		
	Lubrication		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.52	g/cm ³	ASTM D792
--	1.51	g/cm ³	ISO 1183
Molding Shrinkage			
Flow	3.4	%	Internal method
Flow: 24 hours	2.5 - 4.0	%	ASTM D955
Transverse flow	2.5	%	Internal method
Transverse flow: 24 hours	2.0 - 3.0	%	ASTM D955
Vertical flow direction: 24 hours	2.5	%	ISO 294-4
Flow direction: 24 hours	3.4	%	ISO 294-4
Water Absorption (24 hr, 50% RH)	0.10	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2760	MPa	ASTM D638
--	2340	MPa	ISO 527-2/1
Tensile Strength			
Yield	47.6	MPa	ASTM D638
Yield ²	47.9	MPa	ASTM D638
Yield	48.0	MPa	ISO 527-2, ISO 527-2/5
Fracture	46.9	MPa	ASTM D638
Fracture ³	47.2	MPa	ASTM D638
Fracture	47.0	MPa	ISO 527-2, ISO 527-2/5
Tensile Elongation			
Yield	11	%	ASTM D638, ISO 527-2, ISO 527-2/5

Yield ⁴	11	%	ASTM D638
Fracture	22	%	ASTM D638
Fracture ⁵	22	%	ASTM D638
Fracture	20	%	ISO 527-2, ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	2070	MPa	ASTM D790
--	2070	MPa	ASTM D790
--	2100	MPa	ISO 178
-- ⁷	2100	MPa	ISO 178
Flexural Stress			
--	59.0	MPa	ISO 178
--	59.0	MPa	ISO 178
Coefficient of Friction			
With self-dynamics	0.25		ASTM D3702 Modified
With Self-Static	0.14		ASTM D3702 Modified
Wear Factor - Washer	10.0	10 ⁻¹⁰ in ⁵ -min/ft-lb-hr	ASTM D3702 Modified
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	43	J/m	ASTM D256
23°C ⁸	5.2	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	670	J/m	ASTM D4812
23°C ⁹	39	kJ/m ²	ISO 180/1U
Instrumented Dart Impact			
23°C, Energy at Peak Load	4.70	J	ASTM D3763
--	1.40	J	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	154	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹⁰	146	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	84.4	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹¹	83.0	°C	ISO 75-2/Af
Linear thermal expansion coefficient			
Flow: -40 to 40°C	1.2E-4	cm/cm/°C	ASTM E831, ISO 11359-2
Flow: 23 to 60°C	1.2E-4	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	1.2E-4	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: 23 to 60°C	1.2E-4	cm/cm/°C	ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	82.2	°C	
Drying Time	4.0	hr	
Rear Temperature	177 - 188	°C	
Middle Temperature	193 - 204	°C	

Front Temperature	210 - 221	°C
Processing (Melt) Temp	199 - 216	°C
Mold Temperature	82.2 - 110	°C
Back Pressure	0.172 - 0.344	MPa
Screw Speed	30 - 60	rpm

NOTE

1.	50 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	Type 1, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	80*10*4
9.	80*10*4
10.	80*10*4 mm
11.	80*10*4 mm

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