

LUBMER™ L3000

Mitsui Chemicals America, Inc. - High Molecular Weight Polyethylene

General Information

General		
Material Status	• Commercial: Active	
Availability	• North America	
Features	• Good Flow	• Good Moldability
Uses	• Automotive Interior Parts	• Bearings • Gears
Forms	• Pellets	

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.971		ASTM D792
Molding Shrinkage - Flow (0.0787 in)	0.019	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.0787 in)	0.014	in/in	ASTM D955
Water Absorption (24 hr)	0.010	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Break, 73°F)	5370	psi	ASTM D638
Tensile Elongation ² (Break, 73°F)	20	%	ASTM D638
Flexural Modulus ³ (73°F, 0.118 in, 1.89 in Span)	222000	psi	ASTM D790
Flexural Strength ³ (Yield, 73°F, 0.118 in, 1.89 in Span)	5080	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.0787 in)	3.0	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	55		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	176	°F	ASTM D648
Vicat Softening Temperature	266	°F	ASTM D1525 ⁴
CLTE - Flow	7.0E-5	in/in/°F	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms·cm	ASTM D257
Dielectric Strength	1100	V/mil	ASTM D149
Dielectric Constant (73°F)	2.40		ASTM D150
Dissipation Factor (1 MHz)	1.5E-4		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	HB		UL 94

Additional Information

Kinetic Coefficient of Friction, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: 0.11
 Heat generation temp, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: 76°C (30 MPa m/min)
 Critical PV value, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: >= 30 MPa m/min
 Abrasion Loss, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: 180E-10 cm³/ kg-m
 Volume Resistivity, ASTM D257: 1E17 to 1E18 ohm-cm
 Dissipation Factor, ASTM D150, 1MHz: 1E-4 to 2E-4
 Spiral Flow, MCI method, 4.8mm radius: 42cm (270°C)
 The values listed as Mold Shrink, Linear Flow and Trans, ASTM D955, were tested in accordance with MCI methods.

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type V, 2.0 in/min

³ 0.20 in/min

⁴ Loading 1 (10 N)

