LUBMER™ L4000

Mitsui Chemicals America, Inc. - *High Molecular Weight Polyethylene*

General Information

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

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.969		ASTM D792
Molding Shrinkage - Flow (0.0787 in)	0.018	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.0787 in)	0.015	in/in	ASTM D955
Water Absorption (24 hr)	0.010	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [2] (Break, 73°F)	5950	psi	ASTM D638
Tensile Elongation [2] (Break, 73°F)	12	%	ASTM D638
Flexural Modulus [3] (73°F, 0.118 in, 1.89 in Span)	231000	psi	ASTM D790
Flexural Strength [3] (Yield, 73°F, 0.118 in, 1.89 in Span)	5370	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (73°F, 0.0787 in)	3.5	ft·lb/in	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	53		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)	2.30		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: 0.1
Heat generation temp, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: 70°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: 160E-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: 36 cm (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)