

LUBMER™ LS4140

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

General Information

Product Description		
PA Alloy		
General		
Material Status	• Commercial: Active	
Availability	• North America	
Filler / Reinforcement	• Filler	
Features	• High Heat Resistance	
Uses	• Automotive Interior Parts	• Bearings • Gears
Forms	• Pellets	

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.10		ASTM D792
Molding Shrinkage - Flow (0.0787 in)	8.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.0787 in)	0.010	in/in	ASTM D955
Water Absorption (24 hr)	1.5	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield, 73°F)	8700	psi	ASTM D638
Tensile Strength ² (Break, 73°F)	8990	psi	ASTM D638
Tensile Elongation ² (Break, 73°F)	150	%	ASTM D638
Flexural Modulus ³ (73°F, 0.118 in, 1.89 in Span)	319000	psi	ASTM D790
Flexural Strength ³ (Yield, 73°F, 0.118 in, 1.89 in Span)	11900	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.0787 in)	1.6	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	102		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	347	°F	ASTM D648
Vicat Softening Temperature	392	°F	ASTM D1525 ⁴
CLTE - Flow	4.4E-5	in/in/°F	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	640	V/mil	ASTM D149
Dielectric Constant	3.20		ASTM D150
Dissipation Factor (1 MHz)	0.016		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: 0.16
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: 30E-10 cm³/kg-m
Volume Resistivity, ASTM D257: 1E15 to 1E18 ohm-cm
Spiral Flow, MCI method, 4.8mm radius: 37 cm (270°C)
The values listed as Mold Shrink, Linear Flow and Trans, ASTM D955, were tested in accordance with MCI methods.
Vicat Softening Point, ASTM D1525, Loading 1 (10N): $>200^{\circ}\text{C}$

Notes

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

