

LUBMER™ L5220

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

General Information

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Lubricant
Features	• High Friction • Lubricated
Uses	• Automotive Interior Parts • Bearings • Gears
Forms	• Pellets

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.966		ASTM D792
Molding Shrinkage - Flow (0.0787 in)	0.018	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.0787 in)	0.017	in/in	ASTM D955
Water Absorption (24 hr)	0.010	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Break, 73°F)	6530	psi	ASTM D638
Tensile Elongation ² (Break, 73°F)	10	%	ASTM D638
Flexural Modulus ³ (73°F, 0.118 in, 1.89 in Span)	183000	psi	ASTM D790
Flexural Strength ³ (Yield, 73°F, 0.118 in, 1.89 in Span)	5510	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.0787 in)	3.6	ft-lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	51		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	8.9E-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: 0.08
Heat generation temp, MCI Method, Lubmer-contact material, SUS 304, surface roughness, 6S: 65°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: 140E-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: 31 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

