

DuPont™ Krytox® L-100, L-150, and L-220 Greases

FOR CLEANROOM APPLICATIONS

PRODUCT DATA SHEET

DuPont™ Krytox® L-100, L-150 and L-220 are clean, white greases based on a proprietary perfluoropolyether (PFPE) oil formulation, designed for use in semiconductor and aerospace environments. The grease is thickened with an extremely efficient polytetrafluoroethylene (PTFE), resulting in a smooth buttery NLGI grade 2 grease.

Krytox® L-series greases are proprietary formulations based on perfluoropolytrimethyleneoxide oils that exhibit the same excellent chemical and thermal stability properties of our standard Krytox® products, with significantly improved temperature viscosity performance. They have excellent outgassing properties, particularly critical in clean room environments. The special reduced particle-size thickener allows higher oil content and provides quieter performance versus competitive products.

Krytox® L-series greases are compatible with most all materials commonly used in semiconductor environments, including metals, plastics, and elastomers. They are safe for use around

fuels and oxidizers and have excellent load-carrying capacity. Krytox® L-series greases are excellent choices for use in high or ultra-high vacuum and aerospace environments where particulate generation is critical, or where high or extremely high temperatures exist. They are nonflammable and safe for use in all oxygen systems.

Surfaces to be lubricated with Krytox® lubricants should be thoroughly cleaned before the grease is applied to remove organic rust inhibitors that could inhibit proper lubrication. These lubricants are extremely inert and will keep their lubricating properties, even after long periods of storage.

Typical applications include all bearings, gears, valves, O-rings and any moving components, including robotics, in cleanroom and aerospace environments. Krytox® linear greases are compatible with all plastic and metal components typically used in industrial applications. Custom formulations with corrosion inhibitors and/or higher load-carrying capacity additives are available upon request.

Typical Properties of Krytox® L-100, L-150, and L-220 Greases

Test Method	Description	L-100	L-150	L-220
E 595	Vacuum Stability Test, 24 hr at 125 °C (257 °F), 5 x 10 ⁻⁵ torr or less Total Weight Loss (TWL) Volatile Condensable Material Determination of TML and CVCM from Thermal Outgassing, %	0.732 0.316 —	0.261 0.056 —	— — TML = 0.131 CVCM = 0.092
	Useful Temperature Range, °C (°F)	-67 to 290 (-89 to 554)	-60 to 315 (-76 to 599)	-60 to 315 (-76 to 599)
ASTM D 6184	Oil Separation, 30 hr, 204 °C (400 °F), wt%	11.4	10.2	9.9
ASTM D 2266	Four-Ball Wear Test, 1,200 rpm, 40 kg, 1 hr, 75 °C (167 °F)	0.88 mm	0.92 mm	—
ASTM D 2596	Four-Ball Extreme Pressure Weld Load Wear Index. (No last non-seizure. LWI based on 10 loads)	620 kg 114.6	620 kg 125.6	— —
ASTM D 1478	Low Temperature Torque at -62 °C (-80 °F) Start -62 °C (-80 °F) Running 1 hr -73 °C (-100 °F) Start -73 °C (-100 °F) Running 1 hr	3,445 g/cm 1,885 g/cm 28,204 g/cm 8,710 g/cm	4,121 g/cm 2,275 g/cm Frozen —	— — — —
ASTM D 3336	High Temperature Bearing Life, 10,000 rpm at 220 °C (428 °F)	2,100+ hr	Not tested	Not tested



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Base Oil Characteristics

		L-100	L-150	L-220
ASTM D 445	Base Oil Viscosity, cSt at			
	20 °C (68 °F)	233	350	500
	40 °C (104 °F)	99.9	150	220
	100 °C (212 °F)	18.5	26	40
ASTM D 2270	Oil Viscosity Index	206	212	236
	Molecular Weight	7,000	8,200	10,500
Knudsen	Vapor Pressure			
	Torr at 20 °C (68 °F)	1.5×10^{-8}	4×10^{-10}	6×10^{-11}
	Torr at 200 °C (392 °F)	3×10^{-3}	2×10^{-4}	4×10^{-5}
ASTM D 97	Oil Pour Point, °C (°F)	-67 (-89)	-60 (-76)	-60 (-76)
	Oil Density, g/mL, 24 °C (75 °F)	1.86	1.87	1.87
ASTM D 2595	Base Oil Volatility, % in 22 hr at			
	204 °C (400 °F)	1	—	—
	260 °C (500 °F)	6	2	<1

Typical properties, not for specifications

DuPont Performance Lubricants

Extreme conditions. Extreme performance.

For more information or for technical assistance, please call **1-800-424-7502** or contact us at krytox@usa.dupont.com

For international sales and support contacts, visit us at www.lubricants.dupont.com

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