Krytox™
Performance Lubricants

Product Information

Typical Properties of Krytox™ General-Purpose Oils and Greases[1]

Oil Grades	100	101	102	103	104	105 (H-1)	106	107
GPL Standard Grease Grades	200	201	202	203 (H-1)	204	205 (H-1)	206 (H-1)	207
GPL Extreme Pressure Grease Grades	210	211	212	—	214	215	216	217
GPL Anti-Corrosion Grease Grades	220	221	222	223 (H-1)	224	225 (H-1)	226 (H-1)	227
ISO Grade of Oil[2]	5	7	15	32	68	150	220	460
Estimated Useful Range[3]								
°C	<–70–66	<–70–104	–63–132	–60–154	–51–179	–36–204	–36–260	–30–288
°F	<–94–150	<–94–220	–81–270	–76–310	–60–355	–33–400	–33–500	–22–550
Oil Viscosity, cSt								
20 °C (68 °F)	12.4	17.4	38	82	177	522	822	1535
40 °C (104 °F)	5.5	7.8	15	30	60	160	243	450
100 °C (212 °F)	—	2	3	5	8.4	18	25	42
204 °C (400 °F)	—	—	—	—	—	3.1	4.1	6
260 °C (500 °F)	—	—	—	—	—	—	2.4	3.3
Oil Viscosity Index	—	—	29	92	111	124	134	145
Oil Pour Point								
°C	<–70	<–70	<–63	–60	–51	–36	–36	–30
°F	<–94	<–94	<–81	–76	–60	–33	–33	–22
Oil Density, g/mL								
0 °C (32 °F)	1.87	1.89	1.91	1.92	1.93	1.94	1.95	1.95
100 °C (212 °F)	1.67	1.70	1.72	1.74	1.75	1.76	1.77	1.78
Maximum Oil Volatility, ASTM D2595 % in 22 hr								
121 °C (250 °F)	90	75	35	7	3	1	<1	—
204 °C (400 °F)	—	—	—	—	—	7	<3	<1
Oil Separation from Grease, ASTM D6184 wt loss, % in 30 hr								
99 °C (210 °F)	18	9	7	6	5	5	4	4
204 °C (400 °F)	—	—	—	—	—	—	12	12

[1] This table gives typical properties (not specifications) based on historical production performance. Viscosity may vary within ±10%. Chemours does not make any express or implied warranty that these products will continue to have these typical properties.

[2] Approximate

[3] Based on pour point and where evaporation is approximately 10%.

H-1 incidental food contact approval has been given to products above that have (H-1) after the product name.

Chemours™

Krytox™ GPL 100–107 oils are clear, colorless, fluorinated synthetic oils that are non-reactive, nonflammable, safe in chemical and oxygen service, and are long-lasting. Krytox™ is a perfluoropolyether (PFPE)—also called perfluoroalkylether (PFAE) or perfluoropolyalkylether (PFPAE)—with the following chemical structure:

$$F\text{-}(CF\text{-}CF_2\text{-}O)_n\text{-}CF_2CF_3$$
$$\quad\;|$$
$$\quad CF_3$$

where n = 10–60

The polymer chain is completely saturated and contains only carbon, oxygen, and fluorine. On a weight basis, a typical Krytox™ oil contains 21.6% carbon, 9.4% oxygen, and 69.0% fluorine.

All standard grades of grease are thickened with polytetrafluoroethylene (PTFE), whose formula is $(CF_2\text{-}CF_2)_n$. This special high efficiency thickener has a melting point of 325 °C (617 °F), and has low molecular weight and sub-micron (0.2 m) particle size for higher performance in bearings.

Krytox™ GPL 200–207 greases are white buttery greases with all of the same properties as the Krytox™ GPL 100–107 oils that they are made from, but they are in grease form.

Krytox™ GPL 210–217 EP greases are black greases that contain molybdenum disulfide added as an extreme pressure additive for highly loaded gears and bearings.

Krytox™ GPL 220–227 anti-corrosion greases are white greases that contain sodium nitrite. These grades provide rust protection at ambient temperatures, corrosion protection at high temperatures, and anti-wear protection.

The grease additives may alter the chemical resistance of the grease.

The standard grease consistency is NLGI grade 2 penetration (265–295). Softer or harder NLGI penetration grades can be made by special order.

Special non-melting Krytox™ XHT grades are available for applications that are higher than the 325 °C (617 °F) melting point of the standard PTFE thickener.

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For product information, industry applications, technical assistance, or global distributor contacts, visit krytox.com or within the U.S. and Canada, call 1-844-773-CHEM/2436 or outside of the U.S., call 1-302-773-1000.

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