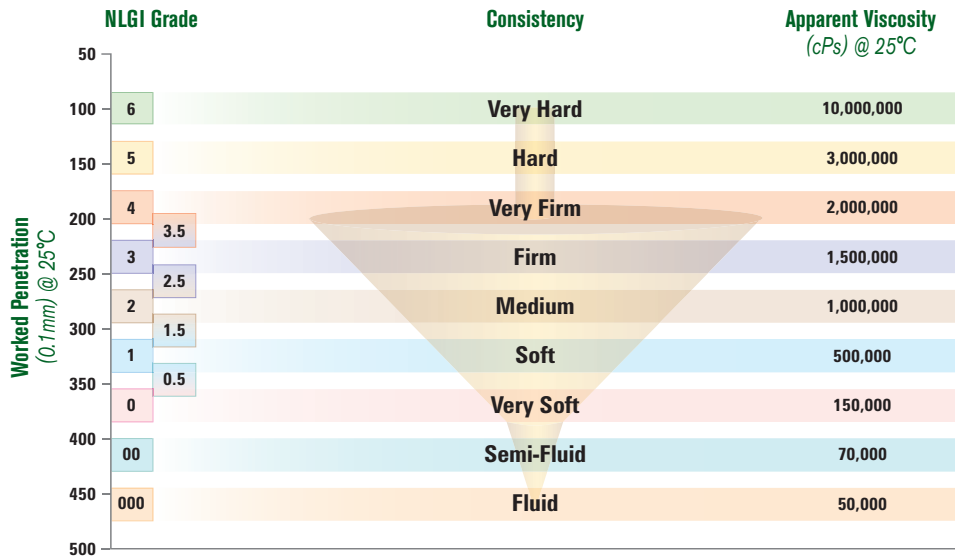
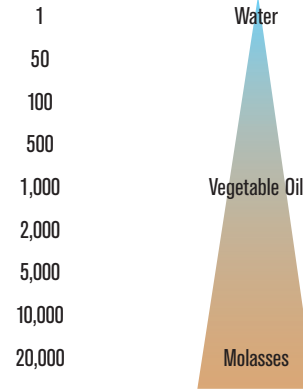


Crib Notes: Understanding Our Lubricant Data Sheets



Kinematic Viscosity (cSt)

Material @ 25°C



Grease Additives

- Antioxidants
- Antiwear/Anti-scuffing
- Extreme pressure/Solid lubricant
- Color and UV dyes
- Electrical conductivity
- Friction reducers
- Rust and corrosion inhibitors
- Tackifiers/polymers
- Thermal conductivity
- VI improvers

Lubricant Properties

Test Methods

Base Oil Visc cSt. (mm ² /s)	ASTM D-445	JIS K 2220 23	DIN 51562
Unworked Penetration, 1/10 mm (25°C)	ASTM D-217	JIS K 2220 7	DIN 51804-T1
Worked Penetration, 1/10 mm (25°C)	ASTM D-217	JIS K 2220 7	DIN 51804-T1
Density, g/cc (25°C)	ASTM D-1480	JIS K 2249	-
Dropping Point (°C)	ASTM D-2265	JIS K 2220 8	DIN ISO 2176
Evaporation (24 hrs @ 100°C)	ASTM D-972	JIS K 2220 10	-
Oil Separation (24 hrs @ 100°C)	ASTM D 6184	JIS K 2220 11	-
Four-Ball Wear 40kg, (60 min, 1200 rpm, 75°C)	ASTM D-2266	-	DIN 51350-T5
Four-Ball EP, Weld Load (1770 rpm, 100 - 800 kg)	ASTM D-2596	-	DIN 51350-T4
Copper Corrosion (24 hrs @ 100°C)	ASTM D-4048	JIS K 2220 9	DIN 51811
Low Temperature Torque (-40°C)	ASTM D-1478	JIS K 2220 18	-
Oxidative Stability, 100 hours (100°C)	ASTM D-942	JIS K 2220 12	DIN 51808
Water Washout (60 min @ 80°C)	ASTM D-1264	JIS K 2220 16	DIN 51807-T2

-40°C Torque (g-cm) (N-m)

4 Ball Wear (mm)

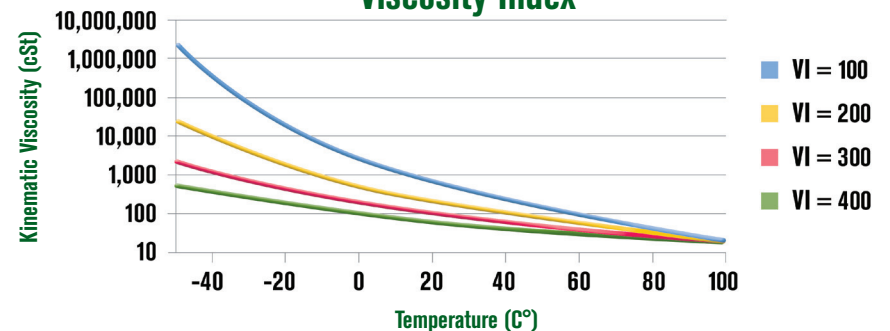
Ratings

Load Wear Index (kg)

Weld Load

>10,000	>1.00	>1.50	Not Good	< 25	< 200
5,000	0.50	1.25	Fair	25	250
2,500	0.25	1	Okay	40	315
1,000	0.10	0.75	Good	60	400
500	0.05	0.5	Very Good	80	500
100	0.01	0.4	Excellent	100	620
< 100	<0.01	<0.4	Outstanding	> 100	800

Viscosity Index



A QUAKER CHEMICAL COMPANY

Innovation and Experience at Work

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