

Typical Lubricating Grease Characteristics by Thickener Type

Properties	Aluminum	Sodium	Calcium		Lithium	Aluminum complex	Calcium complex	Lithium complex	Polyurea	Organo clay
			Conventional	Anhydrous						
Dropping point (°F)	230	325–350	205–220	275–290	350–400	500 +	500 +	500 +	470	500 +
Dropping point (°C)	110	163–177	96–104	135–143	177–204	260 +	260 +	260 +	243	260 +
Maximum usable temperature (°F)	175	250	200	230	275	350	350	350	350	350
Maximum usable temperature (°C)	79	121	93	110	135	177	177	177	177	177
Water resistance	Good to excellent	Poor to fair	Good to excellent	Excellent	Good	Good to excellent	Fair to excellent	Good to excellent	Good to excellent	Fair to excellent
Work stability	Poor	Fair	Fair to good	Good to excellent	Good to excellent	Good to excellent	Fair to good	Good to excellent	Poor to good	Fair to good
Oxidation stability	Excellent	Poor to good	Poor to excellent	Fair to excellent	Fair to excellent	Fair to excellent	Poor to good	Fair to excellent	Good to excellent	Good
Protection against rust	Good to excellent	Good to excellent	Poor to excellent	Poor to excellent	Poor to excellent	Good to excellent	Fair to excellent	Fair to excellent	Fair to excellent	Poor to excellent
Pumpability (in centralized systems)	Poor	Poor to fair	Good to excellent	Fair to excellent	Fair to excellent	Fair to good	Poor to fair	Good to excellent	Good to excellent	Good
Oil separation	Good	Fair to good	Poor to good	Good	Good to excellent	Good to excellent	Good to excellent	Good to excellent	Good to excellent	Good to excellent
Appearance	Smooth and clear	Smooth to fibrous	Smooth and buttery	Smooth and buttery	Smooth and buttery	Smooth and buttery	Smooth and buttery	Smooth and buttery	Smooth and buttery	Smooth and buttery
Other properties		Adhesive and cohesive	EP grades available	EP grades available	EP grades available, reversible	EP grades available, reversible	EP and antiwear inherent	EP grades available	EP grades available	
Production volume and Trend ^a	No change	Declining	Declining	No change	The leader	Increasing	Declining	Increasing	No change	Declining
Principal uses ^b	Thread lubricants	Rolling contact bearings	General uses for economy	Military multiservice	Multiservice and industrial	Multiservice industrial	Multiservice automotive and industrial	Multiservice automotive and industrial	Multiservice automotive and industrial	High temperature (frequent relube)

^a Lithium grease over 50% of production and all others below 10%.

^b Multiservice includes rolling contact bearings, plain bearings, and others.

Source: Courtesy of NLGI.

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