

NATIONAL LUBRICATING GREASE INSTITUTE CONSISTENCY GRADES

NLGI Grades	ASTM-D-217 Worked Penetration @ 77°F (25°C) mm/10	Description
000	445 to 475	Soft grease. Just enough soap (thickener) to keep the oil from separating. Gearbox lubricant.
00	400 to 430	Gearbox lubricant.
0	355 to 385	Low temperature handling in centralized lubrication system.
1	310 to 340	Needle & multiple row roller bearings. Numbers 0 and 1 greases generally are used for low temperature operations in centralized lubrication system.
2	265 to 295	Ball & roller bearings, moderately loaded and medium speed applications. The most common grease grade. Generally applied by gun.
3	220 to 250	Wheel bearing, precision and high speed use. Prelubed ball bearings, double sealed and double shielded types.
4	175 to 205	High speed, lightly loaded applications. Water pump grease.
5	130 to 160	Very stiff grease. Also utilized in high speed applications. Rarely used in modern equipment.
6	85 to 115	Solid type grease. Pillow block lubrication. Rarely used in modern equipment.

NLGI Grade is a widely used classification for lubricating greases. It was established by the National Lubricating Grease Institute. Greases are classified in one of nine-(9) grades based on their consistency.

NLGI Grade alone is not sufficient for specifying the grease for a particular application. NLGI Grade, in combination with other test-based properties is the only method for determining the potential suitability of various greases in a specific application.

The nine-(9) grades are defined by a range of worked penetration test results. The NLGI grade for a specific grease is determined using two test apparatus. The first apparatus consists of a closed container and a piston like plunger. The face of the plunger is perforated to allow grease to flow from one side of the plunger to another as the plunger is worked up and down. The test grease is inserted into the container and the plunger is stroked 60 times while the test apparatus and grease are maintained at a temperature of 77°F (25°C).

