

The NLGI consistency number expresses a measure of the relative hardness of a grease used for lubrication, as specified by the standard classification of lubricating grease established by the National Lubricating Grease Institute (NLGI).

The NLGI consistency number is just one factor in determining the suitability of a grease to a specific application. Other properties such as structural and mechanical stability, apparent viscosity, resistance to oxidation can be tested.

NLGI's classification defines nine grades, each associated to a range of ASTM worked penetration values, measured using the test defined by standard ASTM D217 "cone penetration of lubricating grease".



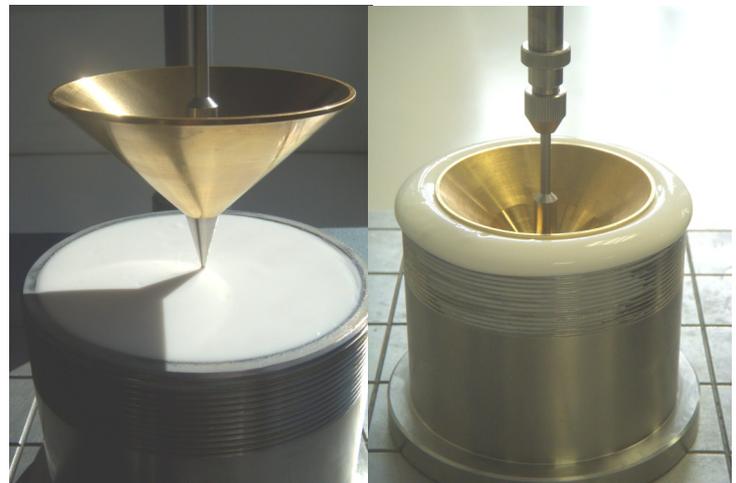
This involves two test apparatus.

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 25 °C.

Once worked, the grease is placed in a penetration test apparatus. This apparatus consists of a container, a specially-configured cone and a dial indicator. The container is filled with the grease and the top surface of the grease is smoothed over.

The cone is placed so that its tip just touches the grease surface and the dial indicator is set to zero at this position. When the test starts, the weight of the cone will cause it to penetrate into the grease. After a specific time interval the depth of penetration is measured.



See below a table of NLGI grades & their consistencies.

Please contact us for guidance on the most suitable product for your application.

NLGI class	Penetration Number (mm/10)	General Consistency
000	445 to 475	Fluid
00	400 to 430	Semi-fluid
0	355 to 385	Very soft
1	310 to 340	Soft
2	265 to 295	Normal 'grease'
3	220 to 250	Firm
4	175 to 205	Very firm
5	130 to 160	Hard
6	85 to 115	Very hard