

How do we specify grease consistency? by Mike Mortensen - Director of Engineering RBI-USA

An important characteristic of grease is its thickness or consistency. Grease consistency can vary from a solid to a semi-fluid consistency. The National Lubricating Grease Institute (NLGI) has a system to classify greases. A standardized ASTM test using a cone of a specific weight allowed to sink into the grease for 5 seconds at 25 °C is used to measure consistency. The table below shows the various grades of grease that have been established.

NLGI Grade Number	ASTM Worked Penetration 0.1 mm at 25 °C	Consistency	
000	445 - 475	Semi-fluid	
00	400 - 430	Semi-fluid	
0	335 - 385	Very soft	
1	310 - 340	Soft	
2	265 - 295	Common grease	
3	220 - 250	Semi-hard	
4	175 - 205	Hard	
5	130 - 160	Very hard	
6	85 - 115	Solid	

The most common NLGI grades used in ball bearings are 1, 2 or 3. Of these three common grades, grade 2 greases are the most popular in general bearing applications.

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