



GREASE STIFFNESS ANALOGS

Understanding the NLGI Grade & Consistency of Grease through Penetration Testing

LUBRICANT TESTING 101 - PENETRATION

The penetration values of P60 are rated using the NLGI grade chart from 000 to 6. These values determine the stiffness of the grease and how a grease will react over time to service and wear. The higher the penetration value, the softer the grease. The lower the penetration value, the stiffer the grease. A grease that is too soft may migrate away from the area that needs to be lubricated. A grease that is too stiff may not effectively migrate into those areas that need to be lubricated.



STEP 1

Place a sample in a worker cup and smooth the surface with a spatula.



STEP 2

Place the cup directly below the standard cone, making sure the cone tip just touches the grease surface.



STEP 3

Allow the cone to penetrate the grease for five seconds, then read the depth of penetration.

NLGI GRADE								
000	00	0	1	2	3	4	5	6
ANALOGY								
ASTM WORKED PENETRATION (60x)								
445 - 475	400 - 430	355 - 385	310 - 340	265 - 295	220 - 250	175 - 205	130 - 160	85 - 115