



Growing your sales of lubricants requires knowledge about applications. TOTAL Lubricants USA, helps you recognize new opportunities for selling our products. This newsletter includes information about lubrication sales opportunities involving air compressors and lubrication grease.

Do not hesitate to share this knowledge and forward our newsletter to other interested parties in your company. Send us their contact info and we will add them to our e-mail distribution list. Please be sure to include their full name, email, phone number, fax number and mailing address.

Air Compressor Lubrication

Compressed air is used in all industrial facilities. Air compressors are often overlooked as an opportunity for sales of lubricants. Most air compressors have a fluid reservoir that must be monitored. Periodically, the fluid is drained and recharged. Fluid replacement cycles are a function of the hours of compressor operation. A replacement cycle can be as short as 500 hours of operation. Typically, for industrial compressors, replacement cycles are measured in thousands of hours. Replacement cycles can be extended by the effective use of predictive fluid condition monitoring. (TOTAL Lubricants USA offers fluid condition monitoring laboratory services).

Manufacturers and distributors of air compressors require customers to use specific air compressor fluids to maintain warranty. It is difficult to sell air compressor fluid for units still under warranty, or similar service agreements. Eventually, this obstacle is eliminated.

TOTAL Lubricants USA, Inc offers many fluids for air compressors. We can recommend the appropriate TOTAL product knowing the name of the compressor manufacturer and the style of compressor (examples- rotary screw, rotary vane). In some situations, selecting the best TOTAL air compressor fluid requires us to know the name of the fluid previously used in the air compressor.

Fluids from TOTAL Lubricants are often 30% to 50% less expensive to the consumer than compressor OEM brands. TOTAL Lubricants offers the fluid condition monitoring service free of charge. DACNIS SE product line, a premium product formulated from synthetic fluids, is a common recommendation. The NEVASTANE SL series offers the benefits of a synthetic fluid, along with NSF H1, and a Kosher approved product.



Grease Specifications - Consistency

Lubricating greases are complicated formulas. A grease formulation includes a “base” fluid, a thickening system, and additives. Grease performance and specifications are influenced by each of the three components of the formulation. TOTAL has many fine types of grease to offer. Industrial and commercial markets have many applications for grease. We recommend salespeople understand grease specifications. To increase your understanding of lubricating grease, I will explain each of the important grease specifications, or performance parameters, in the next few “Lubrication Tips” e-mails.

Grease can be manufactured to be very firm (like a block of wax), or very soft, almost fluid. The firmness of grease is referred to as consistency. Measurement of consistency can be accomplished accurately using an ASTM procedure (ASTM D217). The ASTM procedures require that a standardized, cone shaped device, drop or penetrate the grease until the penetration is stopped by the resistance of the grease. ASTM D217 has specifications which control potential variables such as grease temperature. The penetration of the cone is measured in tenths of a millimeter. Greases with less consistency will demonstrate higher penetration measurements. Firmer greases will resist penetration and produce lower penetration results.

The National Lubricating Grease Institute (NLGI) created a system of consistency designations using numbers from “000” to “6” (000, 00, 0, 1, 2, 3, 4, 5, 6). Each NLGI consistency number represents a range of 30 tenths of a millimeter of penetration. The attached electronic version of TOTAL’s catalogue contains a chart showing the relationship of penetration measurements to the NLGI system. The most commonly specified greases have an NLGI consistency number of “2”.

Greases with NLGI numbers of 0 or 1, are often recommended in applications where the grease is pumped to the application via long runs of tubing.

GREASE CONSISTENCY NUMBERS

| NLGI* GRADE | ASTM WORKED PENETRATION @ 77° F (0.10 OF A MM) |
|----------------|---|
| 000 | 445-475 (Semi-Fluid) |
| 00 | 440-430 (Semi-Fluid) |
| 0 | 355-385 (Soft) |
| 1 | 310-340 |
| 2 | 265-295 |
| 3 | 220-250 |
| 4 | 175-205 |
| 5 | 130-160 |
| 6 | 85-115 (Hard) |

* National Lubricating Grease Institute.

Grease consistency is not a static performance. When grease is charged into a rolling element bearing, for example, grease is exposed to churning and shearing forces. The mechanical forces, over time, can cause changes to the consistency of grease. Most grease formulations will gradually become less firm; some will actually become firmer. To simulate the effects of mechanical stresses, a laboratory scale simulation is used to stress the grease. A grease “worker” is a table-top sized device which simulates mechanical stresses. Grease consistency is tested “un-worked” (before the simulation of mechanical stresses), and worked. The difference between the worked, and un-worked, consistency should be minimal.

Manufacturers of mechanical equipment will usually specify the consistency of the grease recommended. In the absence of such information, TOTAL Lubricants personnel can help you identify the best consistency for a grease application.