



ANION WS 5300 BearingLube

The rotary kilns, calciners, dryers and coolers employed by the cement, paper, lime, food processing, waste and chemical industries combine the large-diameter journal (or sleeve) bearings, anti-friction bearings, and several types of gearing. Equipment manufacturers have established that properly formulated petroleum oils satisfactorily meet their requirements for moderate temperatures. However, when bearing temperatures exceed 177^o C (350^oF), petroleum lubricants tend to develop carbonaceous residues and unacceptably low viscosities that may contribute to lubrication problems and certainly add to a continuing maintenance program. All ANION kiln lubricants are formulated for high-temperature service.

ANION WS 5300 BearingLube is specially compounded polyalkylene glycol derivatives that has a high viscosity indexes and is chemically and thermally stable. It is water-soluble, and compatible with metals and many commonly used elastomers. Along with its superior high-temperature performance, it makes the kiln operation more economical by minimizing wear and reducing maintenance. ANION WS 5300 BearingLube performs well under most operating conditions and excels when roller shaft temperatures range from 150^oC to 200^o (300^oF - 390^oF). At low rotational speeds, ANION WS 5300 BearingLube considerably reduces the wear of bronze, brass and steel sleeve bearings.

The following pages discuss the special features and benefits of ANION WS 5300 BearingLube. Provided also are procedures for converting from petroleum-based products to ANION WS 5300 BearingLube and for monitoring the condition of the new lubricant to maximize its performance.

Features and Benefits of ANION WS 5300 BearingLube

1. Long Service Life and Lower Maintenance Costs
2. Easy Cleanup
3. Excellent Materials Compatibility
4. High Viscosity Indexes
5. Low Pour Points

1. Long Service Life and Lower Maintenance Costs:

ANION WS 5300 BearingLube is chemically and thermally stable and is inhibited against oxidative degradation. Thus, the tendency to form sludge, varnish or carbonaceous residues is significantly less than with petroleum-based lubricants.

When roller shaft temperatures exceed 180° C, petroleum lubricants develop carbonaceous residues. These tend to reduce lubricant flow and starve the bearings of their lubricant. Because ANION WS 5300 BearingLube does not form sludge or residue, they operate very well at elevated temperatures for long periods of time. This means overall lower operating costs because of less downtime and greater production under demanding operating conditions.

2. Easy Cleanup:

ANION WS 5300 BearingLube is soluble in water, making equipment and shop cleanup easy. The lubricant is soluble in methanol (whereas petroleum based lubricants are not).

3. Excellent Materials Compatibility:

ANION WS 5300 BearingLube is compatible with common metals such as iron, steel, brass, bronze and aluminum as well as most natural and synthetic rubber compounds or gasket materials. Therefore, the maximum operating temperature, rather than construction material becomes the main factor in selecting polymers for seals.

4. High Viscosity Indexes:

Viscosities of ANION WS 5300 BearingLube change less with temperature than do unmodified petroleum oils. In addition, their viscosities are suitable for use in high shear applications. Measured by ASTM Method D-2270, the Viscosity Index value is 287.

The relatively flat viscosity-temperature characteristics of ANION WS-5300 demonstrate that ANION WS 5300 BearingLube provides useful viscosities at elevated temperatures, without an unduly high pour point that would reduce flow and pump ability at ambient temperatures. The viscosities of this lubricant in the 150° C to 200°C range also means better hydrodynamic (load-carrying) fluid films in highly loaded bearings. Even under thin film and boundary conditions, below the normally limiting value of $ZN/P=1$, ANION WS 5300 BearingLube has demonstrated excellent load-bearing performance.

5. Low Pour Points: ANION WS 5300 contains no wax and requires no pour-point depressants to remain fluid at low temperatures.