

# Beyond Oil and Grease

By Bob Geneseo

As energy prices continue to set records, manufacturers must pay close attention to properly lubricating their equipment as a way to contain costs. Properly lubricated equipment creates less friction, which means less energy is needed, resulting in lower operating costs, increased reliability, and longer-lasting equipment. Consider the lubrication requirements of a typical large plant. It can have more than 80,000 lubrication points, involving hundreds of combinations of lubricant types, lubrication frequencies, and methods of application. The wrong lubricant, or the correct lubricant applied in the wrong manner, can waste energy and halt plant operations. With so much at stake, best practices in lubrication management are critical. To recapture money lost through rising energy costs and from their own maintenance efforts, many companies are turning to outside consultants to implement "total lubrication management" programs. These programs consolidate lubricant purchases into a single, integrated program to reduce energy consumption by ensuring the correct high-performance lubricant is used for a given application. They also enhance productivity by making it easier to automate preventive maintenance routines, increase the efficiency of inventory management, and reduce on-site inventory costs with local product supply. While total lubrication management may sound simple, its success depends on finding the right source for all lubrication products and services. The suppliers best equipped to meet diverse lubrication requirements will offer a comprehensive line of industrial lubricants, not just a range of products. They should provide fluids for high-volume applications including compressor pump, vacuum pump, gearbox, hydraulic, chain, and multipurpose oils. They also should have specialized industrial compounds such as greases, pastes, anti-friction coatings, and dispersions as well as a wide range of base stocks. Synthetics will provide excellent resistance to emulsification and last longer to extend maintenance intervals. Ultra-high purity mineral oils also will resist emulsification and promote improved additive performance, which results in longer life than conventional mineral oils. In addition, suppliers should be able to draw on functional additive technologies including anti-oxidant, anti-wear, and extreme temperature varieties. The expertise a supplier provides is equally important. Effective lubricant consolidation demands technical support from local representatives who know the correct lubricants for specific applications. Their expertise can help maintenance professionals avoid mistakes in lubricant selection and application, which can shorten equipment life or stop production. For example, high temperatures in air compressors accelerate reactions between compressed oxygen and impurities, resulting in rapid oxidation and a sudden increase in viscosity and lubricant failure. Mineral oils in air compressors generally last only 1,500 hours. By comparison, a synthetic compressor oil, specially formulated for air compressors, can last up to eight times longer. Essential to keeping lubricants working better longer is a thorough oil analysis program that tracks multiple critical wear-related characteristics of oil in service by comparing the results with previous

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reports and then examining trends. Such a program helps identify contamination, lubricant degradation, abnormal machine wear, and problems with sampling. It also can transform a lubrication program from time-based to condition-based, eliminating unnecessary changes. When used properly, dedicated lubrication management software is a powerful tool to schedule, supervise, and record a consolidated lubrication program. It exploits and complements oil analysis by collecting trend data and developing responsive lubrication schedules. By enabling maintenance managers and workers to schedule and record lubrication changes for specific equipment, lubrication software automates the lubrication management function. **Bob Geneseo is the lubrication applications engineer for the Molykote Division of Dow Corning Corp., 2200 W. Salzburg Rd., Midland, MI 48686. He has spent 10 years in Dow Corning's manufacturing facility as a maintenance and reliability engineer and an operations team leader. He also has been in the Six Sigma black belt group and has a mechanical engineering degree. Questions about this article can be addressed to Geneseo at [r.geneseo@dowcorning.com](mailto:r.geneseo@dowcorning.com) or 989-496-8158. Additional information is available at [www.molykote.com](http://www.molykote.com).**

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