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Lubricant storage strategy takes 'out-of-drum' thinking

KEY CONCEPTS

- Contaminated or improperly handled lubricants account for up to 85% of all hydraulic component failures.
- The use of 55-gallon drums for lubricant storage is not always the best procedure.
- Centralized lubricant rack storage saves space and uses all the lubricant.

Lubricating fluids are used throughout the manufacturing plant. Such fluids include gear lubricants, greases, cutting oils, bearing oils, hydraulic fluids, engine oils and others. The supplier's role is to determine the quality of the lubricants being used, so making sure a supplier follows a strict quality control program is important.

Many operations rely on suppliers to provide returnable drums and semi-bulk containers without considering the cleanliness of the container or checking the cleanliness of the lubricant that is delivered from the suppliers facility.

Storing, handling and dispensing these fluids can be a chore. Even worse, it can slow productivity, take up a lot of valuable plant space and even pose a safety hazard. Bad lubrication practices cut into operating profits, risk lost production, tie up valuable resources and space and, in some cases, endanger plant maintenance personnel.

No matter what end product is manufactured, efficient ways to store, handle and dispense fluids are essential to a successful plant operation.

comfort zone. Another reason is cost. In addition to the time and trouble involved in exploring an alternative method, there is always the fear that it will raise operating costs beyond an acceptable level. This may be especially true for small operations that are using a limited number of fluids in relatively small quantities.

For those operations where keeping operating costs down is what matters most, staying with 55-gallon drums may be perceived as the best way of handling lubricants.

The practice of storing lubricants and oils in drums presents several problems that increase maintenance costs. Accurate inventory control is almost impossible with drum storage. All too frequently, the drum runs dry before the operator has dispensed the necessary amount of lubricant.

Conversely, empty drums returned to the supplier often have as much as 5 gallons of fluid left in them. Over time, that adds up to a lot of wasted product. You don't get your deposit back on that.

Drums take up a lot of valuable floor space and can be messy. Also, there is a chance of people getting hurt trying to move them around.

While many operations still use 55-gallon drums, some companies are converting to centralized storage areas using up-to-date storage and dispensing systems and enjoying the benefits, financial and otherwise, associated with long-term planning.

An efficiently designed facility employs one of two methods for lubricant storage and dispensing. One is the utilization of a single centralized storage area where high-volume lubricants, dispensed in large quantities, can be stored in bulk containers and dispensed through filters into sealed containers by gravity feed or pumps.

Lubricants used in low volumes can be stored in smaller containers or purchased in small container sizes based on their frequency of use.

Another method for storage and dispensing lubricants is to strategically locate storage areas for different types of fluids. In a large facility that uses different lubricants, this method can reduce the number of man-hours required to dispense products compared to a single, centralized storage area.



Fig. 1. A typical 55-gallon drum storage area.

55-gallon drums, and alternatives

For many operators, the traditional solution is to dispense fluids right out of 55-gallon drums. (fig. 1). There are a variety of reasons for continuing to use 55-gallon drums. One is familiarity, which can create a certain

Storage and dispensing equipment

Whether using a centralized fluid storage area or several strategically located storage areas for differ-

ent types of fluids, there are alternatives available to 55-gallon drums that can increase efficiency, accuracy, cleanliness, simplicity, safety and, in the long run, economy.

A rack-mounted storage and dispensing system with multiple lightweight plastic or stainless steel containers, can be utilized at one central location or, for larger plants with more varied lubrication requirements, several locations. This provides a modular system that can be located near the machinery to be lubricated (Fig. 2).



Fig. 2. An eight-container storage and dispensing system.

Containers and self-closing faucets used to hold and dispense the fluids can be clearly labeled to eliminate the chance of the wrong fluid being used. The number and capacity of the containers can be varied to suit plant requirements.

An efficient storage system takes up less space. For example, nine 55-gallon drums take up about 120 square feet of floor space. A nine-container storage system occupies 19 square feet.

When the fluids are initially delivered to the plant, a pump can move the fluid from the drums or totes into the containers in minutes, and the drums can be returned on the delivery truck. There is no waiting to get a deposit back.

Maintenance personnel can dispense as much fluid as necessary into an oil can or other container, with

Issues to consider

Some of the issues to consider when reviewing your lubricant storage issues include:

- What types of lubricants are being used?
- How much of each fluid is being consumed?
- Are there several lubricants being used that meet the same specification and can they be consolidated?
- Are the lubricants being stored in an aggressive environment that might corrode or rust metal?
- How much of each type of lubricant is used in any given area, and are these areas close enough to one another that a single storage area is efficient?
- Are the lubricants purchased in the appropriate quantities (small containers, 55 gallon drums or bulk containers)?
- Are the lubricants susceptible to separation or cold oxidation during storage?
- Can current placement of lubricants be more efficient?
- Do the fluid handling and dispensing methods currently in use maximize or impair cleanliness?
- Are plant lubrication technicians subjected to needless physical risks in the handling and delivery of lubricants?
- Do the policies in the plant help or hinder the overall lubrication program and the attitude of the employees involved?

none of the tipping, cleaning, switching and replacing necessary with drums. The containers yield every ounce of fluid, so there is no wasted product, and a drip pan can be provided underneath the containers for total spill containment.

Drawbacks depend on plant needs and the perspective of fluid storage and handling. This type of system can present an upfront cost of a few thousand dollars, which may be quite a bit more than that shipment of 55-gallon drums coming off the delivery truck.

Managers must look at the long-term benefits of such a system. With this method of fluid storage, there is a system that is cost effective and works better than any existing system. If 55-gallon drums are perceived to be the cheaper method, they are still not the cleanest, safest or most mistake-proof way of storing, handling and dispensing lubricants.

The facilities manager who closely scrutinizes his plant's storage and handling practices for lubricants and other industrial fluids can take advantage of an opportunity to increase company profitability.

A well-designed lubricant storage and handling system can make it possible not only to realize a return on investment in a short period of time, but also to save thousands of dollars per year in maintenance-related expenditures. **PE**

More Info:

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