

FLUID CLEANLINESS IMPROVES COMPONENT LIFE

It is important to have the proper additive and base oil characteristics for a particular lubricant application. It is also important to maintain sufficient cleanliness of the lubricant and the system containing the lubricant.

Recently, various equipment manufacturers have concluded that equipment life can be greatly increased if the lubricant being utilized maintained a desired cleanliness. As the lubricant deteriorated and became less clean, the amount of wear would tend to dramatically increase. Because of this tendency, the OEMs determined their desired and required levels of cleanliness to promote longer equipment life.

Fluid cleanliness can be determined through a number of methods. A common method employed is the ISO 4406 method. This method counts particles at a range of particle sizes and calculates an industry standard ISO Cleanliness Code. The OEMs have based their cleanliness requirements upon this cleanliness code.

The cleanliness code for a particular component takes into account various factors that might promote increased wear. Those factors include the component's internal clearances, size and quantity of existing contaminant particles, and the system's pressure. Since the pressure and clearances of the system cannot be modified without loss of performance, it is important to control the contaminants present.

Contaminants themselves have different sources. The new oil will contain some contaminant, making it critical to filter at every stage of fluid transfer and perhaps even utilize a kidney loop system for added filtration during operation. The system will obtain contaminants from service and maintenance, and during operation the equipment will ingest contaminants. Lastly, the system will produce contaminants, typically wear particles or byproducts of chemical reactions, during operation. Control of these contaminants will increase the life and efficiency of the equipment.

For more information contact your Universal Salesperson or the Technical Services Department at 1-800-444-6457.

Universal Lubricants, LLC
April, 2007