DL-5® DICRONITE®
Developed & Distributed by Lubrication Sciences International, Inc.

Valve Torque Reduction

Situation:

A major valve manufacturer wanted to reduce torque in rotating components and mating surfaces, while still maintaining sealing capability at the mating surfaces. The manufacturer provides a range of valve types to a variety of industries and wanted a solution that could work across different environmental conditions.

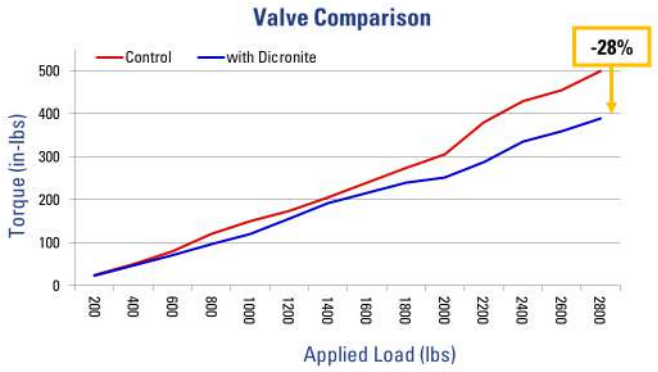
Key operating requirements included:

- ability to operate across cryogenic to high temperatures
- chemical resistance to fluids and gases; radiation resistance
- compatibility (non-explosive) with liquid and gaseous oxygen, rocket propellant and other explosive materials
- compatibility with valve seating materials (elastomers, plastics, etc.)

Testing:

To demonstrate **DICRONITE®'s** benefit, a test fixture was constructed and a series of tests were run comparing a control valve (steel on steel) and a valve with a **DICRONITE®** lubricated surface rotating against steel. The load on the fixture was progressively increased while measuring the torque required to rotate the stem.

Results:



As shown, the addition of **DICRONITE®** dry lubrication to the rotating surface decreased the required torque by more than 25%. This resulted in increased valve life and decreased valve wear.

In addition, **DICRONITE®** met the manufacturer's operating requirements with its wide functional temperature range, chemical resistance, radiation resistance, compatibility with liquid/gaseous oxygen and rocket propellants, and compatibility with metal, plastic and elastomer substrates.

DICRONITE® was introduced resulting in lower torque and less wear and maintenance without compromising seal integrity.

For more information, visit us at www.dicronite.com
Contact Lubrication Sciences International, Inc. at 1-800-874-4319 or info@dicronite.com