

# TRIBOLUBE<sup>®</sup>-15,-15MS,-15RP,-15V

## Fluorinated Polyether Greases

广州孚润 400-992-6811

### CHARACTERISTICS

These greases are especially useful in vacuum and other systems where nonreactivity with chemicals, strong acids and oxidizers, fuels, and solvents is required. Each grease is suited for different operating environment temperatures.

Tribolube-15 and Tribolube-15MS respectively meet the requirements for MIL-PRF-27617 Types 4 & 5. Although this lubricant is very inert, newly exposed rubbing surfaces of aluminum and magnesium may react with the greases under certain conditions.

### APPLICATIONS

Tribolube-15V is recommended for vacuum applications. Tribolube-15RP is available with three different corrosion inhibitors designated by the letter RPA, RPB, & RPC. Please consult with an ALI lubrication engineer to select the correct one for your application. These greases are suitable in applications including small and large diameter ball, roller, needle, and plain bearings, electrical contacts, threads, valves, gears, contacts, splines, ball screws, and screw actuators. It is compatible with most elastomers and plastic seals, gaskets and O-rings.

| PERFORMANCE TEST             | TEST METHOD             | CONDITION                                  | TYPICAL VALUES  |                 |                 |                 |       |
|------------------------------|-------------------------|--|-----------------|-----------------|-----------------|-----------------|-------|
|                              |                         |  | TRIBOLUBE-15    | TRIBOLUBE-15MS  | TRIBOLUBE-15RPA | TRIBOLUBE-15V   |       |
| Temperature Range            |                         |  | -100°F to 450°F | -100°F to 450°F | -100°F to 450°F | -100°F to 450°F |       |
| NLGI No.                     |                         |  | 2               | 2               | 2               | 2               |       |
| Unworked Penetration         | ASTM D-1403             | @ 77°F                                     | 291             | 294             | 287             | 292             |       |
| Worked Penetration           | ASTM D-1403             | 60 Strokes                                 | 295             | 295             | 275             | 295             |       |
| Oil Separation               | FED-STD-791 Method 321  | 30 hrs @ 400°F                             | 9.66%           | 5.70%           | 11.35%          | 11.2%           |       |
|                              |                         | 30 hrs @ 450°F                             | 10.24%          | 22.5%           |                 |                 |       |
| Evaporation                  | ASTM D-2595             | 22 hrs @ 400°F                             | 4.31%           | 0.12%           | 0.08%           |                 |       |
|                              |                         | 30 hrs @ 400°F                             | 4.51%           |                 |                 | 0.08%           |       |
|                              |                         | 22 hrs @ 450°F                             |                 | 0.18%           | 0.18%           |                 |       |
|                              |                         | 72 hrs @ 450°F                             |                 | 2.13%           |                 |                 |       |
|                              |                         | 22 hrs @ 500°F                             |                 | 0.80%           |                 |                 |       |
| Rust Preventative Properties | ASTM D-1743             | 48 hrs @ 125°F                             |                 |                 | Pass            |                 |       |
| Low Temperature Torque       | ASTM D-1478             | @ -65°F, Starting                          | 520 gm-cm       |                 |                 | 910 gm-cm       |       |
|                              |                         | Running                                    | 163 gm-cm       |                 |                 | 390 gm-cm       |       |
|                              |                         | @ -100°F, Starting                         | 1,450 gm-cm     | 3,283 gm-cm     |                 | 3,185 gm-cm     |       |
|                              |                         | 10 min Running                             |                 | 2,990 gm-cm     |                 |                 |       |
|                              |                         | 60 min Running                             | 618 gm-cm       | 2,470 gm-cm     |                 | 975 gm-cm       |       |
| Copper Corrosion             | FED-STD-791 Method 5309 | 24 hrs @ 212°F                             | 1b              | 1b              | 1b              |                 |       |
| LOX Impact Sensitivity       | ASTM D-2512             | 20 impacts from 43.3 in                    | No Reactions    | No Reactions    | No Reactions    | No Reaction     |       |
| Load Wear Index              | ASTM D-2596             |  | 170.29          | 152.25          | 151.25          | 152.25          |       |
| Last Non-seizure             |                         | Load/Wear Scar                             | 80 kg/0.52 mm   | 32 kg/0.31 mm   | 40 kg/0.40 mm   | 40 kg/0.40 mm   |       |
| Last Seizure                 |                         | Load/Wear Scar                             | 600 kg/1.71 mm  | 800 kg/1.70 mm  | 800 kg/1.50 mm  | 800 kg/1.52 mm  |       |
| Weld Point                   |                         | Load                                       | 800 kg          | 1,000 + kg      | 1,000 + kg      | 1,000 + kg      |       |
| Steel-on-Steel Wear          | ASTM D-2266             | 1200 rpm, 40 kg, 1 hr @ 167°F, 52100 Steel | 0.70 mm         | 0.97 mm         | 0.90 mm         | 0.90 mm         |       |
|                              |                         | 1200rpm, 40 kg, 1 hr @ 400°F 52100 Steel   | 1.12 mm         |                 |                 | 1.33 mm         |       |
| High Temperature Performance | ASTM D-3336             | 10,000 rpm @ 400°F 5 lbs                   | 1,600 + hrs     | 2,250 + hrs     |                 | 1,800 + hrs     |       |
|                              |                         | 10,000 rpm @ 450°F 5 lbs                   | 500 + hrs       | 1,000 + hrs     |                 | 500 + hrs       |       |
| Film Stability and Corrosion | FED STD-791 Method 5414 | 168 hrs @ 212°F                            | Pass            | Pass            |                 | Pass            |       |
| Vapor Pressure               | Knudsen                 | @ 68°F                                     |                 | 10 ·12 Torr     |                 | 10 ·12 Torr     |       |
| Dropping Point               | ASTM D-2265             |  |                 |                 |                 | 438°F           |       |
| Vacuum Thermal Stability     | NASA SP-R-0022A         | 24 hrs@ 6 X 10-6 Torr                      |                 |                 |                 |                 |       |
| Weight Loss                  |                         |  |                 | 0.15%           | 0.12%           | 0.07%           |       |
| Volatile Condensables        |                         |  |                 | 0.03%           | 0.01%           | 0.00%           |       |
| Water Vapor Recovery         |                         |  |                 |                 | 0.01%           | 0.01%           | 0.01% |
|                              |                         |  |                 |                 |                 |                 |       |