

Product Data Sheet

Tribol 3020 Greases with TGOA[®] were designed for very heavy duty service in adverse environments. Through their formulation and advanced TGOA additive system, they are able to withstand the shock and heavy loading commonly found in the processing of primary metals as well as in cement, construction, and mining industries. The TGOA additive package out-performs all other EP and antiwear additives because of its unique action on frictional surfaces.

DESCRIPTION

Tribol 3020 Greases with TGOA have a lithium soap thickener. The base oils are high viscosity petroleum oils forming a stable lube film to withstand high continuous loads, shock loads, and vibrations. The TGOA additive package is activated by high specific loads and corresponding temperatures causing a chemical-physical reaction. This results in an equalization of surface roughness without creating abrasion.

The results of the TGOA additive can be compared with a rolling process in the micro-range. The surface roughnesses are gradually leveled and smoothed.

Through smoothing of the working surfaces, the loads are distributed over increasing areas and the actual load-bearing areas are enlarged.

During the running-in process, the TGOA additive package creates an optimum of smooth contact surfaces.

If, because of shock loads or stop-and-go operation, surface roughness peaks redevelop, the TGOA additive package is automatically reactivated. Surface roughness is again equalized and lubrication optimized.

Corrosion and oxidation inhibitors maximize effective rust protection and long grease life.

APPLICATIONS

Typical applications for Tribol 3020 Greases are in ball and roller bearings, bushings, slides, couplings (with the exception of high precision

couplings), and general lubrications, especially where loads may be quite high and speeds low. Application of Tribol 3020 Greases may be made manually with grease guns or automatic dispensing systems.

ADVANTAGES

Tribol 3020 Greases offer optimum protection and long life to seals, as well as forming a protective barrier in damaged seals.

Reduced friction due to the effect of the TGOA additives is most evident under boundary and mixed-film lubrication conditions. This benefit is most pronounced where frequent start up, slow speeds, or high and unexpected loads are encountered.

Overall savings are derived from the above and result from less labor and downtime, smoother, more efficient operation with longer parts life, and extended lubrication cycles.

NOTES

Tribol 3020 Greases with TGOA should not be mixed with greases using a different thickener. Relubrication intervals should be increased gradually to insure complete removal of previous lubricant and to use the TGOA additives to their full advantages. For specific terms, conditions, warranty, and availability, refer to the Castrol Performance Lubricants' Price List in effect at time of purchase.

TYPICAL PROPERTIES

| | 3020/1000-0 | 3020/1000-1 | 3020/1000-2 |
|--|-------------|-------------|-------------|
| NLGI Grade | 0 | 1 | 2 |
| Worked Penetration, ASTM D 217, mm/10 | 355-385 | 310-340 | 265-295 |
| Thickener Type | Lithium | Lithium | Lithium |
| Dropping Point, ASTM D 2265, °C/°F | NA | 177/350 | 177/350 |
| Base Fluid Properties: | | | |
| Viscosity, ASTM D 445, D 2161: | | | |
| @ 40°C, cst | 1000 | 1000 | 1000 |
| @ 100°C, cSt | 56 | 56 | 56 |
| @ 100°F, cSt/SUS | 1163/5400 | 1163/5400 | 1163/5400 |
| @ 210°F, cSt/SUS | 58/271 | 58/271 | 58/271 |
| Viscosity Index | 108 | 108 | 108 |
| Flash Point, ASTM D 92, °C/°F | 229/445 | 229/445 | 229/445 |
| Pour Point, ASTM D 97, °C/°F | -23/-10 | -23/-10 | -23/-10 |
| Oxidation Stability, ASTM D 942: | | | |
| Pressure drop @ 100 hrs, psi/kPa | 5/34 | 5/34 | 5/34 |
| Water Washout, ASTM D 1264 at 79°C/175°F, % of loss | N/A | 4.0 | 4.0 |
| Rust Prevention Properties, ASTM D 1743 | pass | pass | pass |
| Emcor Rust Test, DIN 51802, 1P 220/85, Rating | 0 (pass) | 0 (pass) | 0 (pass) |
| Roll Stability, ASTM D 1831, % change | 10 | 10 | 10 |
| Oil Separation, ASTM D 1742, % | 1.7 | 1.7 | 0.8 |
| Timken, EP Test, ASTM D 2509, OK Value, kg/lbs | 23/50 | 23/50 | 23/50 |
| Four Ball EP Test, ASTM D 2596, Weld Load, kg | 400 | 400 | 400 |
| SRV Test, 20°C, 400 N, 2 hrs Amplitude 100µ, Frequency 50 Hz, µ | 0.05 | 0.05 | 0.05 |

Subject to usual manufacturing tolerances.

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