

METATRON™ 40

DESCRIPTION:

Metatron™ 40 is a high temperature synthetic silica-thickened anti-wear, extreme pressure grease that is specially formulated for those industrial bearing applications, where extremely high temperatures up to 650°C (1200°F) are encountered.

Metatron™ 40 is compounded from a blend of polyethylene glycol synthetic base fluids and a silica based thickener system. Further compound into these polyethylene glycol synthetic base fluids and the silica gel thickener systems is a proprietary blend of high temperature anti-wear extreme pressure additive and a combination of high temperature solid lubricants.

OPERATING PRINCIPLE

As high temperature occurs **Metatron™ 40** will gradually soften in consistency without any drippage of the synthetic base fluids in order to carry and spread the proprietary high temperature anti-wear, extreme pressure additive and the combination of high temperature solid lubricants into the bearing clearances and onto the bearing surfaces. As the temperature continues to become elevated the synthetic base fluids begin to volatilize off cleanly without leaving any residue, varnishes, gums or abrasive carbon deposits on the bearing surfaces. Once the synthetic base fluids have completely volatilized off a solid lubricant film consisting of the proprietary high temperature anti-wear, extreme pressure additive and the combination of high temperature solid lubricants is left behind to lubricate at temperatures up to 650°C (1200°F).

BUILT-IN SUPERIORITY AND NATURAL AFFINITY

Metatron™ 40 high temperature extreme pressure additive and high temperature solid lubricants have a natural affinity for metal surfaces. This natural affinity for metal surfaces allows this combination to plate themselves to the metal surfaces of the bearings in order to form a long lasting solid lubricant film, which not only withstands high temperatures, but also will withstand pressures in excess of 500,000psi. This long lasting solid lubricant film provides the metal surfaces of the bearings the superior protection they need especially during periods of high shock loading, extreme pressure and vibration.

This solid lubricant film also helps to reduce friction. This reduction in friction results in reduced wear, which in turn leads to increased bearing life, energy savings, less downtime and extended lubrication cycles.

ADDITIONAL PROPERTIES

Metatron™ 40 also has excellent rust and oxidation inhibiting characteristics, very good water resistance, good mechanical and shear stability and very good adhesive properties. These very good properties prevent the **Metatron™ 40** from washing out, pounding out, splattering or being squeezed out even under the heaviest loads and vibrations.

HIGH TEMPERATURE BEARING APPLICATIONS

The following is a brief list of the high temperature bearing applications where **Metatron™ 40** can be used.

Kiln Car Wheels	Soaking Door Pits
Conveyors in Ovens	Tenter Frames
Coke Oven Door Latches	Pallet Wheels
Oven Damper Control Bearings	Dollies and Dogs of Hot Beds
Roller Chains	Stack Valves
Larry Car Journals	Ingot Buggy Tilt Bearings
Charging Cars	Cement Mill Clinker Dryers
Furnace Table Bearings	

TYPICAL PROPERTIES

NLGI Grade	1 ½
Worked Penetration @25°C (ASTM D-217)	295 – 305
Type Thickener	Silica Gel
Dropping Point °C (°F) ASTM D-2265	>260° (>500°)
Four Ball EP Test (ASTM D-2596)	
Weld Point, kg	400
Load Wear Index, kg	71.51
Four Ball Wear Test (ASTM D-2266)	
Scar diameter, mm	0.58
Timken E.P. Test (ASTM D-2509)	
OK Load, lbs	60
Falex Continuous Load (ASTM D-3233)	
Failure Load, lbs	+4500

Base Fluid Properties

Viscosity @ 40°C, cSt (ASTM D-445)	38.21
Viscosity @ 100°C, cSt (ASTM D-445)	8.27
Viscosity Index (ASTM D-2270)	200
Flash Point °C (°F) ASTM D-92	>225° (>435°)