

# METATRON™ 45

## DESCRIPTION AND APPLICATION:

**Metatron™ 45** is a multipurpose, extreme pressure, anti-wear grease that is specially formulated for use in all types of heavy duty construction, mining, and industrial equipment that are being used in hot, wet or heavily loaded bearing applications, where operating temperatures are above 177°C (350°F).

## COMPOSITION AND PERFORMANCE CHARACTERISTICS

**Metatron™ 45** is compounded from the finest select severely solvent refined, severely hydrofinished 100% paraffin base oils available. Blended into these paraffin base oils are a bentone base thickener, carefully selected extreme pressure, anti-wear, rust, and oxidation inhibiting additives. This formulation provides the **Metatron™ 45** with the following performance characteristics:

1. Excellent resistance to water washout and water spray-off
2. Excellent shear and mechanical stability.
3. The ability to lubricate bearings effectively up to temperatures of 316°C (600°F).
4. Excellent anti-wear and extreme pressure load carrying properties.
5. Good to Very good reversibility. This property allow **Metatron™ 45** to retain its grease like consistency and remain in the bearing during periods of high heat, high shock loading, extreme pressure and severe mechanical action.
6. Excellent resistance to bleeding of the base oils.
7. Excellent rust and oxidation inhibiting characteristics.
8. Excellent resistance to oxidation.
9. Very good adhesive properties in order to provide **Metatron™ 45** with the ability to resist wash out, pound out, splatter, or squeeze out during periods of high loads, vibration, shock loading, extreme pressure, and severe mechanical action.

## SUPERIOR EXTREME PRESSURE PROTECTION AND “DOUBLE BACKSTOP” LUBRICATION WITH MOLY

Further blended into the **Metatron™ 45** is a unique combination of Molybdenum Disulfide and synthesized Moly. This unique combination of Molybdenum Disulfide and synthesized Moly plates itself to the metal surfaces of the bearings. Once plated to the metal surfaces of the bearings the Molybdenum Disulfide and synthesized Moly work together to form a long lasting solid lubricant film that is capable of withstanding pressures up to 500,000 pounds per square inch, thus giving the metal surfaces the protection they need during periods of high speed, high shock loads and extreme pressure.

This solid lubricant film also helps to reduce friction and act a “doubled backstop” lubricant if the **Metatron™ 45** grease base is either destroyed or wiped away due to unexpected loads, start-up, or other conditions which exceed the capabilities of the grease base’s fluid film lubrication.

#### **REDUCE WEAR:**

The reduction in friction and the ability to act as a “double back stop” lubricant results in reduced wear and a reduction in contact area temperatures. This in turn leads to increased equipment life, less downtime and extended lubrication cycles.

#### **OPERATING TEMPERATURE RANGE:**

**Metatron™ 45** can be applied manually or by heavy-duty automatic lubrication system. **Metatron™ 45 #1** Grade has an operating temperature range of -23°C to 316°C (-10°F to 600°F). **Metatron™ 45 #2** Grade has an operating temperature range of -18°C to 316°C (0°F to 600°F). **Metatron™ 45** Grade has an operating temperature range of -1°C to 316°C (30°F to 600°F).

#### **COMPATIBILITY:**

**Metatron™ 45** is a bentone base grease. Bentone base greases are NOT COMPATIBLE with other soap base greases such as lithium, lithium complex, aluminum complex and non-soap base greases such as polyurea or polyurea complex.

**TYPICAL PROPERTIES:**

<b>NLGI Grade</b>	<b>1</b>	<b>2</b>	<b>3</b>
Type of Thickener	Bentone	Bentone	Bentone
Worked Penetration 60 Strokes ASTM D-217	310-340	265-295	220-250
Roll Stability (ASTM D-1831)			
% Change in consistency	20.3	20.3	20.2
Four Ball EP Test (ASTM D-2596)			
Weld Point, kg.	315	315	315
Load Wear index, kg.	43	46.25	45
Four Ball Wear Test (ASTM D-2266) (40kg, 1200rpm. 1hr, 75°C)			
Scar diameter, mm/	0.68	0.70	0.7
Timken E.P. Test (ASTM D-2509)			
OK Load, lbs.	60	60	60
Falex EP Continuous Load (ASTM D-3233 Procedure A)			
Failure Load, lbs	1250	1500	1750
Oxidation Stability (ASTM D-942)			
Psi loss @ 100 hours	3.5	3.5	3.5
Rust Inhibition Test (ASTM D-1743)	1,1,1	1,1,1	1,1,1
Water Washout Characteristics (ASTM D-1264)			
% Loss @79°C	8.5%	8%	8%
Water Spray Off Test (ASTM D-4049)			
% Loss	38%	35%	35%
Evaporation Loss @ 121°C, 22hours (ASTM D-2595)	0.9%	0.9%	0.9%
Copper Strip Corrosion Test (ASTM D-4048)	1A	1A	1A
Oil Separation (ASTM D-1742)			
% Wt. of oil separated	3%	2.5%	2.5%
Lincoln Ventmeter			
PSI @ 38°C (100°F)	350	350	350
PSI @ -1°C (30°F)	750	800	800
PSI @ -18°C (0°F)	1050	1050	1050
PSI @ -23°C (-10°F)	1250	To stiff to pump	To stiff to pump

**BASE Oil Properties**

Viscosity 38°C, SUS	1200	1500	2200
Viscosity 40°C, cSt (ASTM D-445)	226.18	282.04	413.11
Viscosity 100°C, cSt (ASTM D-445)			
Viscosity Index (ASTM D-2270)	18.50	21.95	30.18
Flash Point °C (°F) (ASTM D-92)	105 265° (510°)	105 271° (520°)	110 293° (560°)