HH Tech COS Grease #2

Product Code: 2530007
Revised Date: 2/14/2013

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Product Description

HH Tech COS Grease #2 greases are supreme performance products designed for a wide variety of applications at extremes of temperature. They combine the unique features of synthetic base fluids with those of a high quality lithium complex thickener. The wax-free nature of synthetic fluids and the low coefficient of traction (compared with mineral oils), provide excellent low temperature pumpability and very low starting and running torque. These products offer the potential for energy savings and can reduce operating temperatures in the load zone of spherical roller and ball bearings. The lithium complex thickener contributes excellent adhesion, structural stability and resistance to water. The greases have a high level of chemical stability and are formulated with special additive combinations to provide excellent protection against wear, rust and corrosion, and providing operating viscosity at high and low temperatures. **HH Tech COS Grease #2** Series greases are available in seven grades, varying in base oil viscosity from ISO VG 100 to 1500 and in NLGI grade from 2 to 00.

HH Tech COS Grease #2Series greases have become the products of choice for many users, in many industries worldwide. Their reputation is based on their exceptional quality, reliability, versatility and the performance benefits they deliver.

Features and Benefits

The HH Tech COS Grease #2 brand of oils and greases are recognized and appreciated around the world for their innovation and outstanding performance. The HH Tech COS Grease #2series symbolizes ExxonMobil's continued commitment to using advanced technology to provide outstanding products. A key factor in the development of the HH Tech COS Grease #2Series were the close contacts between our scientists and application specialists with key Original Equipment Manufacturers (OEMs) to ensure that our product offerings would provide exceptional performance in the continually evolving industrial equipment designs.

Our work with equipment builders has helped confirm the results from our own laboratory tests showing the exceptional performance of the HH Tech COS Grease #2Series lubricants. These benefits include longer grease life, enhanced bearing protection and bearing life, wide temperature range of application, and the potential for improved mechanical efficiency and energy savings.

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To combat high thermal exposure of the oil our product formulation scientists chose proprietary synthetic base oils for HH Tech COS Grease #2Series oils because of their exceptional thermal/oxidative resistance potential. Our scientists developed a state-of-the-art lithium complex thickener technology and used specific additives to enhance the performance of each grade of the HH Tech COS Grease #2Series product family. The HH Tech COS Grease #2Series greases offer the following features and benefits:

Features	Advantages and Potential Benefits
Outstanding high temperature and low temperature performance	Wide application temperature ranges, with excellent protection at high temperatures and low torque, easy start-up at low temperatures
Excellent protection against wear, rust and corrosion	Reduced downtime and maintenance costs because of reduced wear, rust and corrosion
Excellent thermal stability and oxidation resistance	Extended service life with longer intervals between relubrication and improved bearing life
Low traction coefficient	Potential improved mechanical life and reduced energy consumption
Includes both high and low viscosity grades	Options for outstanding protection of slow speed, heavily loaded bearings, and options for good low temperature performance
Outstanding structural stability in the presence of water	Retains excellent grease performance in hostile aqueous environments
Low volatility	Helps resists viscosity increase at high temperatures to maximize relubrication intervals and bearing life

Applications

Application Considerations: While HH Tech COS Grease #2Series greases are compatible with most mineral oil based products, admixture may detract from their performance. Consequently it is recommended that before changing a system to one of the HH Tech COS Grease #2Series, it should be thoroughly cleaned out to achieve the maximum performance benefits. While the HH Tech COS Grease #2Series greases share many performance benefits, their applications are best described in terms of each product grade:

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- HH Tech COS Grease #2100 is an antiwear and extreme pressure grease primarily recommended for higher speed applications such as electric motors, where reduced friction, low wear and long service life are required. It is an NLGI 2 Grade / ISO VG 100 grease with a synthetic base fluid. Its operating temperature range is -40º C* to 150º C.
- HH Tech COS Grease #2220 is a multi-purpose, NLGI 2 extreme pressure grease recommended for heavy-duty automotive and industrial applications. It uses an ISO VG 220 synthetic base fluid. HH Tech COS Grease #2220 has a recommended operating temperature range of -40º C* to 150º C.
- HH Tech COS Grease #2221 is a multi-purpose, extreme pressure grease recommended for heavy-duty automotive and industrial applications, particularly where centralized grease systems are utilized. It uses an ISO VG 220 synthetic base fluid. HH Tech COS Grease #2221 has a recommended operating temperature range of -40º C to 150º C.
- HH Tech COS Grease #2460 is an NLGI 1.5 Grade grease with ISO VG 460 synthetic base fluid and is an extreme pressure grease recommended for tough industrial and marine applications. It provides outstanding bearing protection under heavy loads at low-to-moderate speeds and in applications where water resistance is a critical factor. HH Tech COS Grease #2460 has demonstrated outstanding performance in steel mills, paper mills and marine applications. The recommended operating temperature range is -30º C* to 150ºC.
- HH Tech COS Grease #21000 Special is an NLGI 2 Grade grease with ISO VG 1000 synthetic base fluid and strongly fortified with solid lubricants including 11% graphite and 1% molybdenum disulphide for maximum protection of plain or rolling element bearings operating under boundary lubrication regimes. This product is designed to extend bearing life under conditions of extremely slow speeds, sliding contacts, and high temperatures. HH Tech COS Grease #21000 Special has a recommended operating temperature of -30°C* to 150 °C with appropriate relubrication intervals.
- HH Tech COS Grease #21500 is an NLGI 1.5 Grade / ISO VG 1500 grease with a synthetic base fluid. It is intended for use in plain and rolling element bearings operating at extremely slow speeds, under heavy loads and high temperatures. HH Tech COS Grease #21500 has a recommended operating temperature range of -30 ºC* to 150 ºC with appropriate relubrication intervals. Continuous lubrication with HH Tech COS Grease #21500 has been very effective in prolonging bearing life in a severe roll press application. HH Tech COS Grease #21500 has also provided excellent performance in rotary kiln roller bearings and in slag transfer rail car bearings.
- HH Tech COS Grease #2007 is an NLGI 00 Grade / ISO VG 460 grease with a synthetic base fluid; it has a recommended operating temperature range of -50º C to 150 º C with appropriate relubrication intervals. Its primary uses are in grease filled industrial gear cases subject to high temperatures, where conventional semi fluid greases will not provide acceptable lubricant life and in non-driven heavy-duty truck trailer wheel hubs.

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*Low temperature claims based on ASTM D 1478 results vs. maximum limits of 10,000 / 1000 gcm @ startup and 1 hour respectively.

Specifications and Approvals

HH Tech COS Grease #2Series meets or exceeds the requirements of:	100	220	221	460	1000 Special	1500	007
DIN 51825: (2004-06)	KPHC 2N-40	KPHC 2N-30	-	KPHC 1-2N-40	KPFHC 2N-30	KPHC 1-2N-30	-
DIN 51826: (2005-01)	-	-	-	-	-	-	GPHC 00K-30

HH Tech COS Grease #2Series has the following builder approvals:	100	220	221	460	1000 Special	1500	007
AAR-942	X	-	X	-	-	-	-
MAG IAS, LLC	P-73			P-64			P-81

Typical Properties

HH Tech COS Grease #2Series	100	220	221	460	1000 Special	1500	007
NLGI Grade	2	2	1	1.5	2	1.5	00
Thickener Type	Lithium Complex	Lithium Complex	Lithium Complex	Lithium Complex	Lithium Complex	Lithium Complex	Lithium Complex
Color, Visual	Red	Red	Light Tan	Red	Grey Black	Red	Red
Penetration, Worked, 25ºC, ASTM D 217	280	280	325	305	280	305	415
Dropping Point, ºC, ASTM D 2265	265	265	265	265	265	265	-
Viscosity of Oil, ASTM D 445 cSt @ 40ºC	100	220	220	460	1000	1500	460

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HH Tech COS Grease #2Series	100	220	221	460	1000 Special	1500	007
4-Ball Weld, ASTM D 2596, Load, Kg	250	250	250	250	620	250	250
Water Washout, ASTM D 1264, 79 ºC, % Wt. Loss	6	3	4	3	2.6	2.5	-
Rust Protection, ASTM D 6138, Distilled Water	0,0	0,0	0,0	0,0	0,0	0,0	-
Corrosion Protection, ASTM D 1743, Rating	Pass	Pass	Pass	Pass	Pass	Pass	-
4-Ball Wear, ASTM D 2266, Scar, mm	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Low Temperature Torque, ASTM D 1478, Torque @ Startup/1 Hour in gcm and Test Tº	9520/21994361/836 @ -50 ºC	@ -40 ºC	----	9060/2944 @ -40 ºC	----	1874/‹1000 @ -20 ºC	----
U.S. Mobility, AM-S 1390, -18 ºC, gms/min	20.0	11.0	----	5.0	----	3.0	----

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

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