



# Premium Lubricants Products and Technology

Royal Petrochem is one of the leading Indian manufacturers of automotive oils, industrial lubricants, and greases. We offer a broad spectrum of high quality well-engineered lubricants to serve various segments such as automotive, mining, agriculture, engineering and several such other industries.

Our ISO 9001:2008 certified state-of-the-art facility with fully automated blending & filling capabilities is strategically located at Kandla, Gujarat. A well-equipped, advanced and sophisticated laboratory has also been set up to monitor quality consistency of our products and to ensure a reliable supply of high quality lubricants to our customers. Additionally, we also have an in-house plastic bottle manufacturing facility wherein we design and produce the optimum quality rigid plastic bottles for packaging our lubricants. Having such an overall capability enables us to customize our packaging designs and sizes, and thereby serve our customers with well packaged high quality lubricants to meet their specific requirements.

We have been regular suppliers to the automotive and engineering industries in several regions such as Middle East, Africa, Australia & New Zealand, and the Indian subcontinent. Our products are marketed under the brand name 'ROYAL' in all the regions we cater to. Besides, we are also engaged in contract manufacturing for various other brands in different countries.

# Quality

A well-equipped, advanced and sophisticated laboratory has been set up to ensure the quality consistency and to monitor the technical specifications profiles of both the raw materials and the finished products at various stages. Thus we constantly endeavor to quality up gradation and are fully aware of the latest trends in the continuously changing market.

We also arrange for third party inspection, as per the client's requirements. Independent testing laboratory like Intertek Caleb Brett, SGS and others are assigned for this purpose.

# **Research & Development**

We have an in-house R&D facility at our manufacturing unit. The research measures in this division are directed to minimize the overall production cost, with the use of latest machineries and technology. Moreover, research is conducted on different parameters, which include market trend in varying countries and prevalent demands of varying industrial units related to varying lubricants, greases and other specialties. Depending upon these research measures, our products undergo improvements and modifications, if any required.































# DIESEL ENGINE OILS (DEO)

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#### **ULTRA PLUS SERIES**

SAE 10W40 | SAE 15W40

**DESCRIPTION**: Premium performance, multigrade, heavy-duty diesel engine oil specifically designed for new low emission engine with ULSD (Ultra Low Sulfur Diesel). It is formulated using the most advantaged additive technology available to provide outstanding engine protection for 2007 EPA exhaust particulate emissions standards for on highway diesel trucks. It meets the latest stringent EGR soot control and particulate requirements.

#### **PERFORMANCE STANDARDS:**

- API CJ-4, CI-4 PLUS, CI-4, API SM. ACEA E9 Volvo VDS-4
- Mack EO-O Premium Plus Cummins CES 20081 Daimler Chrysler MB 228.31
- Caterpillar ECF-3, ECF-2, ECF-1-A MAN 3275 Detroit Diesel DDC 93K218



#### **ULTRA HD SERIES**

SAE 10W30 | SAE 10W40 | SAE 15W40 | SAE 20W50

**DESCRIPTION**: This premium quality diesel engine oil is formulated using high quality mineral base stocks & high performance additives for use in new generation diesel engines operated under heavy duty conditions and for use in all seasons. Recommended for use in all modern turbocharged diesel engines in trucks, buses,

and heavy-duty machines.

#### **PERFORMANCE STANDARDS:**

• API CI-4/SL, ACEA A3/B4/E7, MB 228.3, MB 229.1(15W-40), Volvo VDS-3, MAN 3275, MTU Type 2, Mack EO-M Plus, Renault RLD/RLD-2, Cummins 20071,72,76,77, Cat. ECF-1-a, ZF TE-ML 07C



# **PREMIUM DZX SERIES**

SAE 10W30 | SAE 10W40 | SAE 15W40 | SAE 20W50

**DESCRIPTION**: This is a premium quality high performance multi-grade diesel engine oil developed for use in high-speed, four-stroke diesel engines, meeting the requirements of leading Japanese, European & American manufacturers.

Recommended for use in turbocharged, naturally aspirated diesel engines used in automotive, heavy duty trucking, construction & mining equipment.

- 10W-40 : API CH-4/SJ ACEA E2, VDS-2, MB 228.1/229.1, MAN 271, Mack EO-M Plus, RD/RD-2, Cummins 20071,76,78, Cat ECF 1-a, C-4.
- 15W-40 : API CH-4/SJ, ACEA E2, VDS, MB 228.1, MAN 271, Mack EO-L Plus, MTU Type 1



#### DZX 9000 SERIES

SAE 10W40 | SAE 15W40 | SAE 20W50

**DESCRIPTION:** This is a premium quality high performance multi-grade diesel engine oil developed for use in high-speed, four-stroke diesel engines, meeting the requirements of leading Japanese, European & American manufacturers.

Recommended for use in turbocharged & naturally aspirated diesel engines used in automotive heavy duty trucking, construction & mining equipment.

#### PERFORMANCE STANDARDS:

- API CG-4
- Allison C-4
- CAT TO-4



#### TURBO XD SERIES

SAE 10W30 | SAE 15W40 | SAE 20W50

**DESCRIPTION**: These are high performance, multi-grade diesel engine oils formulated for a mixed fleet operating under severe service conditions. Recommended for use in naturally aspirated, turbocharged and supercharged diesel,

gasoline and LPG fuelled engines, in all kinds of service conditions.

### PERFORMANCE STANDARDS:

- API CF-4/SJ MB 228.1
- ACEA E2-96 • Allison C-4
- MAN 271
- MTU Type 1
- Volvo VDS

# **EXTRA 7000 SERIES**

SAE 30 | SAE 40 | SAE 50 | SAE 15W40 | SAE 20W50

**DESCRIPTION**: High performance, heavy duty engine oils designed to lubricate a wide range of diesel & gasoline engines requiring API CF/SF performance lubricants. Recommended for use in mix fleets of diesel engines (high speed, four-stroke, turbo charged or naturally aspirated), commercial road transport, off- highway vehicles and plant.

# PERFORMANCE STANDARDS :

API CF/SF





# PASSENGER CAR MOTOR OIL (PCMO)

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#### **TECH SN SERIES**

SAE 5W30 | SAE 5W40 | SAE 5W50 | SAE 10W30 | SAE 10W40 | SAE 20W50

**DESCRIPTION**: Formulated from Synthetic Technology base oil, high performance additive systems and leading edge viscosity index improver, which meet the requirement of current advanced top-tier engine oil grade of API SN and ILSAC GF-5.

It is optimized to provide complete engine oil performance especially for fuel efficiency, reducing friction loss and durability.

#### PERFORMANCE STANDARDS :

- 5W-30 : SN/GF-5/RC/CF 5W-40 : SN/CF
- 5W-50 : SN/CF 10W-30 : SN/GF-5/RC/CF
- 10W-40 : SN/CF





#### **GOLD SM SERIES**

SAE 5W30 | SAE 5W40 | SAE 10W30 | SAE 10W40

• 20W-50 : SN/CF

**DESCRIPTION:** These are superior performance, semi synthetic passenger car motor oils formulated with the most advanced additive technology to enhance thermo-oxidative stability, prevent formation of sludge & deposits, and allow for a longer engine life. Recommended for use in all gasoline, diesel and LFP fuelled engines of passenger cars and light trucks.

#### PERFORMANCE STANDARDS:

API SM/CF





#### **GENIUS SERIES**

SAE 10W40 | SAE 15W40 | SAE 20W50

**DESCRIPTION**: These are high performance premium quality multi-grade oils formulated with highly refined mineral base stocks and the most advanced additive technology. Recommended for use in passenger cars, vans and light trucks with naturally aspirated and turbocharged gasoline / diesel engines, and for vehicles with catalytic converters, operating under the most severe and varied driving conditions.

#### PERFORMANCE STANDARDS:

API SL/CF





#### **SPEED MAX SERIES**

SAE 10W40 | SAE 15W40 | SAE 20W50

**DESCRIPTION:** There are superior quality multi-grade oils with a balanced blend of high performance, highly refined mineral base stocks and specially formulated additives. Recommended for use in passenger cars, vans and light trucks with naturally aspirated & turbocharged gasoline / diesel engines, and gas fuelled (CNG & LPG) spark ignition engines.



#### PERFORMANCE STANDARDS:

• API SJ/CF

#### **CHAMP SERIES**

SAE 15W40 | SAE 20W40 | SAE 20W50

**DESCRIPTION**: These are superior quality multi grade oils formulated with highly refined mineral base stocks and advanced additive packages.

Recommended for use in passenger cars, vans and light trucks with naturally aspirated & turbocharged gasoline  $\!$  diesel engines, and gas fuelled (CNG & LPG) spark ignition engines



# PERFORMANCE STANDARDS :

API SG/CD

#### **CLASSIC SERIES**

SAE 30 | SAE 40 | SAE 15W40 | SAE 20W50

**DESCRIPTION:** These premium quality motor oils are formulated with highly refined mineral base stocks and advanced additive packages to enhance oxidation, thermal stability, corrosion resistance & protection against wear and tear.

Recommended for use in passenger cars, vans & light trucks with supercharged,

naturally aspirated and turbocharged gasoline / diesel engines



API CF/SF



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RIVAL

# 100% PAO SYNTHETIC ENGINE OIL



**PAO SERIES** 

**DESCRIPTION:** Premium performance, multi-grade motor oil formulated from selected synthetic base fluids and race-proven additive technology for use in passenger car and light truck gasoline engines and passenger car diesel engines under all operating conditions.

It is optimized to provide complete engine protection plus ultimate performance.

#### APPLICATIONS

- Naturally aspirated Gasoline engines, LPG and Diesel engines in passenger cars
- Light truck gasoline and diesel engines
- Recommended for use in gasoline and diesel powered RV and SUVs(Sport Utility Vehicles)
- Common Rail Direct Injection engine in passenger cars
- Passenger cars with high speed, four-stroke, turbocharged and EGR, DPF.
- Four-stroke gasoline engines in motorcycles and portable power equipment where the manufacturer recommends conventional passenger car motor oils

#### **PERFORMANCE STANDARDS:**

- 0W-30:SN Recommended A1/B1-08, A5/B5-08, C2-08 Recommended MB, VW, BMW, Porsche recommended
- 0W-40 : SN Recommended A3/B3-08, A3/B4-08, C3-08 Recommended MB, VW, BMW, Porsche recommended
- 5W-30 : SN/CF A3/B3-08, A3/B4-08, C3-08 Recommended BMW LL-01, LL-04, MB 229.51/229.31, VW 502.00/505.00
- 5W-40 : SN/CF A3/B3-08, A3/B4-08, C3-08 BMW LL-01/ LL-04, MB229.51 /229.31, VW 502.00/505.00, Porsche.

#### **CUSTOMER BENEFITS:**

**MAXIMISES ENGINE LIFE-** The wider temperature range capability of the synthetic base fluid ensures correct oil viscosity which reduces friction at start-up, and provides maximum lubrification during high temperature operation. The effective anti-wear additive system minimizes wear in even the most sophisticated valve train mechanisms, including those with variable valve timing.

**MAXIMISES POWER & PERFORMANCE-** Metallic detergent and ashless dispersant additive system ensures maximum power and performance by providing superior control of the ring belt and the piston skirt deposits, even under the most severe operating conditions. Special friction modifiers assist in reducing friction resulting in maximum fuel economy.

**LOW OIL CONSUMPTION-** Synthetic, highly shear-stable formulation provides superior control of oil flow through the ring belt area by maintaining oil viscosity, and reduces oil evaporation at the elevated ring zone temperatures experienced under all operating conditions.

**LONGER EQUIPMENT LIFE-** Special anti-wear additive package reduces wear by protecting surfaces when load causes breakdown of the lubricant film.

**LOWER IMPACT EMISSIONS-** Highly advanced additive technology delivers reduction in harmful exhaust emissions. This advanced technology performance, enhanced by low phosphorus and sulfur formulation (low SAPS) reduces ash formation and delivers a significant increase in DPF service life.

# **MOTOR CYCLE OILS**

#### **ULTRA 4T SERIES**

SAE 10W40 | SAE 15W40

**DESCRIPTION**: Formulated from Synthetic Technology meeting the requirement of current advanced top-tier engine oil grade of API SL.

Optimized to provide complete scooter engine oil performance especially for fuel efficiency, reducing friction loss and durability.

#### **PERFORMANCE STANDARDS:**

- API SL
- JASO MB



RUYAL

SPEED

#### **SPEED 4T SERIES**

SAE 10W30 | SAE 10W40 | SAE 15W40 | SAE 20W40 | SAE 20W50

**DESCRIPTION**: Premium performance, shear-stable, multi- grade gasoline engine oil specifically designed for use in four-stroke motorcycles and portable power equipment requiring API SL JASO MA / MA2 lubricants, including high output engines operating in severe service.

#### PERFORMANCE STANDARDS:

- API SI
- 15W-40, 20W-50 : JASO MA
- 20W-40 : JASO MA2.

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#### **SPRINT 4T SERIES**

SAE 10W30 | SAE 10W40 | SAE 15W40 | SAE 20W40 | SAE 20W50

**DESCRIPTION**: Premium performance, shear-stable, multi- grade gasoline engine oil specifically designed for use in four-stroke motorcycles and portable power equipment requiring API SJ, JASO MA lubricants, including high output engines operating in severe service.

#### PERFORMANCE STANDARDS:

- API SJ
- JASO MA

# d SPRINT

# CROSS 2T SERIES

**DESCRIPTION:** This is a premium 2-cycle motorcycle engine oil for use in both oil injection and pre-mix systems. It reduces smoke and provides exceptional protection under the most severe conditions.

Can be used in motorcycles, scooters, ATV's, go-karts, lawn equipment and all other two-stroke engines.

#### **PERFORMANCE STANDARDS:**

API TC and JASO FB

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# **GEAR & TRANSMISSION OILS**





#### **GEAR PRO SERIES** SAE 80W90 | SAE 85W140 **SAE 90 | SAE 140**

**DESCRIPTION**: Superior quality gear oils for automotive use meeting the stringent requirements of hypoid, bevel and spiral gear units, axles and final drives operating under severe conditions and over a wide range of temperatures. These oils are blended from high quality paraffin base oils and fortified with extreme pressure additives.

#### PERFORMANCE STANDARDS :

API GL-5

#### ATF **DEXRON III H**

**DESCRIPTION**: Premium automatic transmission fluid specially formulated to meet the needs of today's more compact transmissions, running at higher operating temperatures and with electronic control.

- GENERAL MOTORS DEXRON III (H)
- FORD MERCON, ALLISON C-4
- CATERPILLAR TO-2
- VOITH
- ALLISON TES-389



#### **GEAR PLUS SERIES** SAE 80W90 | SAE 85W140 **SAE 90 | SAE 140**

DESCRIPTION: Premium quality gear oils formulated for use in a wide range of gear units with normal, bevel and helical gear designs, including synchromesh manual gearboxes, transmissions and axles under moderately severe load and pressure conditions.

#### **ERFORMANCE STANDARDS:**

API GL-4

# RUYAL **JEANS**

#### ATF **DEXRON II D**

SCRIPTION: Royal ATF Dexron II-D is a premium high quality automatic transmission oil formulated with highly refined base stocks & selective additives. Recommended for use in automatic gearboxes, power steering systems, torque converters and other applications in passenger cars and commercial vehicles.

# **ERFORMANCE STANDARDS:**

# DEXRON II D

- ALLISON C4
- CATERPILLAR TO-2.

# TYPE A SUFFIX A

DESCRIPTION: Royal ATF TYPE A SUFFIX A is a high performance fluid for automatic transmissions in older vehicles. It is also used as a hydraulic fluid in unique applications.

#### PERFORMANCE STANDARDS:

• GM TYPE 'A' SUFFIX 'A'.



#### **BRAKE & CLUTCH FLUID**

DOT 3 | DOT 4

**DESCRIPTION**: Premium, non-petroleum automotive brake fluid, designed for use in a wide range of conventional hydraulic brake and clutch systems in severe service conditions or where DOT fluids are recommended.

- Excellent Braking response
- Reliable operation in severe service
- Saves on maintenance
- · Reduces inventory costs

- DOT-3: FMVSS No. 116 DOT 3, SAE J1703, ISO 4925
- DOT-4: FMVSS No. 116 DOT 4, SAE J1704, ISO 4925





# ANTIFREEZE / COOLANT

Ready to Use 50 / 50 | 30 / 70

RUYAL

JEANS PLUS

ATF

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Mono Ethylene Glycol (MEG) based ready to use engine coolant / anti-freeze. It is suitable for both petrol and diesel engines.

It gives protection against freezing and over heating, and gives long life protection.

# ANTIFREEZE / COOLANT

Concentrated

**DESCRIPTION**: Royal Cool+ is a concentrated engine coolant for use in both petrol and diesel engines with aluminium or cast iron engines. This coolant can be mixed using 33% concentration with purified water to give frost protection to -18 deg C, however it is recommended to use a 50% dilution to provide optimum corrosion protection and freeze protection down to -36 deg C. At these concentrations this coolant will provide year round protection.

#### OIL TREATMENT

DESCRIPTION: High quality, shear-stable, oil booster specially designed to shelf for engine oil maintain its stay-in-grade. It contain a shear stable viscosity index improver, a lubricity agent, a corrosion fighter and acid-inhibitor additives.

- Reduce engine wear
- Decrease friction and increase power.
- Reduce oil consumption
- Quiet noisy engine

# **MOTOR FLUSH**

**DESCRIPTION**: Highly effective engine flushing oil is intended for clearing the buttered system of carbonaceous and varnish adjournment of gasoline and diesel engines of all types and also mechanical transmissions and allowing transition to oils with higher operational properties. It is recommended for use at transition from mineral oils to semi synthetic and synthetic oils.



# **INDUSTRIAL LUBRICANTS**







#### **HYDROCARE AW**

These oils are blended from highly refined base stock and carefully selected antioxidant, antiwear, antirust, antifoam additives; those have a long service life and ensure excellent system efficiency as well as longetivity. These oils are compatible with seals normally used in hydraulic systems.

Recommended for hydraulic systems and a wide variety of circulation systems of automotive and industrial instrumentation. They are also used for compressor crankcase lubrication, but are not recommended for systems having silver coated components.

#### HYDROCARE HLP ZF

These are high performance hydraulic oils blended from solvent refined high viscosity index mineral oil and zinc free ash-less type of additives.

These are ideally suited for sophisticated electronically and numerically controlled hydraulic system where Zinc free hydraulic oils are required.

#### **HD - GEAROILS**

HD-GearOils are a family of industrial extreme pressure gear lubricants. They are formulated with high quality mineral oils, which help reduce sludge formation helping to increase oil service life.

These oils contain a sulphur / phosphorus extreme pressure additive system that gives high load carrying ability and protection against wear.

Recommended for all types of industrial & mobile equipment requiring mild EP Gear lubricants.

#### HYDROCARE HLP

These are premium hydraulic oils having outstanding lubrication characteristic and anti-wear properties, excellent thermal and outstanding and very high EZG rating

Recommended for high pressure hydraulic systems and also for power transmission in systems operating at high speeds, loads and temperatures.

These are suitable for lubrication of pumps and industrial hydraulic machinery operating under heavy loads. These are specially recommended for sophisticated high performance Electro hydraulic or Numerically Controlled systems.

### HYDROCARE AW HVI

Hydrocare AW-HVI Hydraulic Fluids are premium high viscosity index anti-wear hydraulic oils developed to meet the requirements of modern hydraulic systems which operate at low or widely varying ambient temperatures. High viscosity characteristics allow them to function at low operating temperatures while maintaining sufficient body and viscosity to prevent excessive leakage and pump damage as the system operating temperature increases.

These are recommended for mobile equipment applications and other systems that have wide variations in system operating temperatures.

#### HTO - PRO

Royal HTO-Pro oils are premium heat transfer oils designed to give outstanding service in a variety of applications.

These are blended from highly refined hydro-treated base oils and fortified with oxidation inhibitors to enhance high temperature performance and stability.

Applications include use in both open and inert gas blanketed close heat transfer systems.

The maximum temperature for use in an open system

The maximum temperature for use in an open system shall not exceed 200°C at the point where the oil is exposed to the air.

#### **RUBBER PROCESS OILS**

The range of Royal Rubber Process Oils is broadly divided in three categories Aromatic Types, Naphthenic Types and Paraffinic Types.

These oils are used during mixing of rubber compounds. These help in improving the dispersion of fillers and flow characteristics of the compound during further processing.

Royal Rubber process oils are specially developed taking into consideration the type of rubber and the end product applications.

#### **COMPRESSOR - VCL**

Royal Compressor-VCL grade oils are premium quality air compressor lubricants formulated to meet demands of modern rotary screw as well as reciprocating compressors.

These oils have been formulated specially selected additives to provide excellent anti-oxidation, anti-corrosion, anti-wear and anti-foam performance.

Oil carry-over from the compressor is minimized due to exceptional re-classifying properties of these oils.

#### **PRIMAGT-OILS**

Royals PrimaGT-Oils are specially inhibited turbine oils designed for the lubrication of modern, high severity, heavy-duty industrial gas turbines.

These are formulated from severely refined, turbine-grade base stocks and an advanced oxidation, rust and foam system.

The high performance, ashless, low volatility anti-oxidant package imparts exceptional oxidation stability for the severest applications.

#### WHITE OILS & LIQUID PARAFFINS

Conforming to the World's highest standards of reliability and safety, Royals range of White & Mineral Oils are trusted by millions of manufacturers and their customers for the ultimate in refinement and purity.

Used across the globe in the Pharma, Personal Health Care, Food, Agricultural and Industrial segments Royal White & Mineral Oils are offered in a number of grades and viscosities conforming to the latest and most stringent standards of Indian, British, U.S., German, Japanese and other Pharmacopeia norms and standards

### **ROCK DRILL OILS RD-PRO**

Royals RDO-Pro oils are a blend of highly refined base oils and unique additives designed to provide a quality lubricant for air powered equipment.

These are designed to provide extreme pressure capabilities, rust and corrosion protection, antifoam properties, adherence to internal tool surface, and good emulsion characteristics.

Royals RDO-Pro oils were developed for internal lubrication for oil lubricated pneumatic equipment as well as for rock drills, jack hammers, pile drivers, chippers, pavement breakers and riveters.

#### LOOM OILS

These oils are formulated from mineral oils having good adhesiveness and film strength, inherent oxidation and thermal stability, besides excellent ability to separate from water, resistance to rusting and corrosion.

Royal Loom S-68,100,150 are recommended for lubrication of looms and other textile machinery where a scourable type of oil is preferred. Stains from these oils are easily removed by normal process.

Royal Loom A-460 is recommended for lubrication of non-critical all loss system of textile machinery particularly the looms. This oil is also suitable for all applications where additive treated oils are not required.





#### LITHIUM COMPLEX BASED

#### LITHCOFLE)

Royal's LithCoFlex grease is a premium quality grease formulated using high quality base oils which impart high water resistance, high load carrying capability, high drop point and excellent mechanical & thermal stability. Recommended for bearings under heavy load conditions & temperatures. This grease also finds application in steel plants, cement plants, power plants and other industrial applications where the bearings are subjected to higher temperatures and pressures.

#### LITHCOFLEX EP SERIES

Royal LithCoFlex EP greases are premium quality lithium complex greases. These multi-purpose complex greases have a high dropping point in excess of 500°F (260°C), which insures retention where high temperatures are encountered. These have been formulated with a special additive package which insures high film strength, extreme pressure (EP) and anti-wear properties.

# LITHIUM BASED

#### LITHMAX SERIES

LithMax greases are premium quality lithium soap based multifunctional greases formulated using highly refined base oils & additives to impart superior oxidation stability, water resistance, anti-rust & anti-corrosion properties. Recommended for all automotive uses such as for wheel bearings, chassis lubrication, and other general purpose applications. Also suitable for use on general grease points on plant and machinery not requiring specialized greases.

#### LITHMAX EP SERIES

LithMax EP grease are high performance lithium soap base multi-purpose greases formulated from premium base stocks and extreme pressure additives which confer excellent shear stability and high load carrying ability. Recommended for use in any chassis, pin and bush applications, slow moving heavily loaded bearings where shock load and water wash are problems.

#### MOLYPLUS

MolyPlus greases are smooth, high melting point, water resistant lithium based greases fortified with molybdenum disulfide which imparts long-life characteristics as well as excellent wear resistance under conditions of high friction and shock loads.

Recommended for use in majority of the automotive lubricating applications such as universal joints, ball-joints, pivot and chassis.

#### LITHGRAPH

A lithium-base grease containing Graphite which imparts long-life characteristics as well as excellent wear-resistance especially when subjected to shock loading conditions. It is resistant to water and reduces the possibility of corrosion when used in moist conditions.

Recommended for the majority of automotive lubricating applications such as universal joints, ball-joints, pivot and chassis and for applications with extremely high shock loads.

#### **BITUMEN BASED**

#### OGR-BT

A Bitumen based semi fluid grease specifically formulated for open gears which are lubricated whilst submerged in a trough. The Extreme pressure characteristics of Bitumen combined with additional Extreme Pressure additives gives this grease exceptional load carrying abilities. Recommended for use on open gears which are lubricated whilst submerged.

#### WRD-B

This is a soft, tacky, water resistant, Bitumen Based grease with excellent adhesive properties manufactured from high viscosity base oils and is used for wire rope applications. Recommended for use on wire ropes, winches, screws, roller and sliding bearings, cylinder guide and threaded spindles.

#### CALCIUM BASED

#### CALIMAX SERIES

These are calcium base greases with a smooth and stingy structure. They have good adhesion to metal surfaces, resists water washout and its displacement under shock loads. They are available in consistency ranges from NLGI 0 to 3 for various automotive and industrial applications. Recommended for year round general chassis lubrication including suspension and steering system.

#### CALCOFLEX GREASE

Royal's CalCoFlex grease is a premium quality multipurpose complex grease, having exceptional heat and water resistant properties. It contains extreme pressure, anti-rust and anti-oxidant additives for excellent protection against wear under heavy shock loaded conditions. Applications include lubrication of all types of bearings as well as gears, cams, slides, loaders, universal joints, plant vehicles, agricultural tractors and is also used as a Multi-Purpose Industrial grease.

#### CALGRAPH SERIES

These are premium quality calcium based greases containing high quality graphite as filler. These multi-purpose greases have exceptional water resistance properties. Recommended for lubrication of springs, hydraulic rams and other applications where high load conditions exist

#### **BENTONITE BASED**

#### **HI-TEMP GREASE**

Royal's HiTemp grease is a smooth textured, inorganic clay based grease suitable for use in applications where operating temperatures are higher than the limits of conventional soap based greases.

Recommended for the lubrication of machine elements, plain bearings and anti-friction bearings operating at high temperatures.

#### WRD SUPER

This is a soft, tacky, water resistant, grease with excellent adhesive properties manufactured from high viscosity base oils and is used for wire rope applications. This product does not contain solvents or bitumen and will not harden or build up on wire ropes.

Recommended for use on wire ropes, winches, screws, roller and sliding bearings, cylinder guide and threaded spindles.

#### **OTHER GREASES**

#### CSC GREASE 2

Calcium Sulphonate Complex Grease The Superior characteristics of this grease are attributed to its specially formulated over-based calcium sulphonate complex thickener and refined mineral oil. Calcium sulphonate complex grease exhibits flow property, non-ageing reversibility, thermal and shear stability and water resistance characteristics, that are unmatched by other soap or non-soap based grease. Typical applications include continuous castors, coupling and run out rolls in steel plant, wheel bearing and C.V. joints in automobile, rock crusher and conveyors in mining and bearings and spindles in pulp and paper mill. Ideal for centralized lubrication system in heavy-duty steel plant, where resistance to high temperature, load, water is critical.

#### COPPER PASTE ANTI-SIEZE

Copper Paste Anti-Seize is a premium grade industrial anti-seize compound, made from high quality solid lubricants, fortified with extreme pressure and anti-wear additives. Recommended for use as an anti-seize compound on all threaded fasteners and components, particularly those subjected to hostile and wet corrosive conditions.

#### LICAL PLUS

Royal's LiCal Plus grease is a lithium - calcium based extreme pressure multipurpose grease with exceptional water repelling properties. Suitable for the lubrication of all types of slow moving bearings where wet conditions coupled with shock loads exist



# PLANT AND FACTORY

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