Royal started over 100 years ago by supplying automotive, farm and oil field lubricants in and around Tulsa, Oklahoma. Royal now supplies a full line of extended duty high-performance oils and greases, worldwide, that have proven their ability to outperform most lubricants available for mining, construction and industrial equipment. This includes a full line of synthetic oils and greases, food grade lubricants as well as biodegradable lubricants.

Supplying a comprehensive line of lubricating oils and greases to all of the USA and 24 other countries throughout the world, Royal offers the ultimate in high-quality heavy equipment protection.
CROWN ROYAL MOLY EP GREASE

This high-temperature lithium complex grease is fortified with molybdenum disulfide and graphite to provide excellent protection against shock loading and extreme pressures in harsh environments. These characteristics are especially valuable in heavy-duty applications with sliding or oscillating motion.

ROYAL 876 GREASE

A heavy-duty lithium complex grease designed for high-load capabilities. Formulated with high-viscosity base oils and a synergistic combination of high-quality extreme pressure (EP) and heavy-duty additives, it offers excellent structural and oxidation stability and high resistance to water washout. Also contains a tackiness additive enhancing stay-in-place properties.
**ROYAL ATLANTIS GREASE**

The newest generation of environmentally friendly superior performance, heavy-duty grease; exhibiting outstanding film strength and outstanding water resistance even under corrosive saltwater environments due to its ability to absorb water without losing thickener consistency.

**ROYAL ULTRA 865 HD GREASE**

Suitable for heavily loaded conditions, wet environments, and where high temperatures exist. Will perform virtually in all industrial applications, especially environments with concurrent high temperatures and water ingress.
ROYAL ULTRA 865M GREASE
High-viscosity base oil and overbased calcium sulfonate complex thickener system fortified with molybdenum and our proprietary Advanced ISOGOLD™ technology. Contains 5% lubricating solids. A perfect choice for heavily loaded applications in hot or wet and corrosive environments.

ROYAL HAMMER PASTE
A high-performance grease specifically designed for hydraulic hammers and other tools requiring anti-seize compounds. Hydraulic hammers and other such tools experience extreme shock and axial loads that can lead to rapid wear and tear of contact surfaces and guide bushings.
VALUE PROPOSITION: ROYAL HAMMER PASTE
ROTARY AND ROTARY-PERCUSION BLASTHOLE DRILLS AND DOWN-THE-HOLE HAMMERS

Whether the breakout tool is a chain clamp type or wrench, Royal Hammer Paste’s low friction solids significantly reduce breakout torque making disassembly easier, faster and safer.

WORKER SAFETY
Reducing the force required to disarm the bits reduces the likelihood of a chain or screw snapping — which can cause devastating bodily harm and injury.

A gold mine located in Mexico evaluated Royal Hammer Paste in several applications. The mine was not only interested in extending bit life, but also performing makeup and breakout tasks quicker and extending the life of costly shock subs.

HYDRAULIC TOOL: $800
Whether it is a rotary or rotary-percussion blasthole drill or a down-the-hole hammer, Royal Hammer Paste’s low friction solids reduce breakout torque and protect threads from galling, wear and corrosion. Applying Royal Hammer Paste allows for assembly and disassembly of bits without heating, keeping its original form. Thread cords without fractures are also maintained.

BREAKOUT BENCH HYDRAULIC CLAMPS: $200
Proper lubrication with Royal Hammer Paste reduced friction and force at the drill bit to support the clamp securely during assembly in the BOB. Reduced force equals improved worker safety.

SHOCK SUB: $11,000
Applying Royal Hammer Paste reduced the extreme shock and axial loads in the shock absorbers allowing for optimum performance. Royal Hammer Paste also reduced wear and prolonged equipment life.

DRILL BIT: $2,000

HYDRAULIC TOOL: $2,800
Used to grip and hold down the parts of the bit during assembly and disassembly. Applying proper lubrication with Royal Hammer Paste increased the life of various parts of this equipment and reduced the risk of broken parts resulting in injury.

SAVINGS TO MINE
$17,000
REDUCED PART WEAR & PRESSURE

CIRCUMSTANCE

HYDRAULIC TOOL: $800

HYDRAULIC CLAMPS: $200

SHOCK SUB: $11,000

DRILL BIT: $2,000

HYDRAULIC TOOL: $2,800
After the 12-month crusher cycle was completed and the scheduled inspection was performed, the bushing wear was dramatically reduced (less than 3mm) by applying the Royal Ultimate 1000 Grease. The mine is expected to gain an entire new cycle operating the crusher without replacing the bushing, resulting in significant COST SAVINGS!

CIRCUMSTANCE

A mine in Peru operating a crusher performed a scheduled inspection for maintenance after the end of the crusher’s cycle, and during that inspection, the engineer determined over 3 millimeters of bushing wear. In order for the crusher to perform without failure, the bushing must be replaced.

If wear exceeds 3mm, the bushing must be replaced, requiring extensive maintenance, resulting in COSTLY DOWNTIME.

SOLUTION

Royal’s technical sales expert recommended Royal Ultimate 1000 Grease as a solution to dramatically improve bushing wear and reduce downtime for maintenance. This grease can withstand extremely heavy loads while protecting moving parts from wear, rust and corrosion.

The mining engineer replaced the original grease and ran the crusher’s cycle.

PROVEN PERFORMANCE

After the 12-month crusher cycle was completed and the scheduled inspection was performed, the bushing wear was dramatically reduced (less than 3mm) by applying the Royal Ultimate 1000 Grease.

The mine is expected to gain an entire new cycle operating the crusher without replacing the bushing, resulting in significant COST SAVINGS!

ROYAL ULTIMATE 1000 GREASE

A premium, semi-fluid grease with high viscosity base oil and does not contain any asphalt. It provides superior EP, anti-wear (AW) protection, while withstanding extremely heavy loads — perfect for slow moving, large open gear drives operating in very hostile environments. Can be applied by spray systems and also through dipping or brushing procedures.
**MONARCH™ SYNPLEX EP GREASE**

This full-synthetic lithium complex multipurpose grease provides a broad range of operating temperatures with superior cold weather performance. A lithium complex soap base thickener formulated with polyalphaolefin (PAO) base oil extends life in arctic or sub-zero temperatures. Meets or exceeds NLGI GC-LB requirements.

- **Grease Color:** Green
- **NLGI Grade:** 2
- **Features:**
  - Extreme Pressure
  - Water Resistant
  - Extended Service
  - Low Temperature
  - High Speed

**ROYAL 760 EP GREASE**

Royal 760 EP is preferred by users with multiple grease applications operating at moderate load carrying capacities, pressure and temperature ranges. Fortified with additives that provide very good EP/AW protection, rust and oxidation resistance. Compatible with other lithium and lithium complex greases.

- **Grease Color:** Red
- **NLGI Grades:** 0, 00, 000, 1, 2, 3
- **ISO Grade:** 150
- **Features:**
  - Extreme Pressure
  - Water Resistant
  - High/Low Temperature
  - High Tack
ROYAL 98 GREASE

This multipurpose lithium complex grease contains antioxidants, corrosion inhibitors, EP/AW additives and meets or exceeds NLGI GC/LB specifications. It is recommended for extended service in a wide range of heavy-duty equipment and high-temp wheel bearings, roller & ball bearings, throw-out bearings, fifth wheel, and many other applications.

ROYAL ENVIROGUARD EP GREASE

Designed for superior performance in environmentally sensitive applications. Will meet VGP requirements and is readily biodegradable. This grease has been fortified with environmentally safe additives enabling superior performance under heavy load, water ingress, and moderately high temperatures.
Major improvement since changing over to Royal. No gap sled crashes, no water leaks due to split open bearing housings, no bearings falling apart in the slab. Motor current and current spikes reduced. No reports of cracked slabs or surprise segment changes. Millcraft also reports that your grease seems to adhere to parts better.

— Plant Manager
Steel Mill, Oklahoma.

ROYAL WHITE LITHIUM EP GREASE

A light colored, multipurpose lithium grease made from highly refined base oils. The lithium 12-hydroxystearate thickener gives the grease a dropping point of over 360°F. Formulated with rust and corrosion inhibitors.
ROYAL NOVA GREASE
A premium, high-temperature, multipurpose grease fortified with premium additives to provide excellent lubrication and high-temperature properties. The non-melting, inorganic bentonite clay thickener, supported by additives, provides excellent high-temperature performance and a wider operating temperature range than most soap based greases.

ROYAL TUNDRA GREASE
A long life, fully synthetic, calcium sulfonate complex grease embodied with solid lubricants specially designed to extend service life in arctic climate conditions. This grease is formulated with fully synthetic polyalphaolefin (PAO) base oil and is engineered with compatible synergistic additives to provide the highest performance under heavy/shock load applications.
ROYAL TUNDRA MOLY GREASE

A long life, fully-synthetic grease specially designed to extend service life in arctic climate conditions. Formulated with fully synthetic polyalphaolefin (PAO) base oil and engineered to provide the highest performance under heavy/shock load applications.
ROYAL ULTRA 865 GREASE

Recommended where high-load carrying, corrosion-resistant grease is required. Outstanding film strength and resistance to corrosive saltwater environments. An excellent high-temperature grease that works well in and around water. This product is environmentally friendly and contains no heavy metals.
ROYAL CORN HEAD GREASE

Formulated specifically for use in corn head gear cases and most other slow moving gear box applications requiring an NLGI 0 grease. Royal Corn Head grease is fortified with extreme pressure additives, rust and corrosion inhibitors, exhibits good high-temperature operation, low-temperature pumpability and resists water washout.

ROYAL COTTON PICKER SPINDLE GREASE

Formulated for protection of cotton picker spindle heads, can be used in general purpose applications where a NLGI #00 is recommended. Extra protection against wetting agents, defoliants, and plant juices.
ROYAL SUGAR MILL GREASE
Specially designed for lubricating sugar mill crusher roll journal bearings, bushings, and open gears. This high-performing grease is based on modified calcium thickeners, encapsulated with overbased sulfonate wafers to combat the most severe operating conditions.

ROYAL INDIGO GREASE
Robust aluminum complex grease for a wide range of applications. It has excellent water resistance and will not wash out, is not affected by hydrogen sulfide (H₂S), and resists saltwater corrosion.
ROYAL NLZ TOOL JOINT COMPOUND

Anti-seize compound specifically formulated for drill pipe, weight pipe and collars. Special formula prevents metal-to-metal contact under severe operating conditions and provides protection against seizure, galling and breakdown. Pipe dope designed for making breakouts and connections.

NLGI 1
ISO 460
LITHIUM COMPLEX
EXTREME PRESSURE
WATER RESISTANT
HIGH/LOW TEMP

ROYAL PREMIUM COPPER CLAD GREASE

A calcium sulfonate complex thickener based high temperature premium quality copper anti-seize and thread lubricant. This premium-quality lubricant contains super fine copper flakes fortified with other synergistic solid lubricants.

NLGI 1
ISO 220
CALCIUM SULFONATE COMPLEX
WATER RESISTANT
HIGH/LOW TEMPERATURE
CORROSION PROTECTION
ROYAL PLUG VALVE GREASE

This peanut butter grease is ideal for plug and various other valve applications with excellent lubricity and sealant capabilities. Resists water, gas, condensate, gasoline, chemical vapors, solvents, etc. Unaffected by hydrogen sulfide (H₂S) and resistant to saltwater corrosion.

NELGI 1.5

REDUCED CONSUMPTION AND DOWNTIME
ROYAL CURVE RAIL GREASE

Designed to lubricate rail track curves, reducing friction and wheel wear. This grease is especially engineered for rail applications with proven performance.

NLGI 00
ISO 220 / 460

ROYAL ENVIROGUARD CURVE RAIL GREASE

Designed to minimize friction, reduce temperature, and prevent wear between wheel flange and rail especially on curve. Easily dispensable by rail lubricator, is highly water resistant, and exceeds the requirements of curve rail applications.

NLGI 1

ROYAL RAIL LUBRICANTS ARE SUPERIOR PRODUCTS ENGINEERED TO PROVIDE SUPERIOR SOLUTIONS.
ROYAL VOLT GREASE
A premium, EP, multipurpose, long life, electric motor grease which exhibits excellent thermal stability, excellent high and low temperature capabilities, and superior shear stability when compared to typical polyurea greases. This grease has excellent water resistance characteristics and will not wash out.

ROYAL MOLY HI-TEMP GREASE
A premium high-temperature, multipurpose grease with excellent high-temperature performance, and a wider operating temperature range than most soap-based greases. Its specialized additives provide a chemical barrier protecting lubricated parts against rust and corrosion.
WE’VE GOT A SUPERIOR GREASE FOR THAT

<table>
<thead>
<tr>
<th>HEAVY DUTY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crown Royal Moly EP Grease</td>
<td>2</td>
</tr>
<tr>
<td>Royal 876 Grease</td>
<td>2</td>
</tr>
<tr>
<td>Royal Atlantis Grease</td>
<td>3</td>
</tr>
<tr>
<td>Royal Ultra 865 HD Grease</td>
<td>3</td>
</tr>
<tr>
<td>Royal Ultra 865M Grease</td>
<td>4</td>
</tr>
<tr>
<td>Royal Hammer Paste</td>
<td>4</td>
</tr>
<tr>
<td>Royal Ultimate 1000 Grease</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MUTIPURPOSE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monarch™ Synplex EP Grease</td>
<td>7</td>
</tr>
<tr>
<td>Royal 760 EP Grease</td>
<td>7</td>
</tr>
<tr>
<td>Royal 98 Grease</td>
<td>8</td>
</tr>
<tr>
<td>Royal Enviroguard EP Grease</td>
<td>8</td>
</tr>
<tr>
<td>Royal White Lithium EP Grease</td>
<td>9</td>
</tr>
<tr>
<td>Royal Nova Grease</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECIALTY</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Royal Tundra Grease</td>
<td>10</td>
</tr>
<tr>
<td>Royal Tundra Moly Grease</td>
<td>11</td>
</tr>
<tr>
<td>Royal Ultra 865 Grease</td>
<td>12</td>
</tr>
<tr>
<td>Royal Corn Head Grease</td>
<td>13</td>
</tr>
<tr>
<td>Royal Cotton Picker Spindle Grease</td>
<td>13</td>
</tr>
<tr>
<td>Royal Sugar Mill Grease</td>
<td>14</td>
</tr>
<tr>
<td>Royal Indigo Grease</td>
<td>14</td>
</tr>
<tr>
<td>Royal NLZ Tool Joint Compound</td>
<td>15</td>
</tr>
<tr>
<td>Royal Premium Copper Clad Grease</td>
<td>15</td>
</tr>
<tr>
<td>Royal Plug Valve Grease</td>
<td>16</td>
</tr>
<tr>
<td>Royal Curve Rail Grease</td>
<td>17</td>
</tr>
<tr>
<td>Royal Enviroguard Curve Rail Grease</td>
<td>17</td>
</tr>
<tr>
<td>Royal Volt Grease</td>
<td>18</td>
</tr>
<tr>
<td>Royal Moly Hi-Temp Grease</td>
<td>18</td>
</tr>
</tbody>
</table>