LINER BOLTS
KEEP YOUR RESOURCE MOVING.

COLUMBUS MCKINNON CORPORATION
Through the company’s manufacturing expertise, production capabilities and understanding of its customers’ requirements, Lister Bolt delivers premier products and technical assistance to its many valued customers.

LEADING THE INDUSTRY
Downtime in the grinding mill operation is caused by one of two things: regularly scheduled maintenance or unscheduled breakdown. In either case, the cost is measured in lost production time. The selection of quality parts will minimize this unproductive time.

For over 30 years, Lister Bolt – a division of a Columbus McKinnon Corporation – has specialized in the production of mill liner bolts for the mining and cement industries to exact specifications, thus ensuring the most cost effective bolts in the industry. Through the company’s manufacturing expertise, production capabilities and understanding of its customers’ requirements, Lister Bolt delivers premier products and technical assistance to its many valued customers.

ATTENTION TO DETAIL
Our metallurgical expertise stems from over 100 years of combined experience. Raw materials are selected from inventory to meet the strength and ductility requirements of the finished bolt.

From a selection of over 200 forging dies, the bolt heads are forged after electric induction heating. With strict attention to dimensional conformance, forged flashings are eliminated. These processes, along with the pointing of all bolts prior to threading, ensure the ease and accuracy of installation, which results in the proper seating of the bolt in the liner.

Bolts are heat treated in controlled atmosphere furnaces to meet precise “through hardening” specifications. The bolts are then tested for consistent quality before packing and shipping.
HOT FORGED BOLT PRODUCTS

- Hex Head Bolts
- Heavy Hex Head Bolts
- Hex Head Cap Screws
- Heavy Hex Head Cap Screws
- Square Head Bolts
- Round Head Bolts
- Tee Head Bolts
- Mill Liner Bolts
- Anchor Bolts
- Track Bolts
- Upset Bolts & Screw Ends
- Eye Bolts
- Studs
- Concrete Inserts
- Ram Ends
- Screw Pin Shackles
- Bolt & Nut Shackles
- Hex Nuts
- Heavy Hex Nuts
- Hex Locknuts
- Square Nuts
- Jam Nuts
- Sleeve Nuts
- Castellated Nuts

MATERIALS

- Low, Medium & High Carbon Steels
- Atmospheric Corrosion-Resistant Steel
- Alloy Steels
- Stainless Steels - AISI 300 & 400 Series

STANDARD BOLT AND NUT GRADES

BOLTS

CARBON STEEL
- ASTM A307, Grade A and B
- ASTM A325, Type 1 and 3
- ASTM A449
- SAE J429, Grade 2 and 5

ALLOY STEEL
- ASTM A193, Grade B7
- ASTM A320, Grade L7 and L7M
- ASTM A354, Grade BC and BD
- ASTM A490
- SAE J429, Grade 8

STAINLESS STEEL
- ASTM A193, Grade B8

NUTS

CARBON STEEL
- ASTM A563, Grade A, B, C, C3 and DH
- SAE J995, Grade 2 and 5

ALLOY STEEL
- ASTM A194, Grade 2H, 4, 7, 7M and 8

STAINLESS STEEL
- ASTM A194, Grade 8

PRODUCTS PUT TO GOOD USE

Lister liner bolts are designed and manufactured to maximize the life of the bolt and the mill liners. It is supported by the technical knowledge required for proper installation and torquing of their bolts.
Lister Bolt offers a patented metal cup washer and seal system that eliminates seepage from the shell bolt holes. These assemblies offer several benefits including:

- Peripheral sealing edge
- Beveled seal to provide sealing edges
- Sealing beads on opposite faces of the seal
- Tighter fit to prevent leakage
- Reduces clean up from leakage
- Flexibility of the seal allows for it to conform to the bolt
- Heat treated washer helps resist failure
- Tapered repair seals replace the standard seal for mills with worn bolt holes

### Table: Metal Cup Washer, Regular Seal, Repair Seal

<table>
<thead>
<tr>
<th>Bolt Size (in.)</th>
<th>Metal Cup Washer</th>
<th>Regular Seal</th>
<th>Repair Seal</th>
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<td>4</td>
<td>13/32</td>
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<td>2-1/8</td>
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Metric equivalent available upon request.
## Bolt Diameter (in.)

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**THE JOB IS NEVER FINISHED**

After final testing, Lister Bolt’s quality assurance continues with thorough documentation and certification. Before packaging, bolt threads are individually sleeved for protection, and then packed in solid wood boxes with steel strapping for secure shipment to their destination, whether by truck, train or sea. Every bolt leaves the plant ready for easy installation and problem free performance.

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**GRINDING MILL LINER BOLT SPECIFICATIONS**

**RECOMMENDED TORQUE VALUES (Imperial)**

Torque values assume bolt is dry. Lubricants, plating, etc. can reduce these values.

Our extensive inventory of forging dies covers all popular Liner Bolt head configurations. Special dies are readily made for custom requirements.
KNOW HOW...KNOW WHY
Columbus McKinnon is a global leader in providing expertise and training in the proper use and inspection of rigging and overhead lifting equipment. With a range of comprehensive programs and seminars conducted at venues throughout North America, as well as on site at private companies and industries, Columbus McKinnon courses include:

- Hoist Maintenance
- Load Securement
- Crane & Hoist Inspection
- Mobile Crane Operator
- Rigging
- Safe Hoisting
- Crane Operator Training
- Rigging Gear Inspection

In addition, classes are available at the new state-of-the-art Hoist & Rigging Training Center of Excellence in the Center for Occupational Health and Automobile Manufacturing (COHAM) lab located at The Ohio State University. The COHAM lab is a hands-on learning center which allows attendees to understand how to properly use and inspect overhead lifting equipment. This leading edge training program is designed to increase workplace productivity and safety in an ergonomically friendly training environment.

In addition to the strong knowledge base exemplified by comprehensive training programs, Columbus McKinnon is one of the only manufacturers supplying complete lifting systems to satisfy unique material handling requirements of users in a variety of environments. From jib cranes and hoists to chain slings, clamps, and related attachments; systems include products that are matched specifically to the lifting needs of the application. Products may also be modified in order to ensure that the proper system is in place for the job.

Whether your needs call for a single Liner Bolt or a completely engineered system to outfit your production facility, Columbus McKinnon provides the products and expertise to keep your workforce productive and safe.