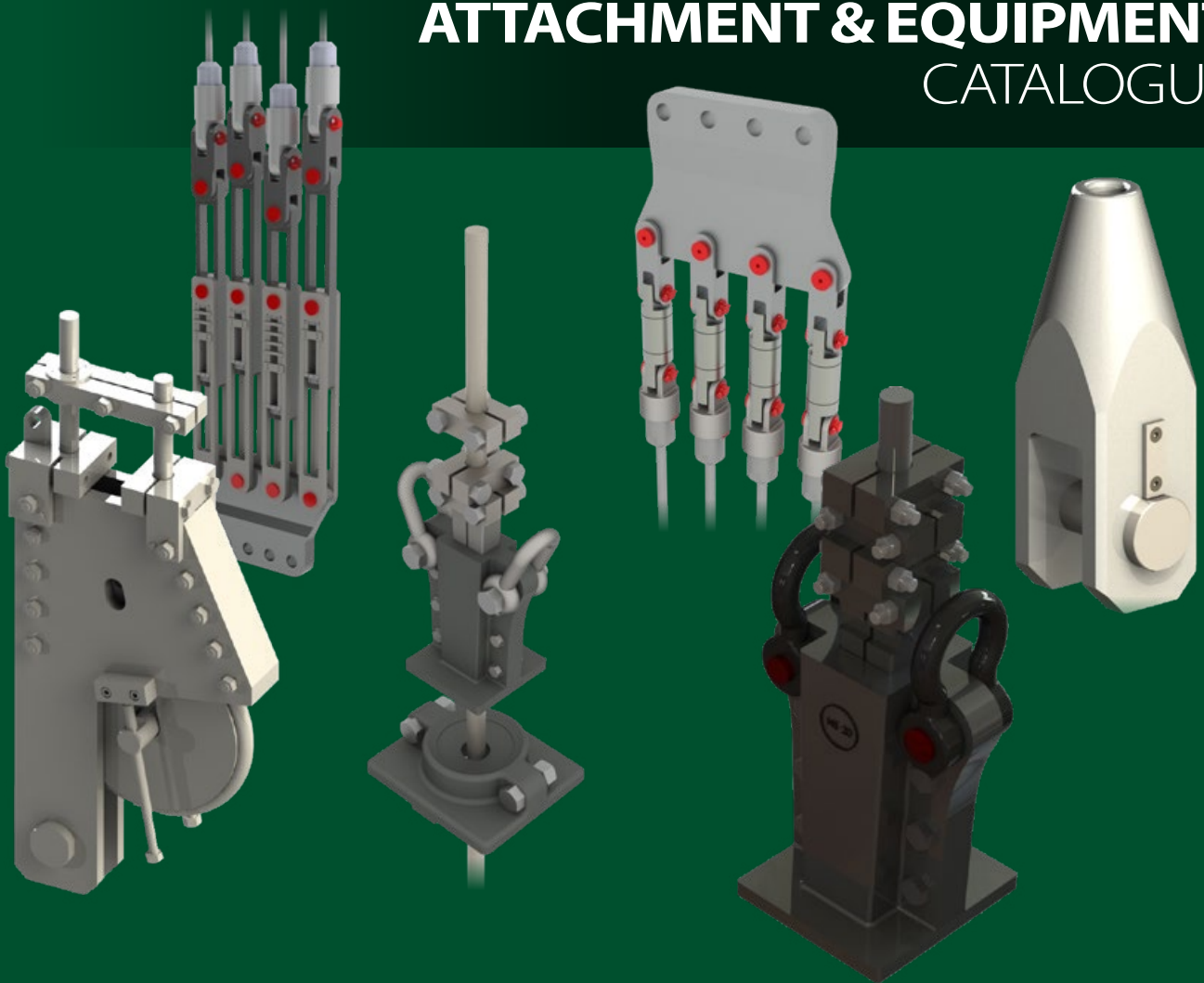


# NORTHERN STRANDS

## MINING WIRE ROPE ATTACHMENT & EQUIPMENT CATALOGUE



# ATTACHMENTS & EQUIPMENT

## HOIST ROPE ATTACHMENTS



FINE ADJUSTMENT  
LINKAGE  
Pg 4



COARSE  
ADJUSTING  
LINKAGE  
Pg 4



OPEN SPELTER  
SOCKETS  
Pg 5



THREADED  
SOCKETS  
Pg 6



HOIST ROPE WEDGE  
TYPE CAPELS AND  
ROUND EYE CAPELS  
Pg 6



CHASEBLOCKS &  
LINK PLATES  
Pg 6



THIMBLE CAPEL  
Pg 7



SOLID  
THIMBLES  
Pg 7

## BALANCE ROPE ATTACHMENTS



BALANCE ROPE  
ATTACHMENTS  
Pg 8



SOCKETS  
Pg 9



SWIVELS  
Pg 10



CHASEBLOCKS  
& PINS  
Pg 10



BALANCE ROPE  
(SHORT LOOP)  
CAPELS  
Pg 11



SOLID  
THIMBLE  
& CLAMPS  
Pg 11

## ROPE GUIDE ATTACHMENTS



SUSPENSION AND  
MANEUVERING  
GLANDS  
Pg 12



GUIDE ROPE  
TENSIONING  
Pg 13



GUIDE ROPE  
(LONG LOOP)  
CAPELS  
Pg 13

## SHAFT SINKING ATTACHMENTS



SINKING STAGE ROPE  
WITH LOAD CELL  
Pg 14



SINKING  
ATTACHMENTS  
Pg 14



SHAFT SINKING  
HOOKS  
Pg 14

## MINING SPECIALTY EQUIPMENT, WIRE ROPE AND SERVICES



BECORIT DRUM &  
SHEAVE LINERS  
Pg 15



LOAD CELLS  
Pg 16



LUBRICANTS, SYSTEMS  
& CLEANERS  
Pg 17



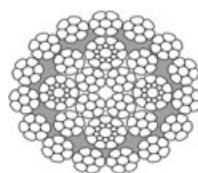
SHEAVES  
Pg 18



SPECIALTY EQUIPMENT  
Pg 19



MINING SERVICES  
Pg 20



ROPE CONSTRUCTIONS  
Pg 21

# INTRODUCTION

With health and safety in mind, Northern Strands has been supplying industry since 1970, evolving into five major divisions that offer needed tools and technical knowledge in mine hoisting and attachments, general rigging, engineered fall protection, suspended access and training.

Thanks to the experience and expertise of our people, Northern Strands is able to deliver added value from the start of your project whether it be feasibility, upgrades or modifications. The design and planning stages are where the greatest potential for profitability for our customers is found.

Northern Strands Mining, Wire Rope, Attachments & Equipment Division excels by providing a wide range of equipment and services by being the best full service provider of wire ropes, attachments, equipment and service. Truly Mine Hoisting Solutions®.

The Rigging Division is a full-service facility operating out of Saskatoon and Regina with the ability to fabricate custom chain and wire rope slings up to 1-1/2". We have a vast inventory of synthetic lifting slings, chain hoists, lever hoists, shackles, trolleys, winches (tuggers), and other general rigging hardware. Our network of suppliers and in-house expertise is leveraged for the benefit of our customers. We have vertical and horizontal test bed services. Northern Strands provides compliance certified equipment with documentation.

The Engineered Fall Protection Division offers a variety of fall protection systems, solutions and services. Custom-engineered solutions can be designed to suit specific requirements. Services and equipment include: Inspection and replacement services for overhead and vertical lifelines. Consulting, supply and installation services for single point anchors, guard rail systems, walkways and platforms and structural assessments.



Northern Strands has a large and diverse Suspended Access Division. These suspended access solutions have been used on sloped roof buildings, glazing applications, sheeting, insulation and concrete restoration, surface and underground in the mining sector along with many other uses throughout Saskatchewan and Western Canada. All of our equipment goes through a rigorous inspection and recertification process each time before it leaves our shop to ensure that our equipment will provide the most dependable solution for your needs. We provide onsite technical

assistance with all suspended access rigging and setup ranging from simple to highly engineered set-ups.

Northern Strands' Training Division offers several courses that aim to increase the workplace safety and make you compliant with the latest Saskatchewan OH&S legislation. Northern Strands instructors have been trained by industry leaders such as Crosby, Miller, and Capital Safety to name a few. Flexible scheduling [is] available, including evenings, nights and weekends. Courses are recognized province wide, and are designed to educate you on legislation from The Occupational Health & Safety Regulations, 1996. Training courses offered: Fall Arrest, Crosby Rigging, Tugger Safety, Wirelock Socketing and Overhead Crane.

#### **Northern Strands Certifications and Associations:**

COR Safety certified, ISNET, Mission Zero Charter Member, Canadian Dam Association Sustaining Member





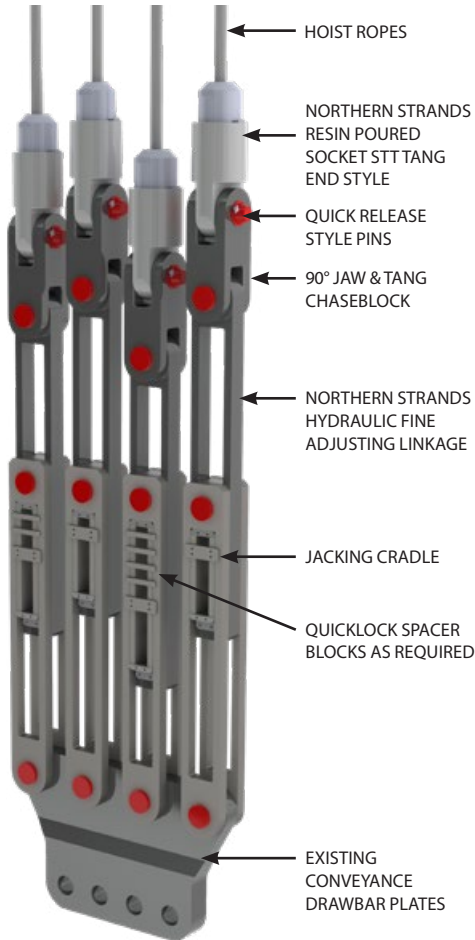
## WHY NORTHERN STRANDS ATTACHMENTS?

Northern Strands offers a full range of attachments for all mining ropes, as well as a comprehensive inventory of installation equipment for purchase or rental, along with installation crews and consulting. All attachments are designed and engineered to national coal board standards, as well as local government regulations. Northern Strands attachments are manufactured to a high-quality standard, governed by ISO 9001. Product serialization is also used for product tracking and quality control through an advanced quality management system. Northern Strands attachments are designed with a minimum of 10:1 factor of safety, proof load tested to 2.5 times safe working Load, ultrasonically and wet magnetic particle inspected, and come complete with test certificates and relevant QA/QC documents. All attachments are available with or without wear bushings made in metallic or synthetic material. The major advantage of manufacturing in-house is that the company can control costs and delivery.

### Northern Strands Provides:

- Customizable Dimensions
- Complete Certification
- Quick Delivery
- Design
- New Installation
- Replacement
- Upgrades
- Recertification and Testing
- Modification

# HOIST ROPE ATTACHMENTS



## FINE ADJUSTMENT LINKAGE

Fine Adjustment Linkages are primarily used in friction hoisting setups. The linkage allows fine adjustment so all ropes in a multi-rope arrangement are equally tensioned and therefore working together which in turn greatly extends rope life. Adjustment is done at the lower station and without the need of chairing conveyances. The linkage is adjusted by placing a hydraulic jack in each linkage string, making length adjustments, and then setting spacer bars. The adjustment with the linkage are in balance when the last one is put in motion by the hydraulic jack. At that point, all ropes are in equal tension. The jacks are powered by a pump unit mounted on a cart also containing the spacer bars, hoses and control pendant. Coarse adjustment is made using chaseblocks mounted either above the linkage, the opposite side, or a combination of the two.



## COARSE ADJUSTING LINKAGE

Coarse Adjusting Linkages are primarily used in friction hoisting. Adjustment is done at the bottom station once the conveyances are chaired. Pin type coarse adjusting linkage and compensating chaseblocks are the most common types of coarse adjustment. Northern Strands can engineer and fabricate custom linkage as required.

# OPEN SPELTER SOCKETS



Sockets are used on a variety of mining rope applications, including hoist, balance, guide and sinking ropes. The socket attachment offers a safe, economical connection and can be installed on site with wirelock resin.

Northern Strands designs and manufactures two main types of sockets, threaded and open spelter. The threaded style consists of a male and female end, in which the cap can be designed to suit specific client needs.

## OPEN SPELTER SOCKET

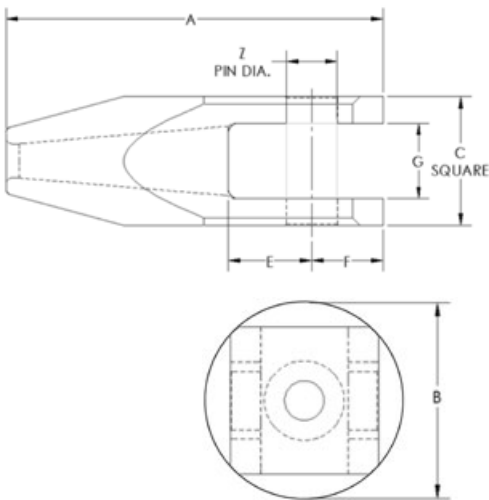
The Open Spelter type is the common style of socket. Northern Strands has standard catalogue sizes for open spelter sockets, as well as the capabilities to custom design for specific requirements.

Standard dimensions are shown below. Custom sizing available upon request.  
Contact: [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

### Options:

- Threaded Pin (Radius or Flat Head)
- Quick Release Pin
- Both style of pins can be supplied with grease grooves upon request

\*Socket Identification Number also represents rope size.  
(Pin weight not included)



SOCKET IDENTIFICATION NUMBER*	WORKING LOAD LIMIT (LBS)	A	B	C	E	F	G	Z	APPROXIMATE WEIGHT [LBS]
SJ 0.625	10,000	9.875	5.000	3.750	2.250	1.875	2.250	1.500	20.0
SJ 0.750	10,000	9.875	5.000	3.750	2.250	1.875	2.250	1.500	20.0
SJ 0.875	15,000	11.625	5.000	3.750	2.625	2.250	2.250	1.500	22.0
SJ 1.000	20,000	13.375	6.375	4.750	3.063	2.563	2.844	1.875	40.0
SJ 1.125	25,000	15.000	6.375	4.750	3.375	2.875	2.844	1.875	45.0
SJ 1.250	30,000	16.500	7.750	5.750	3.688	3.188	3.469	2.313	75.0
SJ 1.375	35,000	18.250	7.750	5.750	4.125	3.500	3.469	2.313	80.0
SJ 1.500	40,000	19.750	9.000	6.875	4.375	3.750	4.063	2.750	125.0
SJ 1.625	50,000	21.500	9.000	6.875	4.750	4.125	4.063	2.750	135.0
SJ 1.750	60,000	23.125	10.500	7.875	5.125	4.375	4.625	3.125	190.0
SJ 1.875	70,000	24.750	10.500	7.875	5.438	4.688	4.625	3.125	205.0
SJ 2.000	80,000	26.250	11.500	8.875	5.750	5.000	5.219	3.563	275.0
SJ 2.125	85,000	28.000	11.500	8.875	6.188	5.313	5.219	3.563	295.0
SJ 2.250	95,000	29.875	12.750	9.875	6.500	5.625	5.781	4.000	390.0

# HOIST ROPE ATTACHMENTS



HOIST ROPE STT

## THREADED SOCKETS

The threaded style of sockets consist of a male and female end, in which the cap can be designed to suit the clients specific need. All threaded sockets are designed with a minimum 10:1 factor of safety, and 15:1 on the threads.



HOIST ROPE (ROUND EYE) CAPEL

## HOIST ROPE WEDGE TYPE CAPPELS AND ROUND EYE CAPPELS

Wedge Type Cappel are used in various applications including Multi-Rope Hoist, Balance and Guide Ropes. This attachment offers simplicity, reliability and safety. The Cappel are installed with either the use of hammers or a Hydraulic Cappel press. Standard Cappel sizes range from 1" to 2.5" rope diameters. All Cappel are manufactured from high quality steel, Proof Load Tested to 2.5 times Safe Working

Load and Wet Magnetic Particle Inspected. Round Eye Cappel suit both Round Strand and Locked Coil type Hoist Ropes.

These Cappel utilize a Safety Cone installed with Wirelock Resin.

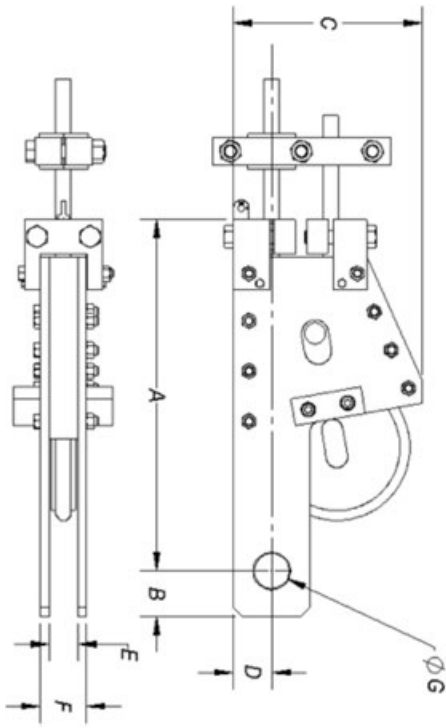


CHASEBLOCK

## CHASEBLOCKS & LINK PLATES

Chaseblock & Link Plates are used to connect rope end attachments to other components in the system. These are custom designed to suit each client's specific need and application. The chaseblocks can be supplied as inline, 45 degrees, or 90 degrees depending on client requirements.





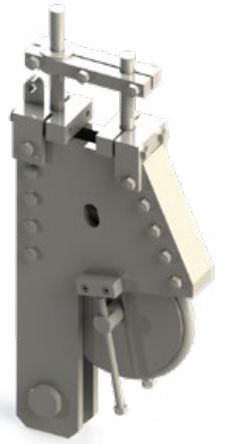
## THIMBLE CAPPEL

Thimble cappelles are used in both drum and friction hoist applications. The rope is passed around the thimble located between the two opposite jaws, which fit into the side plates. Once a load is applied, the thimble is drawn into the body of the cappel, where the thimble and jaws grip the rope.

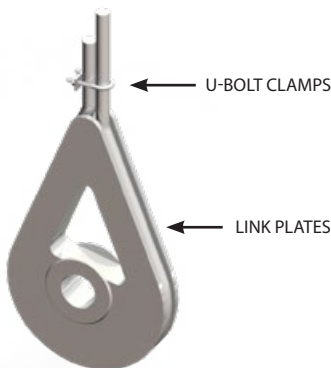
Standard dimensions are shown below. Custom sizing available upon request.  
Contact: [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

### Available Pins:

- Threaded (Radius or Flat Head)
- Quick Release
- Both style of pins can be supplied with grease grooves upon request



THIMBLE CAPPEL IDENTIFICATION NUMBER	ROPE SIZE [INCHES]	WORKING LOAD LIMIT (LBS)	A	B	C	D	E	F	ØG	APPROX. WEIGHT (LBS)
10095-A	0.750	12,000	20.375	2.750	11.620	2.375	1.580	2.580	1.970	135
10109-A	0.875									
10118-A	1.000									
10130-A	1.125	30,000	31.000	3.750	18.560	3.250	2.000	4.000	2.500	440
10145-A	1.250									
10154-A	1.375									
10163-A	1.500	40,000	35.000	4.625	21.510	3.750	2.360	4.360	3.500	610
10176-A	1.625									
10185-A	1.750									
10256-A	1.875	55,000	46.000	4.750	24.920	4.000	2.950	5.450	4.000	975
10265-A	2.000									
10278-A	2.125									
10287-A	2.250	85,000	59.125	4.500	29.570	5.000	4.250	8.750	4.000	2,550
10300-A	2.375									

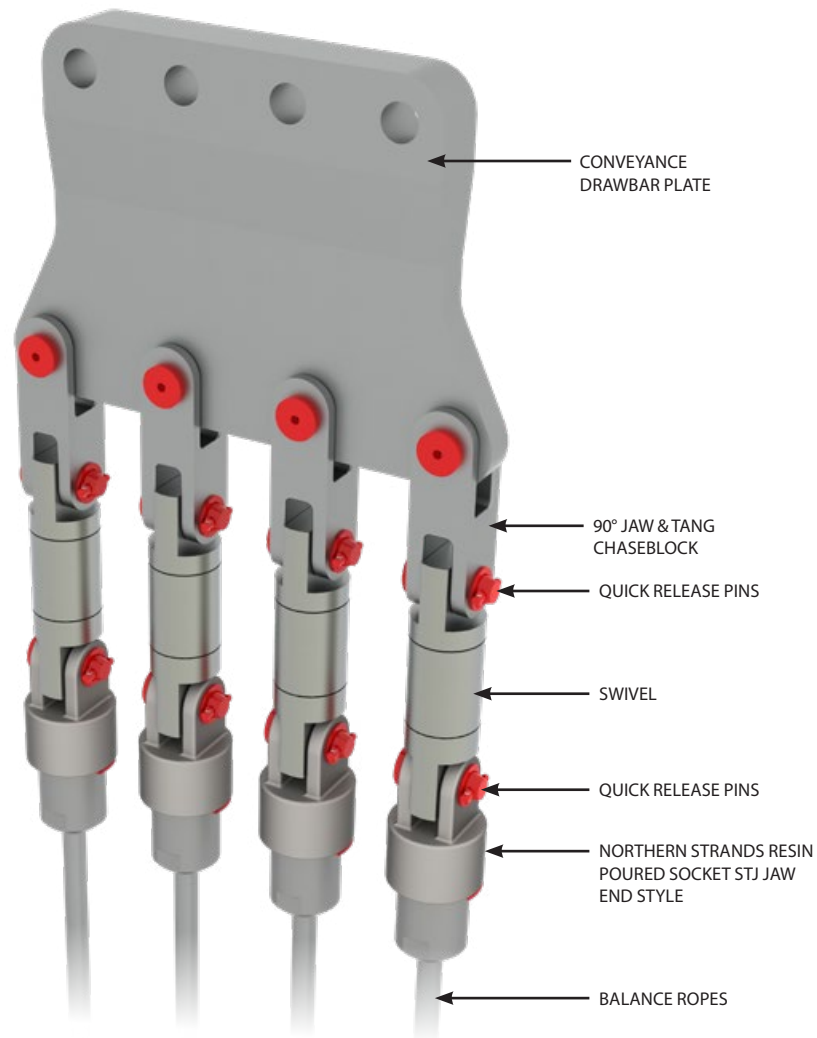


## SOLID THIMBLES

Solid Thimbles can be used for hoist or balance rope connections. The rope is looped around the thimble, where the live and dead ends are secured by rope clamps.

# BALANCE ROPE ATTACHMENTS

## BALANCE ROPE ATTACHMENTS





STJ  
THREADED  
JAW END  
STYLE



STT  
THREADED  
TANG END  
STYLE



SJ STYLE

## SOCKETS

Sockets are used on a variety of mining rope applications, including hoist, balance, guide and sinking ropes. The socket attachment offers a safe, economical connection and can be installed with a quick and efficient wirelock resin. This socket may be more desirable than the OS design where headroom is an issue, as it may eliminate one rope fitting.

Northern Strands designs and manufactures two main types of sockets, threaded and open spelter. The threaded style consists of a male and female end, in which the cap can be designed to suit specific client needs.

### OPEN SPELTER SOCKET (SJ STYLE)

The open spelter type is the common style of socket. N.S. has standard catalogue sizes for open spelter sockets, as well as the capabilities to custom design for specific requirements.

Custom sizing available upon request.  
Contact: [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

### Options:

- Threaded Pin (Radius or Flat Head)
- Quick Release Pin
- Both style of pins can be supplied with grease grooves upon request

# BALANCE ROPE ATTACHMENTS



TANG / TANG  
SWIVEL

## SWIVELS

Swivels are used to provide rotation, primarily in Balance or Sinking Stage Ropes, to alleviate torque buildup, which is damaging to ropes.

A variety of styles are available ranging in capacities from 1 ½ to 100 tons.

Angular Contact Bearings are primarily used offering the necessary starting torque efficiency with maximum reliability.

Swivels are Proof Loaded to 2x Safe Working Load. Northern Strands carries the Miller line of swivels. Please click on the following link to see Miller's full line of swivels.

[www.millerproducts.net](http://www.millerproducts.net)

## CHASEBLOCKS & PINS

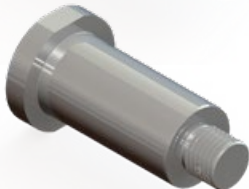
Chaseblocks and Link Plates are used to connect rope end attachments to other components in the system. These are custom designed to suit each client's specific need and application. The chaseblocks can be supplied as inline, 45 degrees, or 90 degrees depending on client requirements.

Northern Strands offers two main types of pins. The quick release pin consists of a pin body with a tapered end that allows for easy installation and removal. The pin is locked in place with a stainless steel locking pin and a cotter pin. The threaded pin is supplied with a nut and match drilled hole in the thread to lock in place. Rounded heads and nuts can be supplied. Both styles of pins are available with a grease groove option.

(TANG/JAW)  
CHASEBLOCK



QUICK  
RELEASE PIN



THREADED  
PIN



BALANCE ROPE  
(SHORT LOOP) CAPEL

## BALANCE ROPE (SHORT LOOP) CAPELS

Short Loop Capels are used for the attachment of Balance (Tail) Ropes.

These Capels normally connect into a 90° Chaseblock and Swivel.

Short Loop Capels utilize a 4-Bolt Safety Clock rather than a Safety Cone as with the Hoist Rope Capels.



BALANCE ROPE THIMBLE  
WITH APEX TYPE CLAMP

## SOLID THIMBLE & CLAMPS

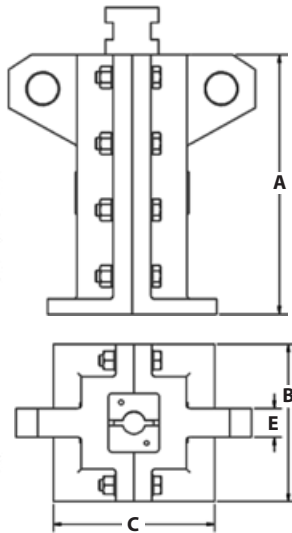
Solid Thimbles can be used for hoist or balance rope connections. The rope is looped around the thimble, where the live and dead ends are secured by rope clamps.

← APEX CLAMP

# GUIDE ROPE ATTACHMENTS



MANOEUVRING GLAND



## SUSPENSION AND MANEUVERING GLANDS

### MANEUVERING

Maneuvering Glands are used for lifting, maneuvering, and banking wire rope for removal, installation or maintenance purposes. One advantage the maneuvering gland has is that the opposing ears allow for the body to be unbolted and removed, all the while remaining suspended by the shackles.

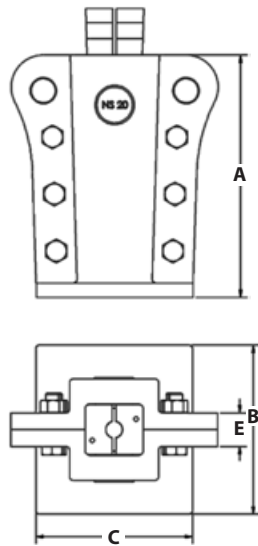
Standard dimensions are shown below. Rope sizes for wedges upon request. Contact: [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

All glands are designed with a minimum of 5:1 factor of safety, proof load tested to 2x safe working Load, ultrasonically and wet magnetic particle inspected. All meet or exceed national coal board standards.

GLAND IDENTIFICATION NUMBER	WORKING LOAD LIMIT (LBS)	A	B	C	E	WEIGHT (LBS)
10050-A	20,000	15.000	9.625	9.125	1.875	200
10047-A	40,000	17.125	10.875	11.125	2.000	310
10048-A	60,000	18.000	12.000	11.125	2.750	400



SUSPENSION GLAND



### SUSPENSION

Suspension Glands are used for a lifting, maneuvering, and banking wire ropes for removal, installation or maintenance purposes. Northern Strands glands are supplied complete with gland body, interlocking wedges, four-two bolt blocks and lifting shackles.

Standard dimensions are shown below. Rope sizes for wedges upon request. Contact: [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

All glands are designed with a minimum of 5:1 factor of safety, proof load tested to 2x safe working Load, ultrasonically and wet magnetic particle inspected. All meet or exceed national coal board standards.

GLAND IDENTIFICATION NUMBER	WORKING LOAD LIMIT (LBS)	A	B	C	E	WEIGHT (LBS)
10051-A	20,000	14.125	9.000	9.125	1.875	135
10019-A	40,000	17.000	11.875	11.000	2.375	285
10049-A	60,000	18.000	11.500	11.000	2.875	390

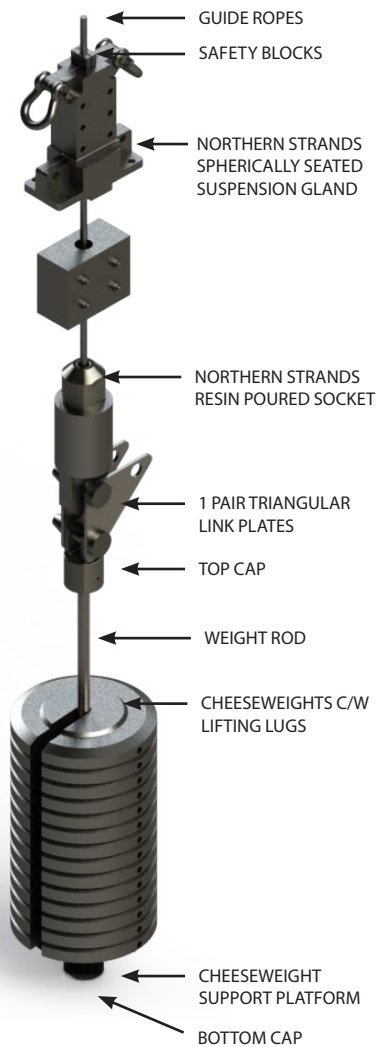
### SPHERICALLY SEATED

Spherically Seated Glands are used for the suspension of guide or rub ropes. The spherical base allows for the rotation of the guide or rub ropes to change the wear pattern on the rope.

All glands are designed with a minimum of 5:1 factor of safety, proof load tested to 2x safe working Load, ultrasonically and wet magnetic particle inspected. All meet or exceed national coal board standards

SPHERICALLY SEATED GLAND





## GUIDE ROPE TENSIONING

Where shaft Guide Rope systems are used in lieu of rigid type guides, several attachment assemblies are available. Arrangements are offered with bottom weight tensioning (most common), bottom spring tensioning or top spring tensioning, or hydraulic tensioning in the headframe.

The upper attachment includes a Spherically Seated Gland, while the bottom end can be fitted with a Socket or Long Loop Capel.

The Socket or Capel is then connected to a Triangular Link Plate which facilitates load transfer for rope changes.

With bottom weight tensioning, Cheeseweights are mounted on a rod and platform thereby keeping Guide Ropes tensioned.

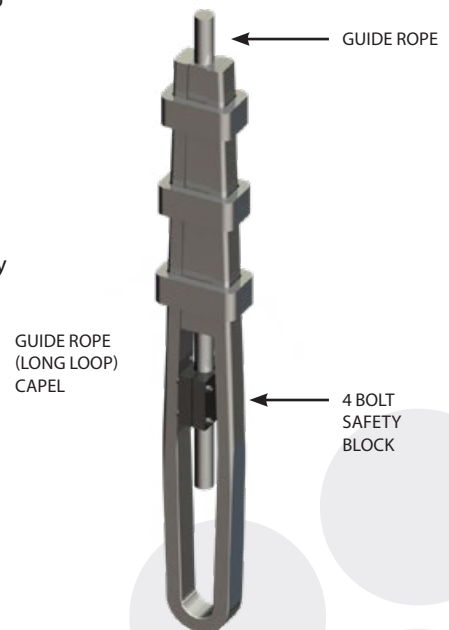
As mentioned, rather than Cheeseweights, hydraulic systems or spring tensioning can be employed at either top or bottom.

## GUIDE ROPE (LONG LOOP) CAPELS

Long Loop Capels are designed to be used with Half and Full Locked Coil Guide Ropes.

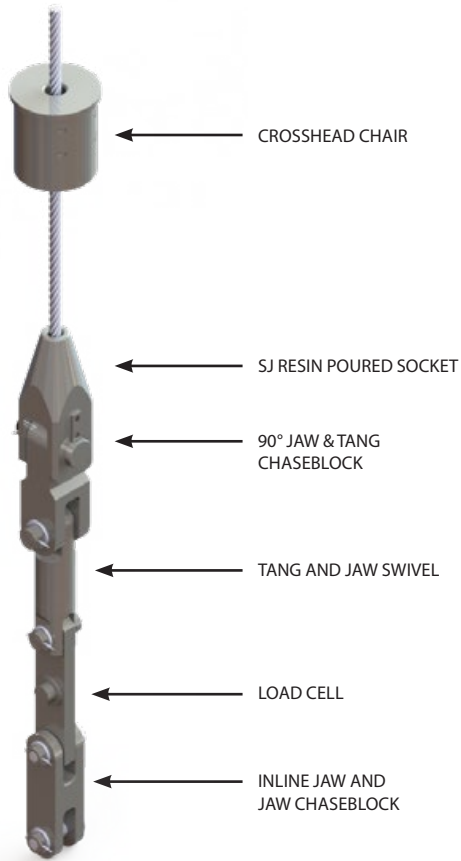
The longer loop is designed to allow the extra length of Guide Rope to hang out past the attachment rather than be cut off to an exact length.

These Capels utilize a 4-Bolt Safety Block like the Short Loop Balance Rope Capel.



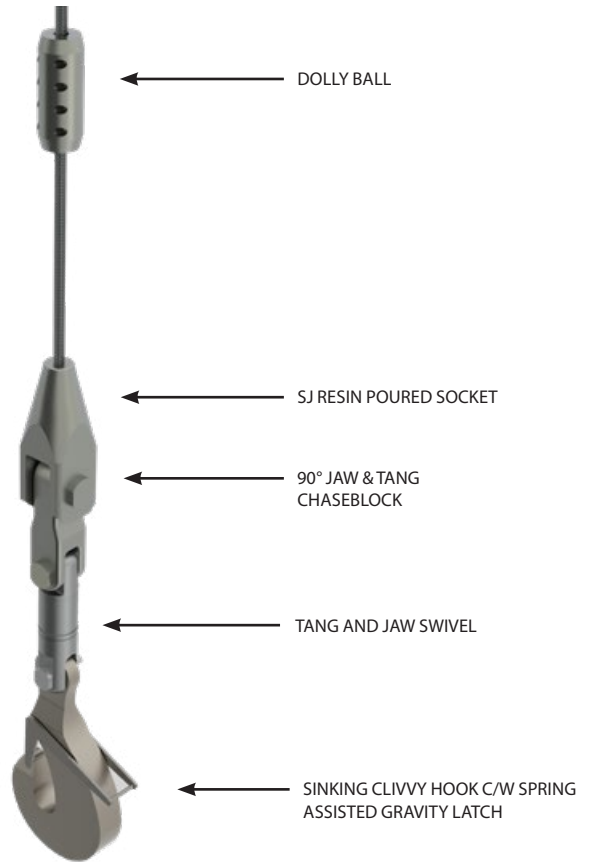
# SHAFT SINKING ATTACHMENTS

## SINKING STAGE ROPE WITH LOAD CELL



STAGE ROPE SETUP

## SINKING ATTACHMENTS



SINKING ROPE SETUP



## SHAFT SINKING HOOKS

Northern Strands offers two styles of sinking hook. The Clivvy hook is a solid plate sinking hook, which is supplied with a spring assisted locking latch. The sinking swivel hook consists of a hook integrated directly into the swivel. This offers a more economical solution, as well as a lower profile if space is an issue. This style can also be supplied with a gravity latch or spring assisted locking latch.

All Shaft Sinking Hooks are designed with a minimum of 10:1 factor of safety, proof load tested to 2x times safe working Load, ultrasonically and wet magnetic particle inspected. All meet or exceed national coal board standards.





## BECORIT DRUM & SHEAVE LINERS

Northern Strands is an international supplier of Becorit liners. The Becorit hoist drum liners guarantee a very high friction coefficient, excellent abrasion resistance and a high permissible surface pressure. The Becorit liners can be made to suit any drum or sheave, and recommendations will be made for the right material for your specific job.

### **BECORIT: INNOVATION WITH A HISTORY**

Becorit's success story began in 1926 with the production of frictional materials for conveying and lifting systems deployed in mining. Only 20 years later, Becorit GmbH develops brake pads for rail vehicles and becomes one of the most renowned producers of frictional materials worldwide. With the aid of technological innovation Becorit develops products of excellent quality you can depend on.

### **DIVERSITY AND FLEXIBILITY WITH SAFETY**

All over the world, Becorit's materials guarantee an optimal coefficient of friction between the wire rope and the sheave. Alongside the classical areas of application such as mining and funicular railways, you will find Becorit products in cable winches, fairground rides, steel rolling mills, crash test facilities and many other applications where traction and safety matter.

### **OUR LININGS KEEP WHAT WE PROMISE**

With strict adherence to the ISO 9001, ISO 14001 and ISO 50001 standards, Becorit products are manufactured at our site in Recklinghausen, Germany.

To guarantee the quality, all steps of the process, from raw materials to the finished part, are monitored and documented.

### **TRACTION SAFETY YOU CAN RELY ON**

The efficiency and safety of the wire rope and the traction sheave is defined by the coefficient of friction between the wire rope and the lining. By taking this into consideration, Becorit selects the optimum lining material for the area of deployment. The following factors play a significant role as they have a direct influence on the coefficient of friction:

- **Load condition**
- **Wire construction**
- **Acceleration**
- **Temperature**
- **Moisture**
- **Wire lubrication**
- **Contamination**



# LOAD CELLS

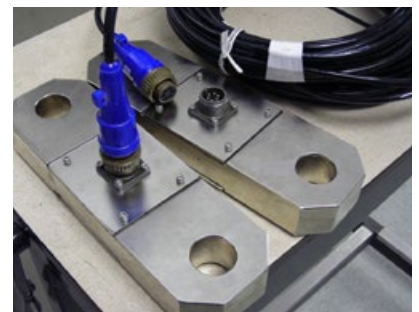
## HIGH QUALITY

All tension links and load pins are tested prior to sales to ensure High quality performance. Our supplier's testing facility has a capacity to 150,000 lb, traceable to the National Institute of Standards and Technology (NIST) USA.

Product serialization is also used for product tracking and quality control through an advanced quality management system.

## SUPERIOR SERVICE

Our supplier's design team along with our design team will work together to provide the very best custom product solutions to ensure you are completely satisfied. After your purchase, should you experience any problems with your Northern Strands product or have any questions, the technical specialists are available to help. As your local supplier we are easy to contact, and can resolve any issues quickly and efficiently.



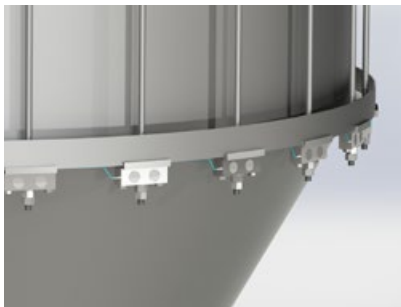
Load Cell link plates

## SUPERIOR WARRANTY

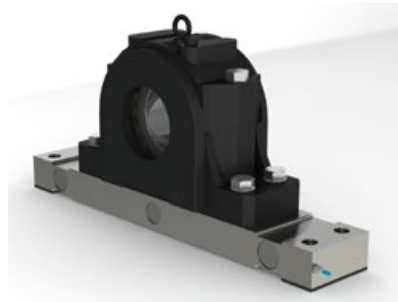
All custom designed load pins and load cells are backed by our 2 year warranty.

## PILLOW BLOCK

Pillow Block type custom designed load cells for various mining applications. Can be used for mining and oil and gas applications.



Another conceptual design for thru hole load cells for mine underground tanks.



## LOAD PINS

Load pins, large and small are common for the Crane Service providers, mining and engineering companies.



# LUBRICANTS, SYSTEMS & CLEANERS

Lubrication of wire rope is important. It is required during manufacturing, installation, and ongoing maintenance. Different hoists and applications require different types of lubrication. With Northern Strands' knowledge of wire rope, we can recommend and supply appropriate lubrication products and suggest the best lubrication methods.

## WIRE ROPE LUBRICATION SYSTEMS

Northern Strands is the North American Distributor for CoreLube wire rope lubrication equipment and cleaners.

### 3100-BOS-R1 SYSTEM

The 3100-BOS-R1 System is designed to apply thick oils / semi fluids & soft greases that are self penetrating. Cable Size Range: 0.5" (12.7mm) to 3" (77mm).

#### ADVANTAGES

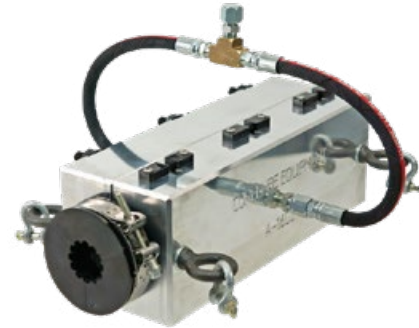
- Easy to use.
- Lubricates wire ropes at speeds of 250 Ft./ Min.
- One brush size fits a range of rope sizes. Eliminates the need for a rubber seal for every size of wire rope.
- Wire rope deformities can be run through the unit.
- Wire ropes can run through the unit at any angle.
- The same pump fits all sizes of containers from a drum to a pail.

### A-1600-LB6 GREASE SYSTEM

The CoreLube A-1600 System is a high pressure wire rope grease injection unit for NLGI #00, #0, #1, #2 grease. Accommodates Wire Rope Sizes From: 7/32" (5.5mm) to 2 9/16" (65.0mm).

#### ADVANTAGES

- The Seals and Bushings snap into the housing without tools.
- Solid machined housing with dual O-ring seals.
- Removes old lubricant, dirt and grime.
- High Pressure 50:1 Pump.
- High Output Volume Pump 4.25" 108.0mm Air Motor



## HELIX GROOVE CLEANERS

CoreLube Equipment's Helix Groove Cleaners are designed to remove contaminants from the valleys between the strands of wire rope.

The cleaner works by rotating with the helical lay of the wire rope.

The Helix Groove Cleaners are designed to work with CoreLube's applicator collars or thrust block.

#### HELIX GROOVE CLEANER TYPES AVAILABLE:

- Diameter Ranges: 13.0 mm -- 127.0 mm
- Number of Outer Strands: 3--18
- Left & Right Lay
- Round Stranded Wire Ropes
- Triangular/Swaged Stranded Wire Ropes

## SHEAVES

Northern Strands offers many different sizes of Sheaves to suit various applications. This includes Head Sheaves, Deflection Sheaves, Double Down Sheaves, And Custom Sheaves for Rope Installation and Removal. In House Engineering allows us to provide customers with the proper sheaves to suit their applications in regards to safe working load and factor of safety. Sheaves can be supplied with synthetic liners, or hardened grooves.

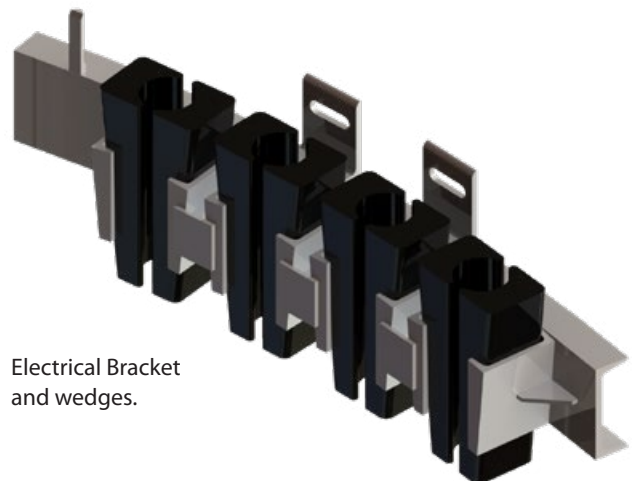


## ELECTRICAL CABLE BRACKETS AND INSTALLATION

Northern Strands specializes in the design, fabrication and installation of electrical cable brackets and wedges.



Sheave Stand Assembly



Electrical Bracket and wedges.

# SPECIALTY EQUIPMENT



Mobile Reel Handler

## INSTALLATION & REEVING EQUIPMENT

- Deflection sheave assemblies with pedestals
- Double down sheaves
- Rope tensioners
- Reeving sockets
- Sheaves and pedestals
- D plates
- Maneuvering glands
- Suspension glands
- Safety blocks
- Safety clamps
- Gooseneck deflection sheaves
- Reel winder
- Wire rope shears (Hydraulic)
- Cappel banding press
- Socketing stands
- Snatch blocks



Maneuvering gland



Deflection Sheave Assembly  
with Pedestal

## MAINTENANCE EQUIPMENT

- Rope Lubrication Systems
- Rope Cleaners (Single & Multi Rope)
- Kellem Grips / Rope Grips
- Post-former
- Drum Liner Grooving Machines and Grooving Bits.

## SUPPLIES

- Socketing resin
- Seizing wire
- Cleaners / degreasers
- Wire rope lubricants



Reeving Socket



Reel Transporter/Unwinder

## ROPEMAN'S TOOLS

- Grooving tools
- Seizing machine
- Socketing tools
- Sheave groove gauges
- Rope calipers
- PFV coated rope repair kit
- Punch lok tools



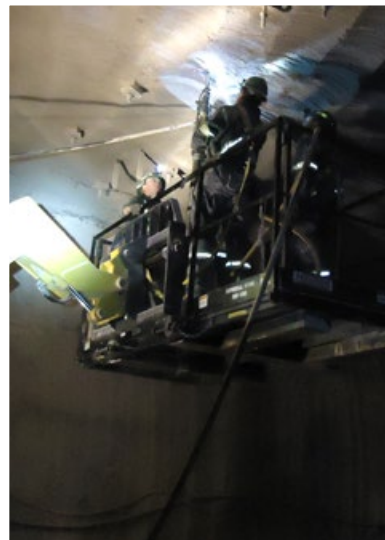
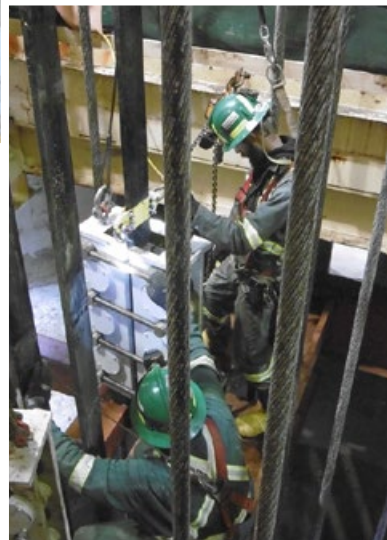
Wirelock Resin



Cage installation



Mining rope install



## MINING SERVICES

### CAPABILITIES

- Project assessment
- Rope up & rope change specialists
- Accident remediation
- Consulting & procedure development
- Custom fabrication & machining
- Supply mining ropes (see our Mining Wire Rope catalogue)
- Conveyance installation & removal

### SEMINARS

- Mine Hoisting
- Socketing
- Safety Rigging

### SPOOLING

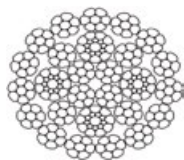
- Equipment Operators
- Spare Reels

### RENTALS

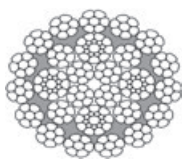
- Specialty Shaft Rigging
- Reel Stand
- Winders & Unwinders
- Tensioners
- Tuggers & Load Winches

# MINING WIRE ROPE CONSTRUCTIONS

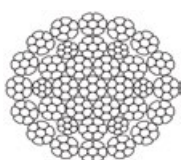
In addition to attachments, Northern Strands supplies a variety of Mining Wire Ropes. Request a printed copy of the Northern Strands Mining Wire Rope Catalogue for detailed information on the below wire ropes or visit [northernstrands.com](http://northernstrands.com) to download a copy.



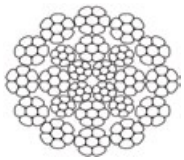
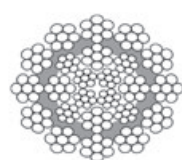
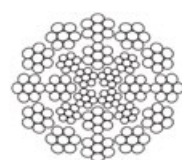
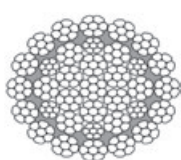
COMPACTED 35x7 - HOIST



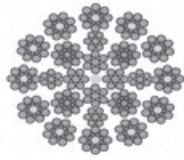
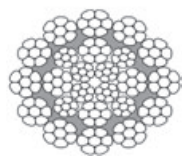
COMPACTED 35 x 7 - SINKING



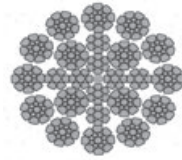
24x7 CONSTRUCTION



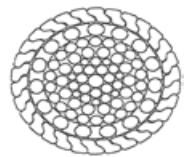
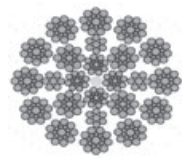
COMPACTED 24x7



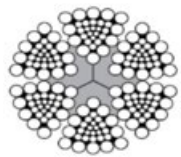
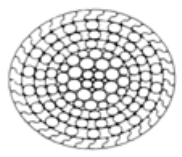
24x17 FRICTION HOIST



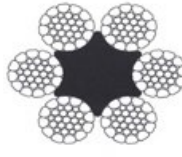
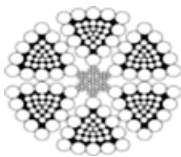
24x17 CONSTRUCTION



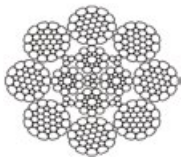
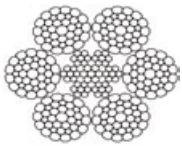
FULL LOCKED COIL



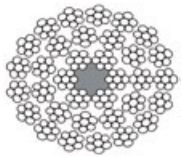
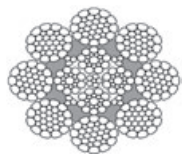
FLATTENED STRAND



COMPACTED 6 STRAND



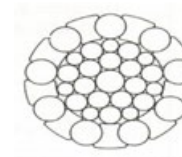
COMPACTED 8 STRAND



34 STRAND CONSTRUCTION



FLAT BALANCE ROPE



HALF LOCKED COIL

# NORTHERN STRANDS

## SASKATOON

3235 Millar Avenue, Saskatoon, SK S7K 5Y3

**PHONE:** (306) 242-7073 **FAX:** (306) 934-2920

**TOLL FREE:** 1-800-242-7073 (in North America only)

**EMAIL:** [attachments@northernstrands.com](mailto:attachments@northernstrands.com)

**WEB:** [northernstrands.com](http://northernstrands.com)