

ELITE SALES

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CATALOG 2020

CHAIN • WIRE ROPE • ACCESSORIES



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Company

Ubication

Affiliations

Safety

Installation Of Wire Rope Clips

Wire Rope Definitions

Working Load Limits

Wire Rope Installation And Handling

Wire Rope Lubrication

General Information About Wire Rope

Wire Rope Handling And Installation

Definitions

The Three Basic Components Of A Typical

Wire Rope

Wire Rope Reel Chart

Important Wire Rope Warnings

Elite Sales Safety Disclaimer

Wire Rope

Bright Fiber Core

Bright 6×19

Bright 6×26

Bright 6×36

Bright 6×37

Galvanized Fiber Core

6×19 Galvanized

6×25 Galvanized

6×36 Galvanized

6×37 Galvanized

Trawl Cable

Rotation Resistant

Compacted 19×19 Rotation

Drill Lines

Sand Line

35×7 Rotation Resistant

Stainless Steel 6×19

Stainless Steel 6×36

Cable

7×7 / 7×19 Galvanized Cable

HDG Vinyl Coated Cable

Stainless Steel Vinyl Coated Cable

7×7 / 7×19 Stainless Steel Cable

1×7 Stainless Steel Strand

1 x 19 Stainless Steel Strand

Chain

Alloy Steel Chain

G-4 Windlass Chain

High Test Chains

Grade 30 Proof Coil Chain

Grade 43 High Test Chain

Grade 70 Transport Chain

Grade 80 Alloy Chain

Proof Coil Chain

Stainless Steel Chain

Transport 70

Hardware

Alloy Steel Snatch Blocks

Steel Snatch Blocks

Drop Forged Wire Rope Clips

Fist Grip Clips

Malleable Wire Rope Clips

Shoulder Nut Eye Bolts

Shoulder Type Machinery Eye Bolt

Turned Eyebolt

Galvanized Eye Nuts

Locknuts (Jam Nuts)

Regular Nut Eye Bolts

Grade 43 Clevis Hooks

Grade 43 Eye Grab Hooks

Grade 70 Clevis Hooks

Grade 80 Clevis Hooks

Grade 80 Eye Hoist Hooks

Grade 80 Swivel Eye Hoist Hooks

Lanyards Hooks / S Hooks

Sorting Hooks

Spring Snap Hooks

Coupling Link

Galvanized Quick Links

Grade 43 Pear Shaped Sling Links

Grade 80 Oblong Master Links

Lap Links

Missing Links

Bolt Type Anchor Shackle

Bolt Type Chain Shackles

Screw Pin Anchor Shackles

WIRE ROPE

CABLE

CHAIN

HARDWARE

TIE DOWN

MISCELLANEOUS

WIRE ROPE

Screw Pin Chain Shackles
Carbon Steel Sleeves
Hourglass Sleeves
Weldless Sling Link
Eye & Eye Swivels
Jaw & Eye Swivels
Heavy Duty Thimbles
Regular Duty Thimbles
Eye & Eye Turnbuckles
Hook & Eye Turnbuckles
Hook & Hook Turnbuckles
Jaw & Eye Turnbuckles
Jaw & Jaw Turnbuckles
Turnbuckles – Body Only

CABLE

Korean Hardware

Korean Wire Rope Clips
Korean Oblong Master Links
Korean Hawser Thimbles
Korean Eye and Eye Turnbuckles
Korean Hook and Eye Turnbuckle
Korean Hook and Hook Turnbuckle
Korean Jaw and Eye Turnbuckles
Korean Jaw and Jaw Turnbuckles
Korean Screw Pin Anchor Shackle
Korean Open Spelter Sockets
Korean Closed Spelter Sockets

CHAIN

HARDWARE

Stainless Steel Hardware

Shoulder Type Machinery Eye Bolts
Shoulder Eye Bolts
S.S. Wire Rope Clips
Spring Snap Hooks – Quick Links
SS Oblong Master Links
S Hooks
S.S. Clevis Hooks
S.S. Eye Hooks
ST Steel Eye Nut

TIE DOWN

MISCELLANEOUS

Load Rated Screw Pin Chain Shackles
Load Rated Bolt Type Anchor Shackles
SS Screw Pin Anchor Shackle
Eye & Eye Swivels
S.S. Heavy Duty Thimbles
S.S Regular Duty Thimbles
SS Eye and Eye Turnbuckle
SS Jaw and Jaw Turnbuckle
SS Jaw and Eye Turnbuckle

Tie Down

Twin J Hook / Flat Hook
Flat Snap Hook / S Type Hook
Ratchet Buckles
Ratchet Strap Assembly / Tie Down Webbing
Grade 43 High Test Binding/Boomer Chains
Grade 70 Transport Binding/Boomer Chains
Ratchet Load Binders
Lever Load Binders

Miscellaneous

Material Baskets

Tools

Cable Cutting Tools
Hand Swaging Tools

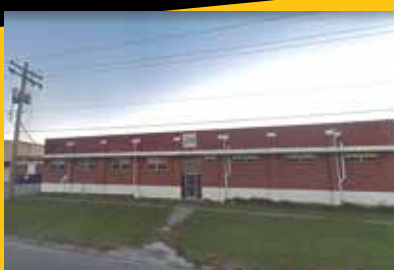


MIAMI HEADQUARTERS

Elite Sales moved to its Miami Headquarters in 2002 to satisfy its need for more space. Here is where our sales team and all administrative matters are handled. Located close to Miami Airport it is a convenient place for our customers and suppliers to visit us.

Miami Executive Offices

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(305) 262-3859 Fax



Tampa Distribution Center

603 North 19th Street
Tampa, Florida 33605

(813) 247-2094 Tel
(813) 248-2821 Fax



Houston Distribution Center

6247 Navigation
Boulevard
Houston, TX 77011

(713) 861-4203 Tel
(713) 861-4280 Fax



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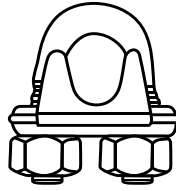


NATIONAL
Minority Supplier
Development Council

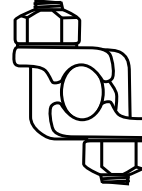


Safety





U-BOLT



FIST GRIP

WIRE ROPE CLIPS

Wire rope clips are widely used for making end terminations.

Clips are available in two basic designs; the U-Bolt and fist grip. The efficiency of both types is the same.

When using U-Bolt clips, extreme care must be exercised to make certain that they are attached correctly; i.e., the U-Bolt must be applied so that the "U" section is in contact with the dead end of the rope.

Also, the tightening and retightening of the nuts must be accomplished as required.

Use only forged clips for critical, heavy duty, overhead loads, such as support lines, guy lines, towing lines, tie downs, scaffolds, etc.

Malleable clips are to be used for making eye termination assemblies only with right regular lay wire rope and only for light duty uses with small applied loads, such as hand rails, fencing, guard rails, etc.

HOW TO APPLY U-BOLT CLIPS

Recommended Method of Applying U-Bolt Clips to Get Maximum Holding Power of the Clip.

The following is based on the use of proper size U-Bolt clips on new rope.

1. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Apply U-Bolt over dead end of wire rope with live end resting in saddle. Tighten nuts evenly, alternating from one nut to the other until reaching the recommended torque.

2. When two clips are required, apply the second clip as near the loop or thimble as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. Proceed to Step 3.

3. When three or more clips are required, space additional clips equally between first two - take up rope recommended slack - tighten nuts on each U-Bolt evenly, alternating from one nut to the other until reaching recommended torque.

4. Apply first load to test the assembly. This load should be of equal or greater - weight than loads expected in use. Next, check and retighten nuts to recommended torque.

In accordance with good rigging and maintenance practices, the wire rope and termination should be inspected periodically for wear, abuse and general adequacy.

Inspect periodically and retighten to recommended torque.

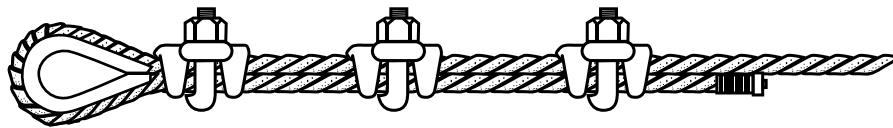
A termination made in accordance with the above instructions and using the number of clips shown, has an approximate 80% efficiency rating. This rating is based upon the nominal strength of wire rope. If a pulley is used in place of a thimble for turning back the rope, add one additional clip.

The number of clips shown is based upon using right regular or lang lay wire rope, 6x19 classification or 6x37 classification, fiber core or IWRC, IPS or EIP. If Seale construction or similar large outer wire type construction in the 6x19 classification, fiber core, IPS, sizes 1 1/2" and smaller; and right regular lay wire rope, 19x7 classification, IPS or EIP, sizes 1 3/4" and smaller.

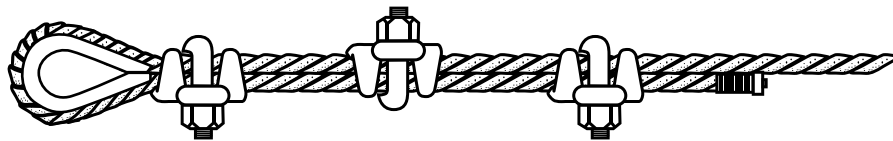
For other classifications of wire rope not mentioned above, it may be necessary to add additional clips to the number shown.

If a greater number of clips are used than shown in the table, the amount of rope turnback should be increased proportionately. ABOVE BASED ON USE OF PROPER SIZE U-BOLT CLIPS ON NEW ROPE.

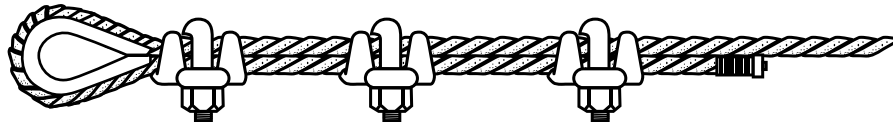
IMPORTANT: Failure to make a termination in accordance with mentioned instructions, or failure to periodically check and retighten to the recommended torque, may cause a reduction in efficiency rating.



RIGHT WAY FOR MAXIMUM ROPE STRENGTH



WRONG WAY: CLIPS STAGGERED



WRONG WAY: CLIPS REVERSED

The correct way to attach U-Bolts is shown at the top; the "U" section is in contact with the dead end of the rope and is clear of the thimble.

Working Load Limit (WLL)

The Working Load Limit is the maximum load which should ever be applied to the product, even when the product is new and when the load is uniformly applied – straight line pull only. Avoid side loading. All catalog ratings are based upon usual environmental conditions and consideration must be given to unusual conditions such as extreme high or low temperatures, chemical solutions or vapors, prolonged immersion in salt water, etc. Never exceed the Working Load Limit.

Proof Test Load (Proof Load)

The term “Proof Test” designates a quality control test applied to the product for the sole purpose of detecting defects in material or manufacture. The Proof Test Load (usually twice the Working Load Limit) is the load which the product withstood without deformation when new and under laboratory test conditions. A constantly increasing force is applied in direct line to the product at a uniform rate of speed on a standard pull testing machine. The Proof Test Load does not mean the Working Load Limit should ever be exceeded.

Breaking Strength/Ultimate Strength

Do not use breaking strength as a criterion for service or design purposes. Refer to the Working Load Limit instead. Breaking strength is the average force at which the product, in the condition it would leave the factory, has been found by representative testing to break, when a constantly increasing force is applied in direct line to the product at a uniform rate of speed on a standard pull testing machine. Proof testing to twice the Working Load Limit does not apply to hand-spliced slings. Remember: Breaking Strengths, when published, were obtained under controlled laboratory conditions. Listing of the Breaking Strength does not mean the Working Load Limit should ever be exceeded.

Design Factor (sometimes referred to as safety factor)

An industry term usually computed by dividing the catalog Breaking Strength by the catalog Working Load Limit and generally expressed as a ratio. For example: 5 to 1.

Shock Load






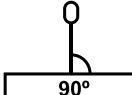
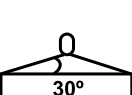
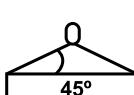
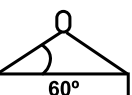
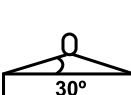
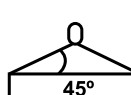
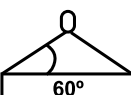
A load resulting from rapid change of movement, such as impacting, jerking or swinging of a static load. Sudden release of tension is another form of shock loading. Shock loads are generally significantly greater than static loads. Any shock loading must be considered when selecting the item for use in a system. Avoid shock loads as they may exceed the Working Load Limit.

Numerical values published for Breaking Strength and Working Load Limit are very specific in one point:

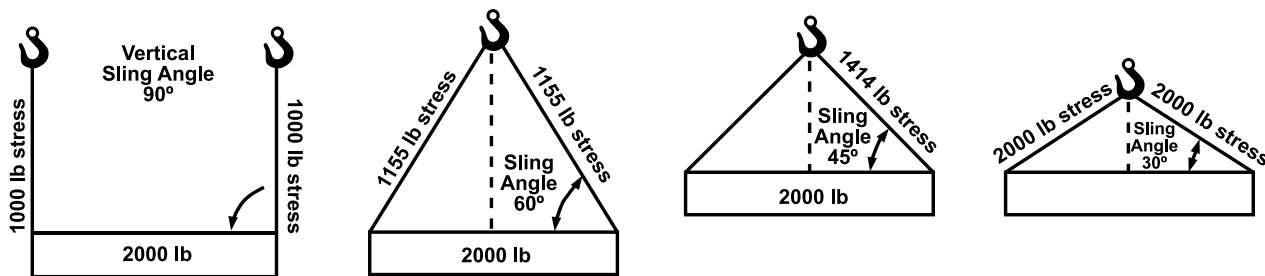
- They refer to straight, in-line pull or force and are obtained under laboratory conditions.
- There are, however, many applications where a straight line pull is not possible or even desirable. When a tackle block system is reeved, wire rope may be bent over many sheaves; multiple leg wire rope or chain slings involve differing lifting angles; angular loads on shackles or eyebolts alter Working Load Limits of the equipment used.
- All these and other factors influencing the Working Load Limit must be taken into account when systems are designed and used.
- The following examples and tables are intended to highlight and demonstrate the effects of angles on the Working Load Limit.

CHAIN SLINGS, Fabricated entirely from grade 80 alloy components."

WORKING LOAD LIMITS – POUNDS

<div></div>							
Chain Size	<div><div>90°</div></div>	<div><div>30°</div></div>	<div><div>45°</div></div>	<div><div>60°</div></div>	<div><div>30°</div></div>	<div><div>45°</div></div>	<div><div>60°</div></div>
9/32"	3,500	3,500	4,900	6,100	5,200	7,400	9,100
3/8"	7,100	7,100	10,000	12,300	10,600	15,100	18,400
1/2"	12,000	12,000	17,000	20,800	18,000	25,500	31,200
5/8"	18,100	18,100	25,600	31,300	27,100	38,400	47,000
3/4"	28,300	28,300	40,000	49,000	42,400	60,000	73,500
7/8"	34,200	34,200	48,400	59,200	51,300	72,500	88,900

EFFECT OF ANGLES ON SLING CAPACITIES



The rated capacity of a multiple leg sling is directly affected by the angle of the sling leg with the load. As this angle decreases, the stress on each leg increases with the same load. If the sling angle is known, the capacity can be readily determined by multiplying the sling's vertical capacity by the appropriate load angle factor from the table at right.

SLING ANGLE	LOAD ANGLE FACTOR
90° (vertical)	1.000
75°	.966
60°	.866
45°	.707
30°	.500
15°	.259

Example:

A multiple leg sling with a rated capacity of 2000 lb. Will have a reduced capacity of 1000 lb. (2000 x .500) when sling legs are at an angle of 30° with the load.

RECEIVING, INSPECTION AND STORAGE

For all wire rope, the best time to begin taking appropriate care and handling measures, is immediately upon receiving it. On arrival, the rope should be carefully checked to make certain that the delivered product matches the description on tags, requisition forms, packing slips, purchase order and invoice.

After these necessary preliminary checks, the next concern is that of providing weather-proof storage space. If wire rope is to be kept unused for a considerable time, it must be protected from the elements. The ideal storage area is, a dry, well-ventilated building or shed. Avoid closed, unheated, tightly sealed buildings or enclosures because condensation will form when warm, moist outside (ambient) air envelops the colder rope. Although wire rope is protected by a lubricant, this is not totally effective since condensation can still occur within the small interstices between strands and wires, thereby causing corrosion problems.

On the other hand, if the delivery site conditions preclude storage in an inside space and the rope must be kept outdoors, it should be effectively covered with a waterproof material. Moreover, weeds and tall grass, in the assigned storage area, should be cut away; the reel itself should be placed on an elevated platform that will keep it from direct contact with the ground. Providing an adequate covering for the reel also prevents the original lubricant from drying out and thereby losing its protection.

Never store wire rope in areas subject to elevated temperatures. Dust and grit, or chemically laden atmospheres, are also to be avoided. Although lubricant applied at the factory offers some degree of protection, every normal precautionary measure should be taken with every coil or reel of wire rope.

Whenever wire rope remains in position on an idle machine, crane, hoist, etc., it should be coated with an appropriate protective lubricant. In these circumstances, as with ropes stored outside, moisture, in the form of condensation, rain or snow may form on the wire rope. Some of the moisture may easily become trapped inside the rope and cause corrosion problems.

If the wire rope is to be kept inactive for an extended period while wound on the drum of the idle equipment, it may be necessary to apply a coating of lubricant to each layer as the rope is wound on the drum. Cleaning, inspection and re-lubrication should precede start-up of the equipment.

WIRE ROPE INSTALLATION – Checking the diameter

It is most important to check the diameter of the delivered rope before installation. This is to make certain that the rope diameter meets the specified requirements for the given machine or equipment. With an under size diameter rope, stresses will be higher than designed for and the probability of breaking the rope will be increased; an over size diameter rope will wear out prematurely. This happens because of abuse to the rope caused by pinching in the grooves of the sheave and drum.

In checking, however, the actual rope diameter must be measured. And this is defined as the diameter of the circumscribing circle, i.e., its largest cross-sectional dimension. To insure accuracy this measurement should be made with a wire rope caliper using the correct method (b) shown in Fig. 2. For measuring ropes with an odd number of outer strands, special techniques must be employed.

Design specifications for wire rope are such that the diameter is slightly larger than the nominal size, according to the allowable tolerances shown in Table 1.

Table 1: Oversize Limits of Wire Rope Diameters*

Nominal Rope Diameter	Allowable Limits	
Thru 1/8" (3.2mm)	-0	+8%
Over 1/8" (3.2mm) thru 3/16" (4.8mm)	-0	+7%
Over 3/16" (4.8mm) thru 5/16" (8.0mm)	-0	+6%
Over 5/16" (8.0mm) and larger	-0	+5%

* These limits have been adopted by the Wire Rope Technical Board (WRTB). In the case of certain special purpose ropes, such as aircraft cables and elevator ropes, each has specific requirements. If a question should arise regarding compliance with oversize tolerances, the rope may be measured under tension of not less than 10% nor more than 20% of the nominal strength.

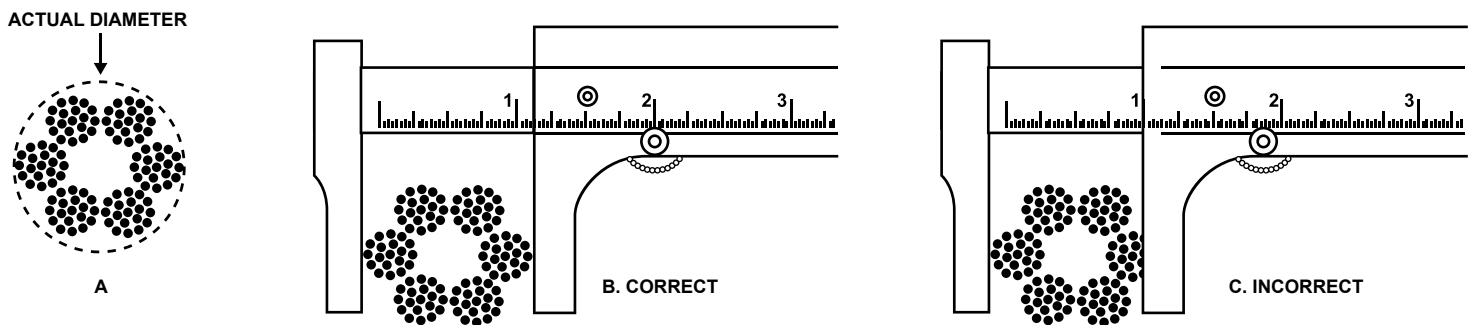


Fig. 2: How to measure (or caliper) a wire rope correctly. Since the "true" diameter (A) lies within the circumscribed circle, always measure the larger dimension (B).

UNREELING & UNCOILING

Wire rope is shipped in cut lengths, either in coils or on reels. Great care should be taken when the rope is removed from the shipping package since it can be permanently damaged by improper unreeling or uncoiling. Looping the rope over the head of the reel or pulling the rope off a coil while it is lying on the ground, will create loops in the line. Pulling on a loop will, at the very least, produce imbalance in the rope and may result in open or closed kinks (Fig. 3). Once a rope is kinked, the damage is permanent. To correct this condition, the kink must be cut out, and the shortened pieces used for some other purpose.

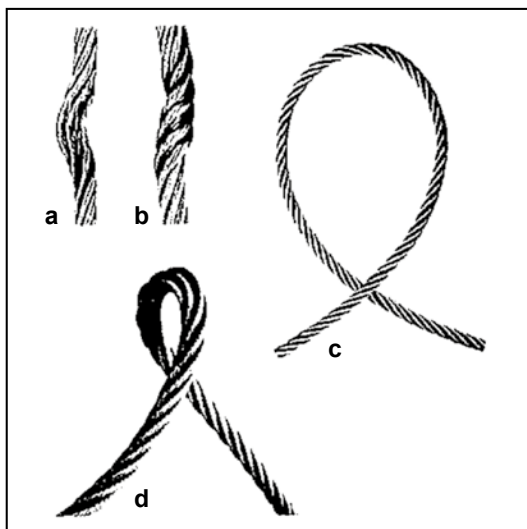


Fig. 3: Improper handling can create open (a) or closed kinks (b). The open link will open the rope lay; the closed kink will close it.

Starting loop (c): Do not allow the rope to form a loop. If, however, a loop does form and is removed at the stage shown, a kink can be avoided.

Kink (d): In this case, the looped rope was put under tension, the kink was formed, the rope is permanently damaged and must be removed.

General Information About Wire Rope

STRAND PATTERNS: They refer to different types of arrangements of wires and their diameters within a strand. Common strand patterns are Filler Wire, Seale, Warrington and combinations thereof.

LAY: Indicates how the wires have been laid to form strands and how the strands have been laid around the core. A right regular lay rope (RRL; the most common) has its strands laid right on the rope, similar to threading a right-hand threaded bolt. Regular means that the direction of the wire lay in the strand is opposite to the direction of the strand lay in the rope. (The wires in regular lay rope appear to be in line with the axis of the rope.)

CAUTION: When combining separate ropes in a single line application always use ropes of the same lay pattern. Different lays can increase rotation at connection points decreasing rope efficiency.



RiGht Regular Lay (RRL)



RiGht LANG Lay (RLL)



LEFT Regular Lay (LRL)



LEFT LANG Lay (LLL)

PREFORMING: A manufacturing process wherein the strands and their wires are permanently formed, during fabrication, the helical shape that they will ultimately assume in the finished wire rope. Proper preforming prevents the strand and wire from unlaying during normal use. The vast majority of wire rope sold today is preformed.

FINISH: Wire rope is either sold as "bright" (or "black"), meaning uncoated, or galvanized for better corrosion resistance. "Drawn Galvanized" wire has the same strength as bright wire, but wire, "galvanized at finished size" is usually 10% lower in strength. Plastic coated wire rope is also available, usually galvanized or stainless steel cable. The most common plastic coverings are vinyl or nylon in either clear or white, although other materials and colors are available. These coating do not add strength to the wire rope itself.

LUBRICATION: During fabrication, wire ropes receive lubrication. The kind and amount depends on the rope's size, type a use, if known. This in-process treatment will provide the finished wire rope with ample protection for a reasonable time if it is stored under proper conditions. But, when the wire rope is put into service, the initial lubrication will normally be less than needed for the full useful life of the wire rope. Because of this, periodic applications of a suitable wire rope lubricant are necessary.

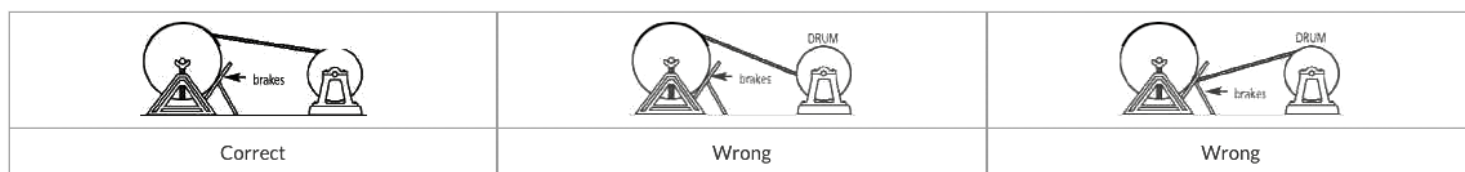
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ORDERING WIRE ROPE: Construction, lay, core, finish and other factors mentioned above impart greatly differing characteristics to different wire ropes. They must be understood and considered when selecting wire rope. There is no perfect wire rope for all applications; usually some less desirable properties are traded off for other, more desirable one. Refer to the Wire Rope Users Manual by the Wire Rope Technical Board for a better understanding of wire rope properties and consult professional help when in doubt.

Lacking a complete description of the wire rope desired, a supplier can make several assumptions:

1. If direction and type of lay are omitted from the rope description, it is assumed to be right regular lay (RRL).
2. If finish is omitted, this will be presumed to mean ungalvanized, "bright" finish.
3. If no mention is made with reference to preforming, preformed wire rope will be supplied.
4. If a supplier receives an order for 6 x 19 wire rope he may assume this to be a class reference and is, therefore, legally identified in furnishing any construction within this category.

REEREELING WIRE ROPE



When reeling wire rope from one reel to another it is preferable for the wire rope to travel from top to top, as illustrated. Spooling from bottom to bottom is also acceptable, provided the surface over which the wire rope will travel is clean, smooth and dry, so as not to allow foreign particles to become embedded in the wire rope. Spooling from top to bottom or from bottom to top can put a reverse bend into wire rope and must be avoided. When stringing up a machinery wire rope should be removed from the reel in the same direction as placed on the drum.

CUTTING & SEIZING WIRE ROPE

There are numerous ways to cut wire rope, use only appropriate tools specifically designed to cut wire rope. Safety goggles and work gloves must always be worn. Observe other precautions peculiar to the tools used. Wire rope should be properly seized on both sides of the cut with wire or strand. Seizing wire diameter and the number and length of the seizings will depend on the diameter of the wire rope, and whether or not it is preformed.

BREAKING IN NEW WIRE ROPE

Since wire rope is a machine with many moving parts, it requires careful installation and breaking in procedures for maximum safety and long service life. After proper installation, allow the wire rope to run through a cycle of operation at a very low speed. Keep a close watch on the wire rope, its attachments and any working parts such as sheaves, drum, rollers, etc. to make certain that the wire rope runs freely. If no problems appear at this stage, run the wire rope through several cycles of operation under light load at reduced speed. This procedure allows the component parts of the new rope to make a gradual adjustment to the actual operating conditions.

WIRE ROPE EFFICIENCY

Wire rope will develop 100% efficiency, that is, break at or above minimum acceptance strength (not less than 2 1/2% below nominal breaking strength) under controlled laboratory conditions.

Once fittings such as sleeves, clips, sockets, etc. are attached and/or the wire rope passes over a curved surface such as sheaves, pins, etc. its strength is decreased. In the case of wire rope passing over a curved surface this decrease in strength depends on the severity of the bend. In the case wire rope fitting, the decrease in wire rope strength will depend on the type of fittings used. The wire rope efficiency usually ranges for 70% – 100%. For more detailed information consult the strength efficiency of wire rope graph on page ## in the _____ section. Note, that hand spliced wire rope, while not using any fittings, has less efficiency than properly flemished and swaged wire rope. There are other factors, depending on the application of wire rope, that can cause a decrease in nominal wire rope strength. They must be considered when choosing a design factor. Refer to the Wire Rope Users Manual and/or other qualified sources for details.

ELASTIC PROPERTIES OF WIRE ROPE

Wire rope is an elastic member; it stretches or elongates under load. This elongation can be permanent or recoverable. The extent of elongation will depend on the wire rope used and the design factor chosen. While it may be acceptable for many wire rope uses to neglect its elastic properties, they are of critical importance for some uses. When in doubt about the importance of wire rope elongation consult professional help. Pre-stretching wire rope will only remove some of the constructional stretch and will not totally eliminate elongation under load.

WINDING WIRE ROPE ON DRUMS

Installation of wire rope on a plain or grooved drum requires a great deal of care. Make certain the wire rope is properly attached to the drum. Keep adequate tension on the wire rope as it is wound onto the drum. Guide each wrap as close to the preceding wrap as possible, or follow the groove in case of a grooved drum. No blanket recommendations can be given concerning direction of winding, desirable drum diameter, fleet angle, etc. Consult the Wire Rope Users Manual for this and other important technical information.

WIRE ROPE SLINGS

Refer to ASME standard B30.9 and OSHA standard 1910.184 for design factors and other important information. Other standards and information may apply.

Wire Rope Handling And Installation

RECEIVING, INSPECTION AND STORAGE

For all wire rope, the best time to begin taking appropriate care and handling measures, is immediately upon receiving it. On arrival, the rope should be carefully checked to make certain that the delivered product matches the description on tags, requisition forms, packing slips, purchase order and invoice.

After these necessary preliminary checks, the next concern is that of providing weather-proof storage space. If wire rope is to be kept unused for a considerable time, it must be protected from the elements. The ideal storage area is, a dry, well-ventilated building or shed. Avoid closed, unheated, tightly sealed buildings or enclosures because condensation will form when warm, moist outside (ambient) air envelops the colder rope. Although wire rope is protected by a lubricant, this is not totally effective since condensation can still occur within the small interstices between strands and wires, thereby causing corrosion problems.

On the other hand, if the delivery site conditions preclude storage in an inside space nad the rope must be kept outdoors, it should be effectively covered with a waterproof material. Moreover, weeds and tall grass, in the assigned storage area, should be cut away; the reel itself should be placed on an elevated platform that will keep it from direct contact with the ground. Providing an adequate covering for the reel also prevents the original lubricant from drying out and thereby losing its protection.

Never store wire rope in areas subject to elevated temperatures. Dust and grit, or chemically laden atmospheres, are also to be avoided. Although lubricant applied at the factory offers some degree of protection, every normal precautionary measure should be taken with every coul or reel of wire rope.

Whenever wire rope remains in position on an idle machine, crane, hoist, etc., it should be coated with an appropriate protective lubricant. In these circumstances, as with ropes stored outside, moisture, in the form of condensation, rain or snow may form on the wire rope. Some of the moisture may easily become trapped inside the rope and cause corrosion problems.

If the wire rope is to be kept inactive for an extended period while wound on hte drum of the idle equipment, it may be necessary to apply a coating of lubricant to each layer as the rope is wound on the drum. Cleaning, inspection and re-lubrication should precede start-up of the equipment.

WIRE ROPE INSTALLATION – Checking the diameter

It is most important to check the diameter of the delivered rope before installation. This is to make certain that the rope diameter meets the specified requirements for the given machine or equipment. With an undersize diameter rope, stresses will be higher than designed for and the probbability of breaking the rope will be increased; an oversize diameter rope will wear out prematurely. This happens because of abuse to the rope caused by pinching in the grooves of the sheave and drum.

In checking, however, the actual rope diameter must be measured. And this is defined as the diameter of the circumscribing circle, i.e., its largest cross-sectional dimension. To insure accuracy this measurement should be made with a wire rope caliper using the correct method (b) shown in Fig. 2. For measuring ropes with an odd number of outer strands, special techniques must be employed.

Design specifications for wire rope are such that the diameter is slightly larger than the nominal size, according to the allowable tolerances shown in Table 1.

Table 1: Oversize Limits of Wire Rope Diameters*

Nominal Rope Diameter	Allowable Limits	
Thru 1/8" (3.2mm)	-0	+8%
Over 1/8" (3.2mm) thru 3/16" (4.8mm)	-0	+7%
Over 3/16" (4.8mm) thru 5/16" (8.0mm)	-0	+6%
Over 5/16" (8.0mm) and larger	-0	+5%

* These limits have been adopted by the Wire Rope Technical Board (WRTB). In the case of certain special purpose ropes, such as aircraft cables and elevator ropes, each has specific requirements. If a question should arise regarding compliance with oversize tolerances, the rope may be measured under tension of not less than 10% nor more than 20% of the nominal strength.

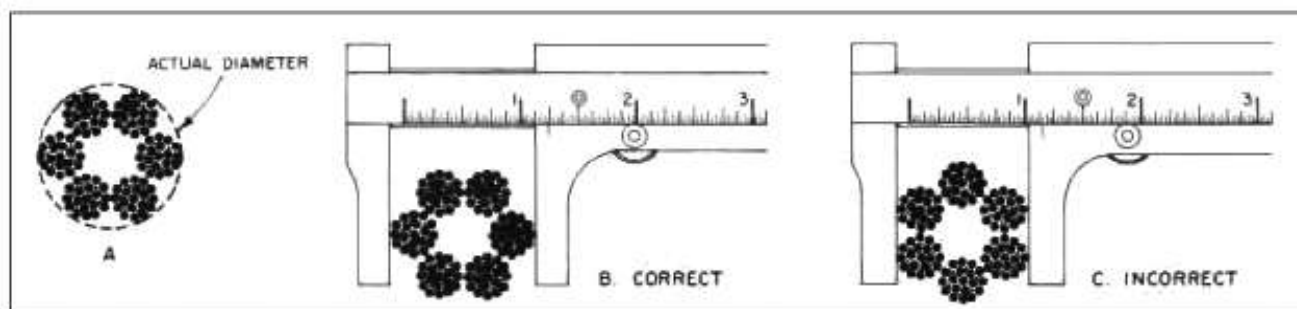


Fig. 2: How to measure (or caliper) a wire rope correctly. Since the "true" diameter (A) lies within the circumscribed circle, always measure the larger dimension (B).

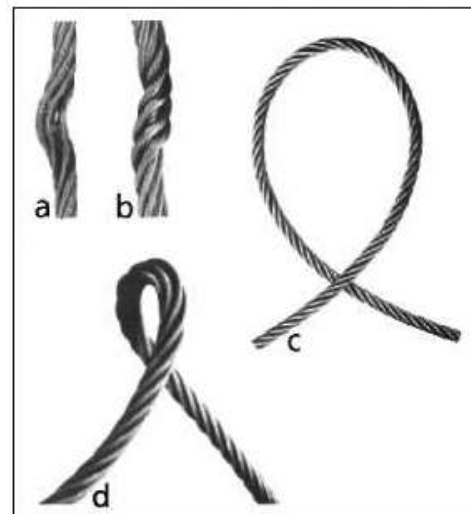
UNREELING & UNCOILING

Wire rope is shipped in cut lengths, either in coils or on reels. Great care should be taken when the rope is removed from the shipping package since it can be permanently damaged by improper unreeling or uncoiling. Looping the rope over the head of the reel or pulling the rope off a coil while it is lying on the ground, will create loops in the line. Pulling on a loop will, at the very least, produce imbalance in the rope and may result in open or closed kinks (Fig. 3). Once a rope is kinked, the damage is permanent. To correct this condition, the kink must be cut out, and the shortened pieces used for some other purpose.

Fig. 3: Improper handling can create open (a) or closed kinks (b). The open link will open the rope lay; the closed kink will close it.

Starting loop (c): Do not allow the rope to form a loop. If, however, a loop does form and is removed at the stage shown, a kink can be avoided.

Kink (d): In this case, the looped rope was put under tension, the kink was formed, the rope is permanently damaged and must be removed.



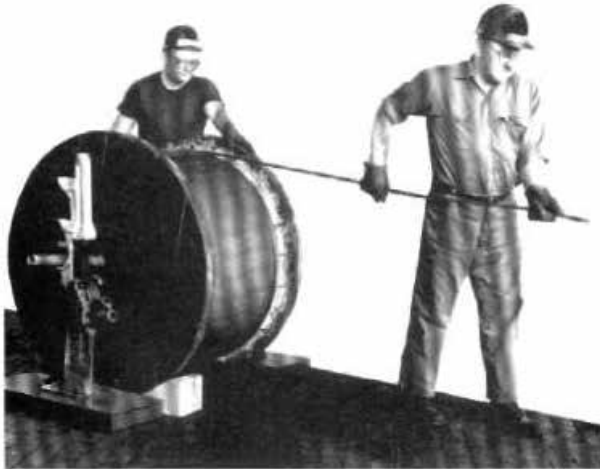
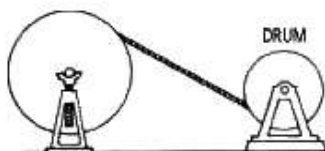


Fig. 3: The wire rope reel is mounted on a shaft supported by jacks. This permits the reel to rotate freely, and the rope can be unwound either manually or be a powered mechanism. When re-reeling wire rope from a horizontally supported reel to a drum it is preferable for the rope to travel from the top of the reel to the top of the drum; or, from the bottom of the reel to the bottom of the drum (Fig. 5). Re-reeling in this manner will avoid putting a reverse bend is induced, it may cause the rope to become "twisty" and, consequently, harder to handle. When unwinding wire rope from a coil, there are two suggested methods for carrying out this procedure in a proper manner: 1) One method involves placing the coil on a vertical unreeling stand. The stand consists of a base with a fixed vertical shaft. On this shaft there is a "swift," consisting of a plate with a inclined pins positioned so that the coil may be placed over them. The whole swift and coil then rotate as the rope is pulled off. This method is particularly effective when the rope is to be wound on a drum. 2) The most common as well as the easiest uncoiling method is merely to hold one end of the rope while rolling the coil along the ground like a hoop (Fig. 6). Figures 7 and 8 show unreeling and uncoiling methods that are most likely to cause kinks. Such improper procedures should definitely be avoided in order to prevent the occurrence of loops. These loops, when pulled taut, will inevitably result in kinks. No matter how a kink develops, it will damage strands and wires, and the kinked section must be cut out. Proper and careful handling will keep the wire rope free from kinks.



Fig. 4: A vertical unreeling stand. REEL (a) Correct REEL



(b) Wrong Fig. 5: The correct (a) and the wrong (b) way to wind wire rope from reel to drum.



Fig. 6: Perhaps the most common and easiest uncoiling method is to hold one end of the rope while the coil is rolled along the ground.

Fig. 7: Illustrating a wrong method of unreeling wire rope.

Fig. 8: Illustrating a wrong method of uncoiling wire rope.

INSPECTIONS – Regular inspections

Inspect products regularly for visible damage, cracks, wear, elongation, rust, etc. Protect all products from corrosion. The need for periodic inspections cannot be overemphasized. No product can keep operating at its rated capacity indefinitely. Periodic inspections help determine when to replace a product and reduce rigging hazards. Keep inspection records to help pinpoint problems and to ensure periodic inspection intervals.

Due to the diversity of the products involved and uses to which they can be put, it would be counterproductive to make blank recommendations for inspection procedures and frequency. Best results will be achieved when qualified personnel base the decision on information from rigging and engineering manuals and on experience from actual use in the field.

Frequency of inspection will depend on environmental conditions, application, storage of product prior to use, frequency of use, etc. When in doubt, inspect products prior to each use. Carefully check each item for wear, deformation, cracks or elongation, a sure sign of imminent failure. Immediately withdraw such items from service.

Rust damage is another potential hazard. When in doubt about the extent of corrosion or other damage, withdraw the item from service.

Destroy, rather than discard, items that have been judged defective. They might be used again by someone not aware of the hazard involved.

Additional warning and information on the wire rope, chain, cordage, blocks and tools can be found preceding each section. These should be read and understood thoroughly before using a particular item.

Definitions

Working Load Limit (WLL)

The Working Load Limit is the maximum load which should ever be applied to the product, even when the product is new and when the load is uniformly applied – straight line pull only. Avoid side loading. All catalog ratings are based upon usual environmental conditions and consideration must be given to unusual conditions such as extreme high or low temperatures, chemical solutions or vapors, prolonged immersion in salt water, etc. Never exceed the Working Load Limit.

Proof Test Load (Proof Load)

The term “Proof Test” designates a quality control test applied to the product for the sole purpose of detecting defects in material or manufacture. The Proof Test Load (usually twice the Working Load Limit) is the load which the product withstood without deformation when new and under laboratory test conditions. A constantly increasing force is applied in direct line to the product at a uniform rate of speed on a standard pull testing machine. The Proof Test Load does not mean the Working Load Limit should ever be exceeded.

Breaking Strength/Ultimate Strength

Do not use breaking strength as a criterion for service or design purposes. Refer to the Working Load Limit instead. Breaking strength is the average force at which the product, in the condition it would leave the factory, has been found by representative testing to break, when a constantly increasing force is applied in direct line to the product at a uniform rate of speed on a standard pull testing machine. Proof testing to twice the Working Load Limit does not apply to hand-spliced slings. Remember: Breaking Strengths, when published, were obtained under controlled laboratory conditions. Listing of the Breaking Strength does not mean the Working Load Limit should ever be exceeded.

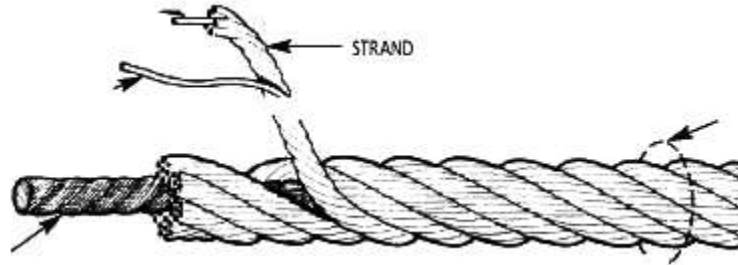
Design Factor (sometimes referred to as safety factor)

An industry term usually computed by dividing the catalog Breaking Strength by the catalog Working Load Limit and generally expressed as a ratio. For example: 5 to 1.

Shock Load

A load resulting from rapid change of movement, such as impacting, jerking or swinging of a static load. Sudden release of tension is another form of shock loading. Shock loads are generally significantly greater than static loads. Any shock loading must be considered when selecting the item for use in a system. Avoid shock loads as they may exceed the Working Load Limit.

The Three Basic Components Of a Typical Wire Rope



COMPONENTS: Wire rope consists of three basic components.

1. Wires
2. Strands, formed by wires, laid helically around a core.
3. Core, or center.

MATERIAL: Steel grades in wide use today are IPS (improved plow steel) or EIPS (extra improved plow steel), sometimes also referred to as XIPS, XIP, EIP. Stainless steel grades 302/304 and 316 are most common.

CORE: Its function is to provide proper support for the strands under normal conditions. Three types of core (or center) are commonly used.

1. Fiber Core (F.C.), usually polypropylene, sometimes hemp (H.C.) and sisal.
2. Independent Wire Rope Core (IWRC)
3. Wire Strand Core (WSC)

IWRC and WSC are sometimes referred to as steel wire core or steel center.

CONSTRUCTION: Expressed in numbers of strands x number of wires. 6 x 25 indicates that the wire rope consists of 6 strands, which in turn have 25 individual wires. Constructions are grouped into classes: 6x7 Class: Containing 6 strands that are made up of 3 through 14 wires, of which no more than 9 are outside wires 6x19 Class: Containing 6 strands that are made up of 15 through 26 wires, of which no more than 12 are outside wires. 6 x 37 Class: Containing 6 strands that are made up of 27 through 49 wires, of which no more than 18 are outside wires. 8x19 Class: Containing 8 strands that are made up of 15 through 26 wires, of which no more than 12 are outside wires.

19x7 Class: Containing 19 strands, each of which is made up of 7 wires.

8x19 and 19x7 class wire ropes have rotation-resistant properties, excluding elevator ropes.

The construction listed above are just some of the more popular constructions.

Other common constructions:

7 x 7,7 x 19: Galvanized cable. Sometimes referred to as aircraft cable but not intended for aircraft use. 1x7,1x19: Strand 7x7x7, 7x7x19: Cable Laid

Many others exist, some for highly specialized applications only.

Note that any class denotes the nominal number of wires in each strand. The actual number of wires may be different. For example: 6x37 class wire most commonly may consist of 36 wires, or 31, or 41.

Wire Rope

Rated Capacity

Rated capacity is the load which a new wire rope may handle under given operating conditions and at assumed design factor. A design factor of 5 is chosen most frequently for wire rope. (Operating loads not to exceed 20% of catalog Breaking Strength.) Operating loads may have "to be reduced when life, limb or valuable property are at risk or other than new rope is" used. A design factor of 10 is usually chosen when wire rope is used to carry personnel. (Operating loads not to exceed 10% of catalog Breaking Strength.) Responsibility for choosing a design factor rests with the user.

Attachments must have at least the same Working Load Limit as the wire rope used.

Clips, sockets, thimbles, sleeves, hooks, links, shackles, sheaves, blocks, etc. must match size, material and strength to provide adequate safety protection. Proper installation is crucial for maximum efficiency and safety.

Keep out from under a raised load.

Do not operate load over people. Do not ride on load. Conduct all lifting operations in such a manner that if equipment were to fail or break, no personnel would be injured. This means KEEP OUT FROM UNDER A RAISED LOAD, DO NOT OPERATE LOADS OVER PEOPLE AND KEEP OUT OF THE LINE OF FORCE OF ANY LOAD.

Avoid shock loads.

Avoid impacting, jerking or swinging of load. Working Load Limit will not apply in these circumstances because a shock load is generally significantly greater than the static load.

Inspect wire rope regularly.

Two of the most important prerequisites for inspecting wire rope are technical knowledge and experience. Check the general condition of the wire rope. Also, look for localized damage and wear, especially at wire rope attachments. Inspect all parts that come in contact with the wire rope. Poor performance of wire rope can often be traced back to worn or wrong-sized sheaves, drums, rollers, etc. Look for kinks, broken wires, abrasions, lack of lubrication, rust damage, crushing, reduction of diameter, stretch or other obvious damage. If any of these conditions exists or if there is any other apparent damage to the wire rope, retire the wire rope according to the instructions below. When in doubt about the extent of the damage, retire the wire rope in question immediately. Without laboratory analysis, it is impossible to determine the strength of damaged or used wire. Thus, you will not be able to tell whether wire rope with any amount of damage is safe to use. Retire the wire rope that is damaged. For specific inspection procedures, check various OSHA and ANSI publications.

Destroy, rather than discard, wire rope to be retired.

Wire rope that is not destroyed might be used again by someone not aware of the hazard associated with that use. Destroying wire rope is best done by cutting it up into short pieces.

Wire Rope Reel Chart

Listed below are some of the most commonly used reels in our inventory and the approximate lengths of wire rope that will fit on the reels.

Reel Size	Reel Size											
HBD	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/8	3/16	3/16
12 x 6 x 5	500	300	200	125								
18 x 8 x 8	1,800	1,200	800	600	300							
24 x 16 x 12	6,400	3,900	2,600	2,000	1,200	800						
26 x 16 x 12	8,300	5,100	3,400	2,600	1,550	1,000	625	450				
28 x 16 x 12	10,300	6,400	4,300	3,300	1,900	1,200	800	570	450			
32 x 16 x 14	7,800	5,200	3,700	2,350	1,550	1,100	800	600	475			
36 x 24 x 16	13,900	9,400	6,700	4,200	2,750	1,950	1,400	1,100	850	625		
40 x 22 x 18		13,000	5,800	5,800	3,800	2,700	1,950	1,500	1,200	900	725	
42 x 22 x 18	19,300	10,000	6,250	4,100	2,900	2,100	1,600	1,300	1,000	850		

REEL CAPACITY

Due to tolerances on diameters and variety of constructions of wire rope, it is difficult to calculate the maximum length of wire rope that can be spooled on a reel or drum. The formula below may be used to calculate reel capacities with at least one wire rope diameter below the flange diameter, for clearance ("X"). Calculated reel capacities are based on uniform rope winding on the reel.

$$L = (A + D) \times A \times B \times K$$

L = length of wire rope in feet

A = depth of rope space on reel in inches

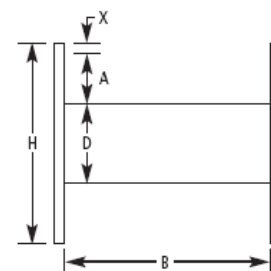
B = width of drum between flanges in inches

D = barrel diameter in inches

K = constant for given wire rope diameter (per table below)

H = diameter in reel flange in inches

X = clearance



Diameter (inches)	K	Diameter (inches)	K	Diameter (inches)	K
1/16	49.8	1/2	0.925	1 3/8	0.127
3/32	23.4	9/16	0.741	1 1/2	0.107
1/8	13.6	5/8	0.607	1 5/8	0.0886
5/32	8.72	11/16	0.506	1 3/4	0.0770
3/16	6.14	3/4	0.428	1 7/8	0.0675
7/32	4.59	13/16	0.354	2	0.0597
1/4	3.29	7/8	0.308	2 1/8	0.0532
5/16	2.21	1	0.239	2 1/4	0.0476
3/8	1.58	1 1/8	0.191	2 3/8	0.0419
7/16	1.19	1 1/4	0.152	2 1/2	0.0380

Important Wire Rope Warnings

WIRE ROPE IS A MACHINE. Understand and respect it. Like any machine, it needs proper care and maintenance for optimal safety and long service life. For a better understanding of wire rope we highly recommend the Wire Rope Users Manual by the Wire Rope Technical Board. Excerpts of that manual have been reprinted in the wire rope section of this catalog. Refer to the General Warnings on pages (##). These warnings also apply to wire rope. Only additional warning and information are listed below. Rated Capacity

Rated capacity is the load which a new wire rope may handle under given operating conditions and at assumed design factor. A design factor of 5 is chosen most frequently for wire rope. (Operating loads not to exceed 20% of catalog Breaking Strength.) Operating loads may have to be reduced when life, limb or valuable property are at risk or other than new rope is used. A design factor of 10 is usually chosen when wire rope is used to carry personnel. (Operating loads not to exceed 10% of catalog Breaking Strength.) Responsibility for choosing a design factor rests with the user.

Attachments must have at least the same Working Load Limit as the wire rope used.

Clips, sockets, thimbles, sleeves, hooks, links, shackles, sheaves, blocks, etc. must match size, material and strength to provide adequate safety protection. Proper installation is crucial for maximum efficiency and safety.

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Avoid shock loads.

Avoid impacting, jerking or swinging of load. Working Load Limit will not apply in these circumstances because a shock load is generally significantly greater than the static load.

Inspect wire rope regularly.

Two of the most important prerequisites for inspecting wire rope are technical knowledge and experience. Check the general condition of the wire rope. Also, look for localized damage and wear, especially at wire rope attachments. Inspect all parts that come in contact with the wire rope. Poor performance of wire rope can often be traced back to worn or wrong-sized sheaves, drums, rollers, etc. Look for kinks, broken wires, abrasions, lack of lubrication, rust damage, crushing, reduction of diameter, stretch or other obvious damage. If any of these conditions exists or if there is any other apparent damage to the wire rope, retire the wire rope according to the instructions below.

When in doubt about the extent of the damage, retire the wire rope in question immediately. Without laboratory analysis, it is impossible to determine the strength of damaged or used wire. Thus, you will not be able to tell whether wire rope with any amount of damage is safe to use. Retire the wire rope that is damaged. For specific inspection procedures, check various OSHA and ANSI publications. Destroy, rather than discard, wire rope to be retired.

Wire rope that is not destroyed might be used again by someone not aware of the hazard associated with that use. Destroying wire rope is best done by cutting it up into short pieces.

Refer to General Information on Wire Rope for important characteristics and properties of wire rope.

WIRE ROPE IMPORTANT WARNINGS:

failure to follow warnings and instructions can result in serious injury or death.

Any person using this catalog is responsible to read and understand all warnings, instructions and other information listed below and throughout the remainder of this book. Warnings may be found under or directly adjacent to the product description of the items. Warnings that are specific to a particular product or products will be found at the beginning of each product section.

All warning and safety information will be highlighted in yellow.

All products are sold with the express understanding that the person purchasing is thoroughly familiar with their correct application and safe use. Use all products properly, in a safe manner, and only for the application for which the product was manufactured and intended. Elite Sales, Inc. in no way assumes responsibility for any products that is misused or abused. Responsibility for design and use decisions rest solely with the user.

Remember: Any product will break if abused, misused, overused or not maintained properly. Such breaks can cause loads to fall or swing out of control, possibly resulting in serious injury or death, as well as major property damage.

Therefore:

Never exceed Working Load Limit (WLL)
Match components properly
Keep out from under a raised load
Avoid shock loads
Inspect products regularly

In order to promote safe rigging habits, the most common hazards associated with these products will be outlined. However, it is impossible to address all possible dangers, misappropriations and circumstance that may arise.

WORKING LOAD LIMIT

This term will be used throughout this catalog. There are however, other terms used in the industry which are applicable and are interchangeable with the term Working load Limit. These may be WLL, SWL, Safe Working Load, Rated Load Value, Resulting Safe Working Load, Rated Capacity. Never exceed the Working Load Limit.

The Working Load Limit is the maximum load which should ever be applied to any product even when the product is new and when the load is uniformly applied-straight line pull only. Avoid Side Loading. All catalog ratings are based upon usual environmental conditions, and consideration must be given to the unusual conditions such as extreme high or low temperatures, chemical solutions or vapors, prolonged immersion in salt water, etc. Such conditions or high risk applications may necessitate reducing the Working Load Limit. Working Load Limit will not apply if the product has been welded or otherwise modified.

MATCHING OF COMPONENTS

Components must match. Make certain that components such as hooks, links or shackles, etc. used with wire rope (or chain or cordage) are of suitable material size and strength to provide adequate safety protection. Attachments must be properly installed and must have the Working Load Limit at least equal to the product with which they are used. Remember: Any chain is only as strong as its weakest link.

RAISED LOADS

Keep out from under a raised load. Take special notice of the recommendations issued by the National Safety Council Accident Prevention Manual concerning all lifting operations:

"All employees working cranes or hoists or assisting in hooking or arranging a load should be instructed to keep out from under the load. For a safety standpoint, one factor is paramount: Conduct all lifting operations in such a manner, that if there were an equipment failure, no personnel would be injured. This means keep out from under a raised load and keep out of the line of force of any load."

Do not operate a load over people. Do not ride on load.

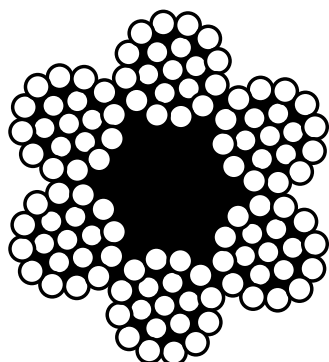
SHOCK LOADS

Avoid impacting, jerking or swinging of load as the Working Load Limit could be exceeded and the Working Load Limit will not apply. A shock load is generally significantly greater than the static load. Avoid shock loads.

Wire Rope

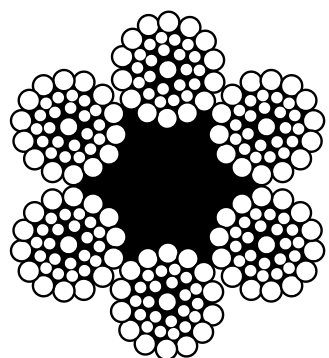


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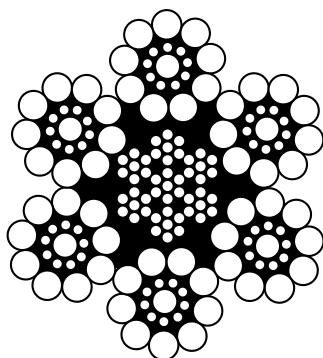
Bright 6×19 Fiber Core Right Regular Lay, I.P.S. Grade To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.74
5/16	0.16	4.26
3/8	0.24	6.10
7/16	0.32	8.27
1/2	0.42	10.70
9/16	0.53	13.50
5/8	0.66	16.70
3/4	0.95	23.80
7/8	1.29	32.20
1	1.68	41.80



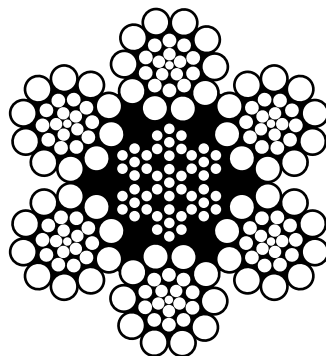
Bright 6×37 Fiber Core Right Regular Lay, I.P.S. Grade To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.74
5/16	0.16	4.26
3/8	0.24	6.10
7/16	0.32	8.27
1/2	0.42	10.70
9/16	0.53	13.50
5/8	0.66	16.70
3/4	0.95	23.80
7/8	1.29	32.20
1	1.68	41.80



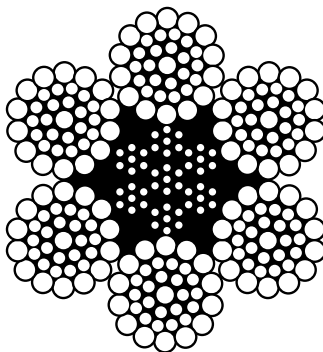
**Bright 6×19 I.W.R.C.
Right Regular Lay, I.P.S. Grade
To Federal Specification RR-W-410**

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	2.94
5/16	0.18	4.58
3/8	0.26	6.56
7/16	0.35	8.89
1/2	0.46	11.50
9/16	0.59	14.50
5/8	0.72	17.90
3/4	1.04	25.60
7/8	1.42	34.60
1	1.85	44.90
1-1/8	2.34	56.50
1-1/4	2.89	69.00



Bright 6×26(WS) I.W.R.C.
Right Regular Lay, E.I.P.S. Grade
To Federal Specification RR-W-410

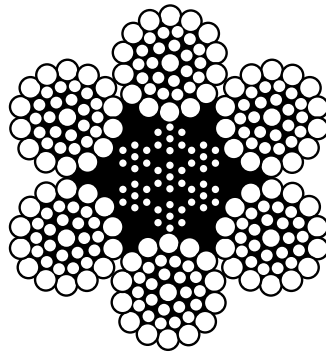
Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.20
1/2	0.46	13.30
9/16	0.59	16.80
5/8	0.72	20.60
3/4	1.04	29.40
7/8	1.42	39.80
1	1.85	51.70
1-1/8	2.34	65.00
1-1/4	2.89	79.90
1-3/8	3.50	96.00
1-1/2	4.16	114.00
1-5/8	4.88	132.00
1-3/4	5.67	153.00
2	7.39	198.00
2-1/4	9.36	247.00
2-3/8	10.40	274.00
2-1/2	11.60	302.00
2-3/4	14.00	361.00
3	16.60	425.00



Bright 6×36(WS) I.W.R.C.
Right Regular Lay, E.I.P.S. Grade
To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.20
1/2	0.46	13.30
9/16	0.59	16.80
5/8	0.72	20.60
3/4	1.04	29.40
7/8	1.42	39.80
1	1.85	51.70
1-1/8	2.34	65.00
1-1/4	2.89	79.90
1-3/8	3.50	96.00
1-1/2	4.16	114.00
1-5/8	4.88	132.00
1-3/4	5.67	153.00
2	7.39	198.00
2-1/4	9.36	247.00
2-1/2	11.60	302.00
2-3/4	14.00	361.00
3	16.60	425.00

*Some sizes available in E.E.I.P.S.

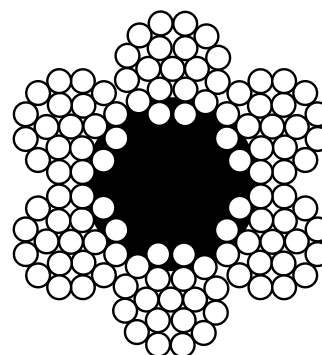


Bright 6×37 I.W.R.C.
Right Regular Lay, E.I.P.S. Grade
To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.20
1/2	0.46	13.30
9/16	0.59	16.80
5/8	0.72	20.60
3/4	1.04	29.40
7/8	1.42	39.80
1	1.85	51.70

Galvanized 6×19 Fiber Core Right Regular Lay, I.P.S. Grade To Federal Specification RR-W-410

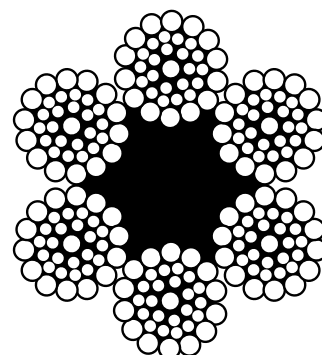
Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.47
5/16	0.16	3.83
3/8	0.24	5.49
7/16	0.32	7.44
1/2	0.42	9.63
9/16	0.53	12.15
5/8	0.66	15.00
3/4	0.95	21.40
7/8	1.29	29.00
1	1.68	37.60

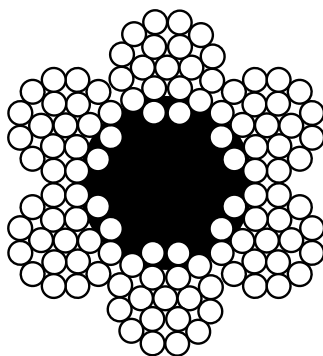


WIRE ROPE

Galvanized 6×37 Fiber Core Right Regular Lay, I.P.S. Grade To Federal Specification RR-W-410

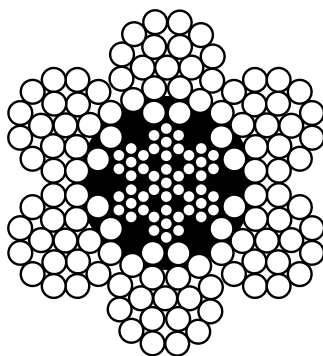
Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.47
5/16	0.16	3.83
3/8	0.24	5.49
7/16	0.32	7.44
1/2	0.42	9.63
9/16	0.53	12.15
5/8	0.66	15.00
3/4	0.95	21.40
7/8	1.29	29.00
1	1.68	37.60





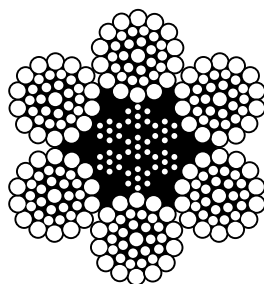
Galvanized 6×19 I.W.R.C. Right Regular Lay, I.P.S. Grade To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	2.65
5/16	0.18	4.12
3/8	0.26	5.90
7/16	0.35	8.00
1/2	0.46	10.35
9/16	0.59	13.05
5/8	0.72	16.10
3/4	1.04	23.00
7/8	1.42	31.10
1	1.85	40.40
1-1/8	2.43	50.90
1-1/4	2.89	62.50



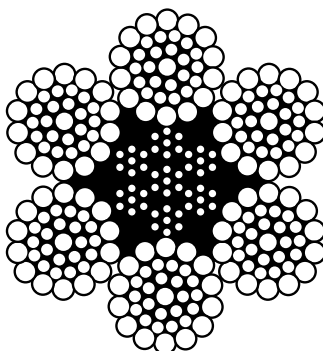
**Drawn Galvanized 6×25 I.W.R.C.
Right Regular Lay, E.I.P.S. Grade
To Federal Specification RR-W-410**

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.20
1/2	0.46	13.30
9/16	0.59	16.80
5/8	0.72	20.60
3/4	1.04	29.40
7/8	1.42	39.80
1	1.85	51.70
1 1/8	2.43	65.00
1 1/4	2.89	79.90
1 3/8	3.50	96.00
1 1/2	4.16	114.00
1 5/8	4.88	132.00
1 3/4	5.67	153.00
2	7.39	198.00



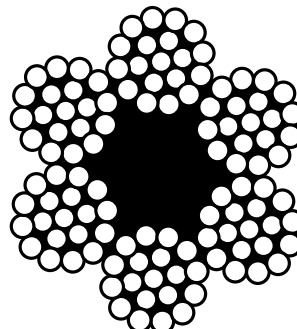
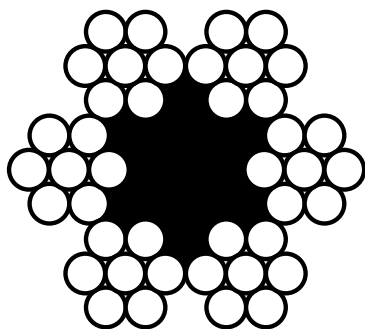
**Drawn Galvanized 6x36(WS) I.W.R.C.
Right Regular Lay, E.I.P.S. Grade
To Federal Specification RR-W-410**

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	3.40
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.20
1/2	0.46	13.30
9/16	0.59	16.80
5/8	0.72	20.60
3/4	1.04	29.40
7/8	1.42	39.80
1	1.85	51.70
1 1/8	2.34	65.00
1 1/4	2.89	79.90
1 3/8	3.50	96.00
1 1/2	4.16	114.00
1 5/8	4.88	132.00
1 3/4	5.67	153.00
2	7.39	198.00
2 1/4	9.36	247.00
2 1/2	11.60	302.00
2 3/4	14.00	361.00
3	16.60	425.00
3 1/2	22.71	564.00
4	29.57	720.00
4 1/2	37.34	889.00



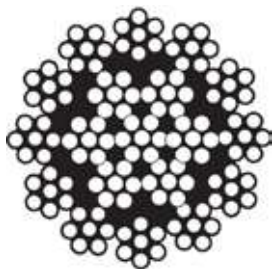
**Galvanized 6×37 I.W.R.C.
Right Regular Lay, I.P.S. Grade
To Federal Specification RR-W-410**

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.12	2.65
5/16	0.18	4.12
3/8	0.26	5.90
7/16	0.35	8.00
1/2	0.46	10.35
9/16	0.59	13.05
5/8	0.72	16.10
3/4	1.04	23.00
7/8	1.42	31.10
1	1.85	40.40
1 1/8	2.34	50.90
1 1/4	2.89	62.50
1 3/8	3.50	75.20



**Galvanized 6x7 & 6x19 Fiber Core
Right Regular Lay, I.P.S. Grade
Heavy D-Lube (Asphalt)
To Federal Specification RR-W-410**

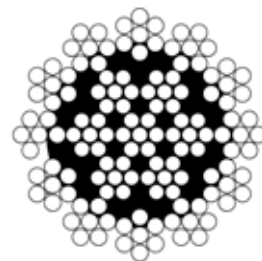
Diameter in	Construction	Weight Per Foot	Breaking Strength
inches		in LBS	in Pounds
5/16	6x7	0.15	7,380
3/8	6x7	0.21	10,540
7/16	6x7	0.29	14,280
1/2	6x7	0.38	18,540
9/16	6x7	0.48	23,400
5/8	6x7	0.66	28,600
5/8	6x19	0.66	28,600
3/4	6x19	0.95	42,800



Bright 19x7 I.W.R.C.

Right Regular Lay, E.I.P.S. Grade
 Rotation Resistant Wire Rope
 To Federal Specification RR-W-410

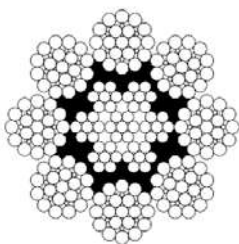
Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.77
5/16	0.18	4.30
3/8	0.25	6.15
7/16	0.35	8.33
1/2	0.45	10.80
9/16	0.58	13.60
5/8	0.71	16.80
3/4	1.02	24.00
7/8	1.39	32.50
1	1.82	42.20
1-1/8	2.30	53.10
1-1/4	2.85	65.10



Drawn Galvanized 19x7 I.W.R.C.

Right Regular Lay, E.I.P.S. Grade
 Rotation Resistant Wire Rope
 To Federal Specification RR-W-410

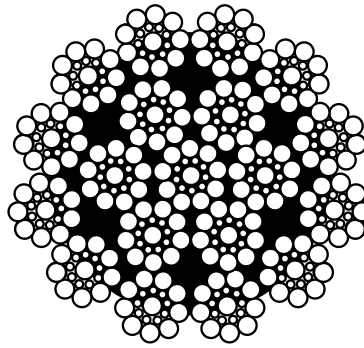
Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
1/4	0.11	2.77
5/16	0.18	4.30
3/8	0.25	6.15
7/16	0.35	8.33
1/2	0.45	10.80
9/16	0.58	13.60
5/8	0.71	16.80
3/4	1.02	24.00
7/8	1.39	32.50
1	1.82	42.20
1-1/8	2.30	53.10
1-1/4	2.85	65.10



Bright 8x25 I.W.R.C.

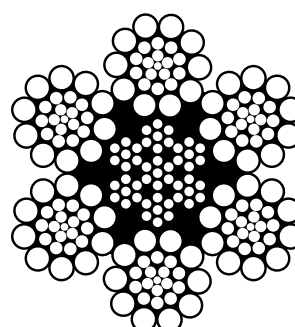
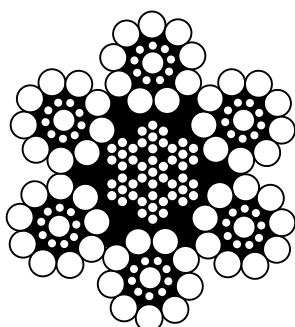
Right Regular Lay, E.I.P.S. Grade
 Rotation Resistant Wire Rope
 To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
inches	in LBS	in Tons
3/8	0.26	6.63
1/2	0.47	11.60
9/16	0.60	14.70
5/8	0.73	18.10
3/4	1.06	25.90



**Bright 19×19(S) I.W.R.C.
Right Regular Lay, E.E.I.P.S. Grade
Compacted with C-Lube
To Federal Specification RR-W-410 & ASTM A1023/1023W**

Diameter in	Construction	Weight Per Foot	Breaking Strength
inches		in Pounds	in Pounds
1/2	19x19(S)	0.54	14.60
9/16	19x19(S)	0.69	18.50
5/8	19x19(S)	0.85	22.70
3/4	19x19(S)	1.25	32.40
7/8	19x19(S)	1.68	43.80
1	19x19(S)	2.17	56.90
1-1/8	19x19(S)	2.75	71.90
1-1/4	19x19(S)	3.45	87.90



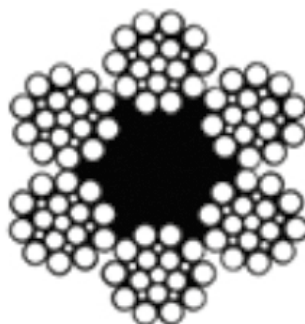
Bright 6×19(S) & 6×26(WS) I.W.R.C.

Right Regular Lay, E.I.P.S. Grade

Rotary/Standard Drill Line with C-Lube

To Federal Specification RR-W-410, ASTM A1023/1023W & API-9A

Diameter in	Construction	Weight Per Foot	Breaking Strength
inches		in Pounds	in Pounds
7/8	6x26(WS)	1.42	79,600
1	6x26(WS)	1.85	103,400
1 1/4	6x19(S)	2.89	159,800
1 3/8	6x19(S)	3.50	192,000
1 1/2	6x19(S)	4.16	228,000



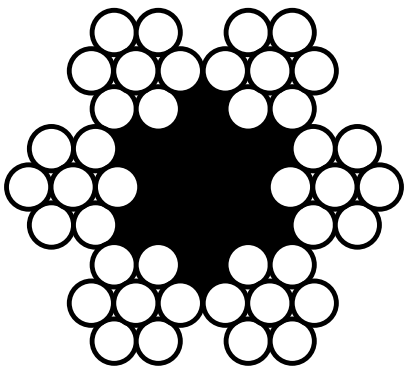
Bright 6×21 Fiber Core

Left Regular Lay, E.I.P.S. Grade

Cable Tool Rig Drill Line

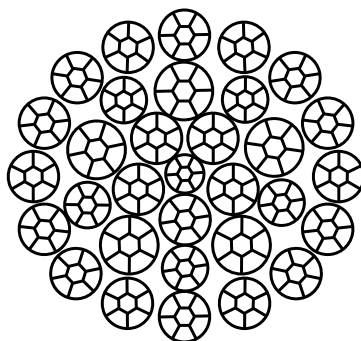
To Federal Specification RR-W-410, ASTM A1023/1023W & API-9A

Diameter in	Construction	Weight Per Foot	Breaking Strength
inches		in Pounds	in Pounds
3/4	6x21	0.95	52,400
7/8	6x21	1.29	70,800



**Bright 6×7 Fiber Core(P.P.C.)
Right Regular Lay, I.P.S. Grade
Sand Line with B-Lube
To Federal Speceification RR-W-410**

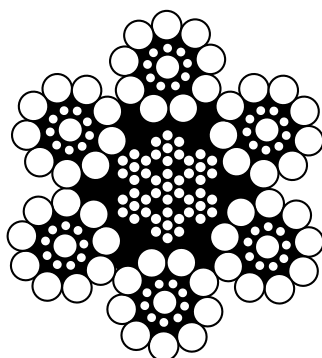
Diameter in	Construction	Weight Per Foot	Breaking Strength
inches		in Pounds	in Pounds
1/2	6x7	-	20,600
9/16	6x7	-	28,600
5/8	6x7	-	31,800



**Drawn Galvanized 35×7 I.W.R.C.
 Right Hand Lang Lay, 2160 Grade
 Compacted & Rotation Resistant
 To Federal Specification RR-W-410**

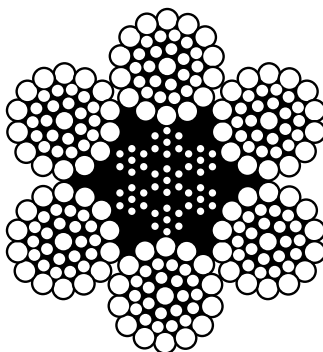
Size in	Weight Per Foot	Breaking Strength
mm	in LBS	kN(Kilonewton)
13	0.54	162
16	0.80	251
18	1.01	308
19	1.14	344
20	1.29	382
22	1.56	466
24	1.85	555
25.4	2.10	628
26	2.16	660
28	2.55	758
32	3.31	980
34	3.73	1,134
36	4.19	1,232

*1 kN(Kilonewton) = 224.8 LBS



**Stainless Steel 6×19 I.W.R.C.
Right Regular Lay
Type 304 and 316
To Federal Specification RR-W-410**

Diameter in	Weight Per Foot	Breaking Strength
Inches	in LBS	in Pounds
7/16	0.35	16,300
1/2	0.46	22,800
9/16	0.59	28,500
5/8	0.72	35,000
3/4	1.04	49,600
7/8	1.42	66,500
1	1.85	85,400
1-1/8	2.40	106,400
1-1/4	2.90	129,400



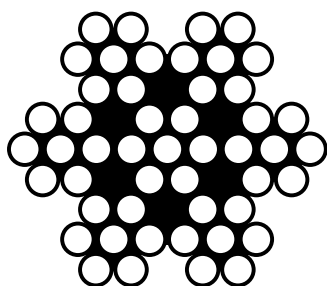
Stainless Steel 6×36 I.W.R.C.
Right Regular Lay
Type 304 and 316
To Federal Specification RR-W-410

Diameter in	Weight Per Foot	Breaking Strength
Inches	in LBS	in LBS
5/16	0.18	8,300
3/8	0.24	11,700
7/16	0.35	16,300
1/2	0.46	22,800
9/16	0.59	28,500
5/8	0.72	35,000
3/4	1.04	49,600
7/8	1.42	66,500
1	1.85	85,400
1-1/8	2.34	106,400
1-1/4	2.89	129,400



Cable

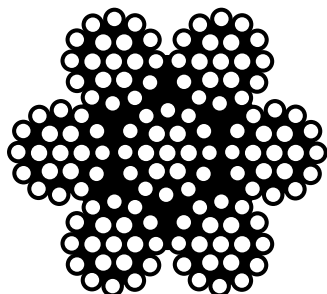




Hot Dipped Galvanized 7×7 Cable

To Federal Specification RRW-410
& Specification MIL-W-83420

Diameter in	Weight Per Thousand Feet	Breaking Strength
Inches	in LBS	in LBS
1/16	7	480
5/64	11	650
3/32	16	920
1/8	28	1,700
5/32	43	2,600
3/16	62	3,700
1/4	106	6,100



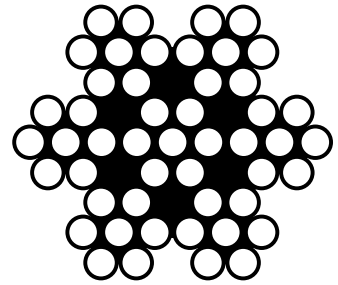
Hot Dipped Galvanized 7×19 Cable

To Federal Specification RRW-410
& Specification MIL-W-83420

Diameter in	Weight Per Thousand Feet	Breaking Strength
Inches	in LBS	in LBS
3/32	17	1,000
1/8	29	2,000
5/32	45	2,800
3/16	65	4,200
7/32	86	5,600
1/4	110	7,000
5/16	173	9,800
3/8	243	14,400

Hot Dipped Galvanized 7×7

Clear Vinyl(PVC) Coated Cable
 To Federal Specification RRW-410
 & Specification MIL-W-83420

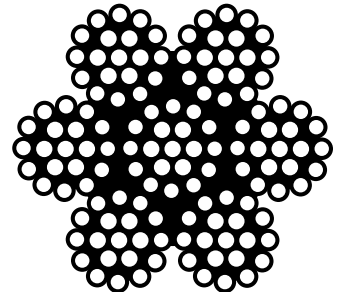


Wire Diameter	Coated To	Weight per Thousand Feet	Breaking Strength
inches		in LBS	in LBS
1/16	3/32	9	480
1/16	1/8	12	480
3/32	1/8	18	920
3/32	3/16	26	920
1/8	3/16	36	1,700

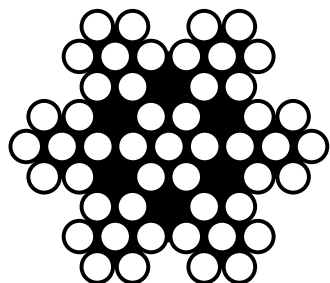
CABLE

Hot Dipped Galvanized 7×19

Clear Vinyl(PVC) Coated Cable
 To Federal Specification RRW-410
 & Specification MIL-W-83420



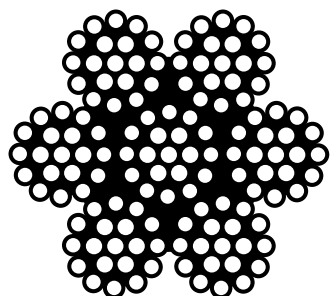
Wire Diameter	Coated To	Weight per Thousand Feet	Breaking Strength
inches		in LBS	in LBS
3/32	1/8	20	1,000
1/8	3/16	36	2,000
3/16	1/4	78	4,200
3/16	5/16	78	4,200
1/4	5/16	123	7,000
5/16	3/8	197	9,800
3/8	7/16	270	14,400



Stainless Steel 7×7

Clear Vinyl(PVC) Coated Cable
To Federal Specification RRW-410
& Specification MIL-W-83420

Wire Diameter	Coated To	Weight per Thousand Feet	Breaking Strength
inches		in LBS	in LBS
1/16	1/8	9	480
1/16	3/32	12	480
3/32	1/8	19	920
1/8	3/16	35	1,700
3/16	1/4	78	3,700
1/4	3/8	123	6,100



Stainless Steel 7×19

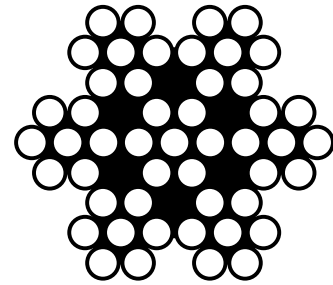
Clear Vinyl(PVC) Coated Cable
To Federal Specification RRW-410
& Specification MIL-W-83420

Wire Diameter	Coated To	Weight per Thousand Feet	Breaking Strength
inches		in LBS	in LBS
1/8	3/16	36	2,000
3/16	1/4	78	3,700
1/4	5/16	123	6,400
5/16	3/8	197	9,000
3/8	7/16	270	12,000

7 X 7 Stainless Steel Cable

Type 304 and 316
Federal Specification RR-W-410

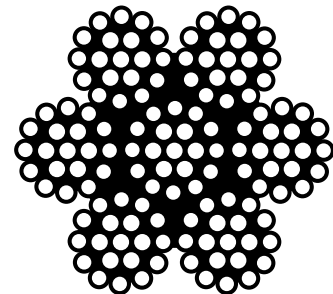
Diameter in	Weight Per Thousand Feet	Breaking Strength
Inches	in LBS	in Pounds
3/64	4	270
1/16	7	480
5/64	5	650
3/32	16	920
1/8	28	1,760
3/16	60	3,700
1/4	106	7,800

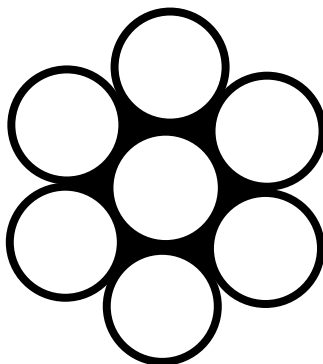


7 X 19 Stainless Steel Cable

Type 304 and 316
Federal Specification RR-W-410

Diameter in	Weight Per Thousand Feet	Breaking Strength
Inches	in LBS	in Pounds
3/32	17	920
1/8	29	1,760
5/32	45	2,400
3/16	65	3,700
7/32	86	5,000
1/4	110	6,400
5/16	173	9,000
3/8	243	12,000

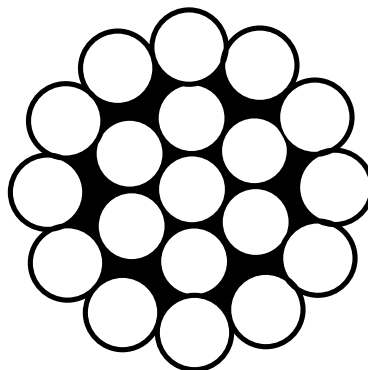




Hot Dipped Galvanized 1×7 Steel Strand

Left Regular Lay, E.H.S.(Extra High Strength Grade)
To ASTM A 475 & MIL-DTL-87161

Diameter in	Weight per Thousand Feet	Breaking Strength	Part No.
inches	in LBS	in Pounds	
3/16	73	3,990	316GS17-C
1/4	121	6,650	14GS17-C
5/16	205	11,200	516GS17-C
3/8	273	15,400	38GS17-C
7/16	399	20,800	716GS17-C
1/2	520	26,900	12GS17-C



Stainless Steel 1×19 Steel Strand

Left Regular Lay, Type 316
To MIL-DTL-87161

Diameter in	Weight per Thousand Feet	Breaking Strength	Part No. (Chinese)	Part No. (Korean)
inches	in LBS	in Pounds	in Pounds	in Pounds
1/8	35	1,780	18S1916-C	18S1916-C
5/32	55	2,800	532S1916-C	532S1916-C
3/16	77	4,000	316S1916-C	316S1916-C
7/32	102	5,350	732S1916-C	732S1916-C
3/8	135	6,900	38S1916-C	38S1916-C
1/4	210	10,600	14S1916-C	14S1916-C
5/16	300	14,800	516S1916-C	516S1916-C

A large offshore oil rig is silhouetted against a vibrant orange and yellow sunset sky. The sun is a bright, glowing orb on the right side of the frame, with its light reflecting in shimmering patterns on the dark blue water. The rig's complex structure, including tall derrick and support beams, is clearly visible in silhouette.

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Chain





Grade 30 Proof Coil Chain

Nominal Chain Size		Material Diameter		Working Load Limit	Proof Load Test	Minimum Breaking Load	Inside Length (MAX.)		Inside Width (MIN.)		Weight Per Foot
in	mm	in	mm	lbs	lbs	lbs	in	mm	in	mm	lbs
1/8	4.0	0.156	4.0	400	800	1,600	0.94	23.9	0.25	6.4	0.17
3/16	5.5	0.217	5.5	800	1,600	3,200	0.98	24.8	0.30	7.7	0.33
1/4	7.0	0.276	7.0	1,300	2,600	5,200	1.24	31.5	0.38	9.8	0.63
5/16	8.0	0.331	8.4	1,900	3,800	7,600	1.29	32.8	0.44	11.2	0.93
3/8	10.0	.394	10.0	2,650	5,300	10,600	1.38	35.0	0.55	14.0	1.41
1/2	13.0	0.512	13.0	4,500	9,000	18,000	1.79	45.5	0.72	18.2	2.40
5/8	16.0	0.630	16.0	6,900	13,800	27,600	2.20	56.0	0.79	20.0	3.58
3/4	20.0	0.787	20.0	10,600	21,200	42,400	2.76	70.0	0.98	25.0	5.48
7/8	22.0	0.866	22.0	12,800	25,600	51,200	3.03	77.0	1.08	27.5	7.31
1	26.0	1.020	26.0	17,900	35,800	71,600	3.58	90.9	1.25	31.7	9.41



Grade 30 Proof Coil Chain

Self Colored, Zinc Plated & Hot Dipped Galvanized

All chains manufactured to NACM and/or ASTM(Short Link) specifications

Size	Working Load Limit	Length Per Full Drum	Length Per Half Drum	Length Per 5 Gallon Pail	Part No. (Full Drum)			
					Weight Per Foot	Self Colored	Zinc Plated	Hot Galvanized
in.	lbs.	ft.	ft.	ft.	lbs.			
1/8	400	1000	n/a	n/a	0.17	n/a	n/a	18HG30
3/16	800	1500	750	250	0.33	316SC30	316EG30	316HG30
1/4	1,300	800	400	141	0.63	14SC30	14EG30	14HG30
5/16	1,900	550	275	92	0.93	516SC30	516EG30	516HG30
3/8	2,650	400	200	63	1.41	38SC30	38EG30	38HG30
1/2	4,500	200	100	35	2.40	12SC30	12EG30	12HG30
5/8	6,900	150	n/a	n/a	3.58	58SC30	n/a	58HG30
3/4	10,600	100	n/a	n/a	5.48	34SC30	n/a	34HG30
7/8	12,800	80	n/a	n/a	7.31	n/a	n/a	78HG30
1	17,900	60	n/a	n/a	9.41	n/a	n/a	1HG30

Part No. (Half Drum)		
Self Colored	Zinc Plated	Hot Galvanized
316SC30/	316EG30/	316HG30/
14SC230/	14EG30/	14HG30/
516SC30/	516EG30/	516HG30/
n/a	38EG30/	38HG30/
n/a	12EG30/	12HG30/

Part No. (5 Gallon Pails)	
Zinc Plated	Hot Galvanized
14EG30PP	14HG30PP
516EG30PP	516HG30PP
38EG30PP	38HG30PP
12EG30PP	12HG30PP

Long Link Chain – Hot Galvanized

Grade 30 Proof Coil Chain

Size	Working Load Limit	Footage Per Drum	Inside Length	Inside Width	Inside Width	Weight Per Foot	Part No.
in.	lbs.	ft.	in.	in.	in.	lbs.	
1/2	4,500	200	3.50	0.798	0.798	2.22	12HG30LL
5/8	6,900	100	3.75	1.00	1.00	3.41	58HG30LL
3/4	10,600	100	3.75	1.125	1.125	4.20	34HG30LL
1	17,900	100	4.125	1.375	1.375	10.10	1HG30LL



Windlass Chain – Grade 43 High Test

Hot Dipped Galvanized & Stainless Steel

All chains manufactured to ISO-Short Link specifications

Size	Inside Length	Inside Width	Weight Per Foot in LBS
1/4	1/4	0.40	0.74
5/16	5/16	0.50	1.06
3/8	3/8	0.60	1.49
1/2	1/2	0.77	2.53

Hot Dipped Galvanized

Size	Working Load Limit (LBS)	Part No.
1/4	2,600	14HG43ISO
5/16	3,900	516HG43ISO
3/8	5,400	38HG43ISO
1/2	9,200	12HG43ISO

Stainless Steel, Type 316

Chain Size	Working Load Limit (LBS)	Part No.
1/4	2,600	14SSG40
5/16	3,900	516SSG40
3/8	5,400	38SSG40
1/2	9,200	12SSG40



Grade 43 High Test Chain

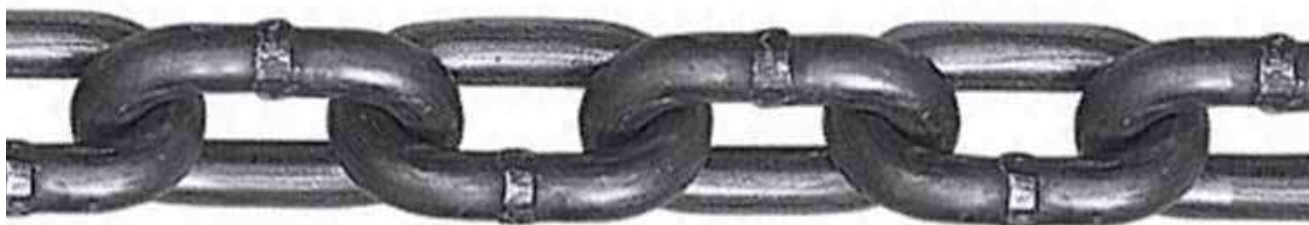
Self Colored & Hot Dipped Galvanized
All chains manufactured to NACM specifications

Size	Working Load Limit	Length Per Drum	Length Per Half Drum	Weight per Foot	Self Colored	Self Colored	Hot Galvanized
in.	lbs.	ft.	ft.	lbs.	Full Drums	Half Drums	Full Drums
1/4	2,600	800	400	0.63	14SC43	14SC43/	14HG43
5/16	3,900	550	275	0.93	516SC43	n/a	516HG43
3/8	5,400	400	200	1.41	38SC43	38SC43/	38HG43
1/2	9,200	200	100	2.40	12SC43	n/a	12HG43
5/8	11,500	150	75	3.58	58SC43	n/a	58HG43
3/4	16,200	100	50	5.48	34SC43	n/a	34HG43

Grade 43 High Test Chain

20' Binding/Boomer Chains w/ Clevis Grab Hooks at each end Self Colored Chain w/ Self Colored Hooks

Size	Working Load Limit	Weight Per Piece	Part No.
in.	lbs.	lbs.	
1/4" x 20ft.	2,600	13.50	14SC43BC20
5/16" x 20ft	3,900	20.00	516C43BC20
3/8" x 20ft.	5,400	30.50	38C43BC20



Grade 43 High Test Chain

Nominal Chain Size		Material Diameter		Working Load Limit	Proof Load Test	Minimum Breaking Load	Inside Length (MAX.)		Inside Width (MIN.)		Weight Per Foot
in	mm	in	mm	lbs	lbs	lbs	in	mm	in	mm	lbs
1/4	7.0	0.276	7.0	2,600	3,900	7,800	1.24	31.5	0.38	9.8	0.63
5/16	8.7	0.343	8.7	3,900	5,850	11,700	1.29	32.8	0.44	11.2	0.93
3/8	10.0	0.406	10.3	5,400	8,100	16,200	1.38	35.0	0.55	14.0	1.41
1/2	13.0	0.531	13.5	9,200	13,800	27,600	1.79	45.5	0.72	18.2	2.40
5/8	16.0	0.630	16.0	13,000	19,500	39,000	2.20	56.0	0.79	20.0	3.58
3/4	20.0	0.787	20.0	20,200	30,300	60,600	2.76	70.0	0.98	25.0	5.48



Stainless Steel Chain

Grade 43 High Test Chain

All chains manufactured to NACM specifications

Size	Working Load Limit	Length Per Drum	Weight Per Foot	Part No.	
	lbs.	ft.	lbs.	Type 304	Type 316
1/8	620	1,000	0.17	18SSC304	18SSC316
3/16	1,200	1,500	0.38	316SSC304	316SSC316
1/4	2,600	800	0.61	14SSC304	14SSC316
5/16	3,900	550	0.84	516SSC304	516SSC316
3/8	5,400	400	1.40	38SSC304	38SSC316
1/2	9,200	200	2.34	12SSC304	12SSC316
5/8	13,000	150	3.58	58SSC304	58SSC316
3/4	20,200	100	5.51	34SSC304	34SSC316
1	23,250	60	9.41	1SSC304	1SSC316



Grade 70 Transport Chain

Nominal Chain Size		Material Diameter		Working Load Limit	Proof Load Test	Minimum Breaking Load	Inside Length (MAX.)		Inside Width (MIN.)		Weight Per Foot
in	mm	in	mm	lbs	lbs	lbs	in	mm	in	mm	lbs
1/4	7.0	0.281	7.0	3,150	6,300	12,600	1.24	31.5	0.38	9.8	0.63
5/16	8.7	0.343	8.7	4,700	9,400	18,800	1.29	32.8	0.44	11.2	0.93
3/8	10.0	0.406	10.3	6,600	13,200	26,400	1.38	35.0	0.55	14.0	1.41
1/2	13.0	0.531	13.5	11,300	22,600	45,200	1.79	45.5	0.72	18.2	2.40
5/8	16.0	0.630	16.0	15,800	31,600	63,200	2.20	56.0	0.79	20.0	3.75



Grade 70 Transport Chain

Yellow Zinc Chromate

All chains manufactured to NACM specifications

Size	Working Load Limit	Length Per Full Drum	Length Per Half Drum	Weight per Foot	Part No.	
	lbs.	ft.	ft.	lbs.	Full Drum	Half Drums
1/4	3,150	800	n/a	0.63	14SCG70C	n/a
5/16	4,700	550	n/a	0.93	516SCG70C	n/a
3/8	6,600	400	200	1.41	38SCG70C	38SCG70/C
1/2	11,300	200	n/a	2.40	12SCG70C	n/a
5/8	15,800	100	n/a	3.75	58SCG70C	n/a

Grade 70 Transport Chain

20' Binding/Boomer Chains w/ Clevis Grab Hooks at each end
Yellow Zinc Chromate Chain w/ Yellow Zinc Chromate Hooks

Size	Working Load Limit	Weight per Piece	Part No.
	lbs.	lbs.	
5/16 X 20'	4,700	20	516SCG70BC20
3/8 X 20'	6,600	31	38SCG70BC20
1/2 X 20'	11,300	57	12SCG70BC20



Grade 80 Alloy Chain (for Overhead Lifting)

Black Laquer Finish

All chains manufactured to NACM specifications

Size	Working Load Limit	Feet Per Drum	Minimum Weight Per Foot	Part No.
	lbs	ft	lbs	
9/32	3,500	800	0.71	932G80CH
5/16	4,500	500	0.92	516G80CH
3/8	7,100	500	1.44	38G80CH
1/2	12,000	300	2.36	12G80CH
5/8	18,100	200	3.76	58G80CH
3/4	28,300	100	5.50	34G80CH
7/8	34,200	100	7.12	78G80CH
1	47,700	100	9.65	1G80CH



Grade 80 Alloy Chain (for Overhead Lifting)

Nominal Chain Size		Material Diameter		Working Load Limit	Proof Load Test	Minimum Breaking Load	Inside Length (MAX.)		Inside Width Range		Weight Per Foot
in	mm	in	mm	lbs	lbs	lbs	in	mm	in	mm	lbs
9/32	7.0	0.276	7.0	3,500	7,000	14,000	0.90	22.9	0.375 - 0.430	9.53 - 10.92	0.71
5/16	8.0	0.315	8.0	4,500	9,000	18,000	1.04	26.4	0.430 - 0.500	10.92 - 12.70	0.92
3/8	10.0	0.394	10.0	7,100	14,200	28,400	1.26	32.0	0.512 - 0.600	13.00 - 15.20	1.44
1/2	13.0	0.512	13.0	12,000	24,000	48,000	1.64	41.6	0.688 - 0.768	17.48 - 19.50	2.36
5/8	16.0	0.63	16.0	18,100	36,200	72,400	2.02	51.2	0.812 - 0.945	20.63 - 24.00	3.76
3/4	20.0	0.787	20.0	28,300	56,600	113,200	2.52	64.0	0.984 - 1.180	25.00 - 30.00	5.50
7/8	22.0	0.866	22.0	34,200	68,400	136,800	2.77	70.4	1.080 - 1.300	27.50 - 33.00	7.12
1	26.0	1.020	26.0	47,700	95,400	190,800	3.28	83.2	1.280 - 1.540	32.50 - 39.00	9.65

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Hardware





Wire Rope Alloy Blocks

Alloy Snatch Blocks, Bronze Bushed, with Hook ASME B30.26

Sheave Dia	Working Load Limit	Weight Per Piece	Rope Dia	Top Fitting	Part No.
in	lbs	lbs	in		
6	12	26	3/4" - 7/8"	Hook	WR6SBAH
8	12	33	3/4" - 7/8"	Hook	WR8SBAH
10	12	41	3/4" - 7/8"	Hook	WR10SBAH

Wire Rope Alloy Blocks

Alloy Snatch Blocks, Bronze Bushed, with Shackle ASME B30.26

Sheave Dia	Working Load Limit	Weight Per Piece	Rope Dia	Top Fitting	Part No.
in	lbs	lbs	in		
6	12	27	3/4" - 7/8"	Shackle	WR6SBA
8	12	34	3/4" - 7/8"	Shackle	WR8SBA
10	12	42	3/4" - 7/8"	Shackle	WR10SBA



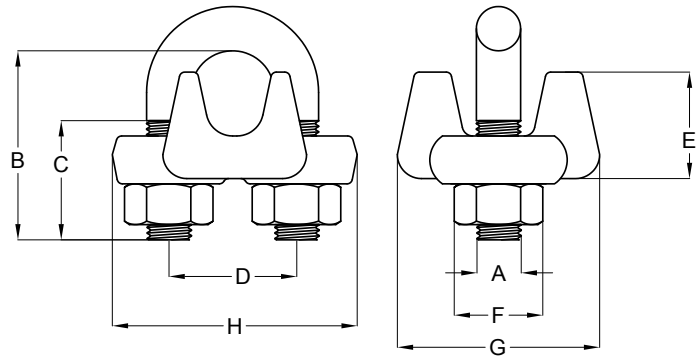
Wire Rope Blocks

Snatch Blocks, Bronze Bushed, with Hook ASME B30.26

Sheave Dia	Working Load Limit	Weight Per Piece	Rope Dia	Top Fitting	Part No.
in	lbs	lbs	in		
3	2	4	5/16" - 3/8"	Hook	WR3SBH
4 1/2	4	12	3/8" - 1/2"	Hook	WR412SBH
6	8	28	5/8" - 3/4"	Hook	WR6SBH
8	8	34	5/8" - 3/4"	Hook	WR8SBH
10	8	42	5/8" - 3/4"	Hook	WR10SBH
10	20	89	1-1/8"	Hook	WR10SBHDH
12	20	103	1"	Hook	WR12SBHDH

Snatch Blocks, Bronze Bushed, with Shackle ASME B30.26

Sheave Dia	Working Load Limit	Weight Per Piece	Rope Dia	Top Fitting	Part No.
in	lbs	lbs	in		
3	2	5	5/16" - 3/8"	Shackle	WR3SB
4 1/2	4	12	3/8" - 1/2"	Shackle	WR412SB
6	8	27	5/8" - 3/4"	Shackle	WR6SB
8	8	33	5/8" - 3/4"	Shackle	WR8SB
10	8	41	5/8" - 3/4"	Shackle	WR10SB
10	20	101	1-1/8"	Shackle	WR10SBHD
12	20	115	1"	Shackle	WR12SBHD

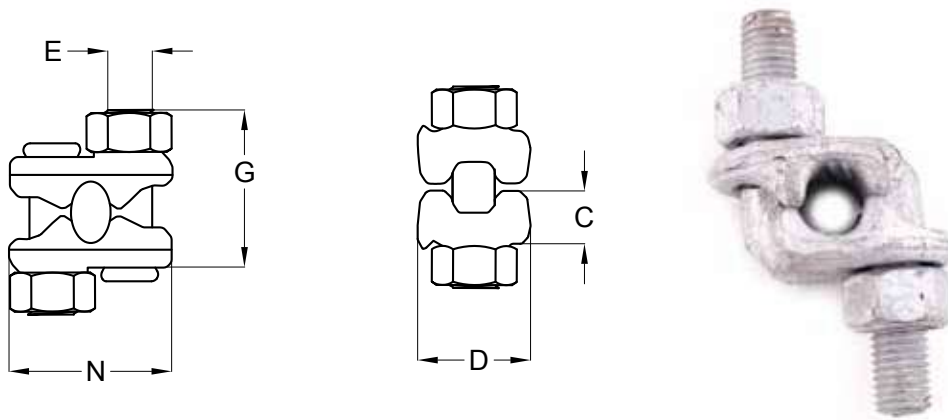


Drop Forged Wire Rope Clips

Hot Dipped Galvanized

To Federal Specification FF-C-450, Type 1, Class 1

Rope Size in	Weight Per Piece lbs	Dimensions (in)								Part No.
		A	B	C	D	E	F	G	H	
1/8	0.06	0.22	0.72	0.44	0.47	0.37	0.38	0.81	0.99	DFC18
3/16	0.10	0.25	0.97	0.56	0.59	0.50	0.44	0.94	1.18	DFC316
1/4	0.19	0.31	1.03	0.50	0.75	0.66	0.56	1.19	1.43	DFC14
5/16	0.28	0.38	1.38	0.75	0.88	0.73	0.69	1.31	1.66	DFC516
3/8	0.48	0.44	1.50	0.75	1.00	0.91	0.75	1.63	1.94	DFC38
7/16	0.78	0.50	1.88	1.00	1.19	1.13	0.88	1.91	2.28	DFC716
1/2	0.80	0.50	1.88	1.00	1.19	1.13	0.88	1.91	2.28	DFC12
9/16	1.09	0.56	2.25	1.25	1.31	1.34	0.94	2.06	2.50	DFC916
5/8	1.10	0.56	2.25	1.25	1.31	1.34	0.94	2.06	2.50	DFC58
3/4	1.42	0.62	2.75	1.44	1.50	1.39	1.06	2.25	2.84	DFC34
7/8	2.12	0.75	3.12	1.62	1.75	1.58	1.25	2.44	3.16	DFC78
1	2.52	0.75	3.50	1.81	1.88	1.77	1.25	2.63	3.47	DFC1
1-1/8	2.83	0.75	3.88	2.00	2.00	1.91	1.25	2.81	3.59	DFC118
1-1/4	4.38	0.88	4.44	2.22	2.31	2.17	1.44	3.13	4.13	DFC114
1-3/8	4.42	0.88	4.44	2.22	2.38	2.31	1.44	3.13	4.19	DFC138
1-1/2	5.44	0.88	4.94	2.38	2.59	2.44	1.44	3.41	4.44	DFC112
1-5/8	7.04	1.00	5.31	2.62	2.75	2.66	1.63	3.63	4.75	DFC158
1-3/4	9.34	1.13	5.75	2.75	3.06	2.92	1.81	3.81	5.24	DFC134
2	13.00	1.25	6.44	3.00	3.38	3.28	2.00	4.44	5.88	DFC2
2-1/4	16.00	1.25	7.13	3.19	3.88	3.19	2.00	4.56	6.38	DFC214
2-1/2	19.00	1.25	7.69	3.44	4.13	3.69	2.00	4.69	6.63	DFC212

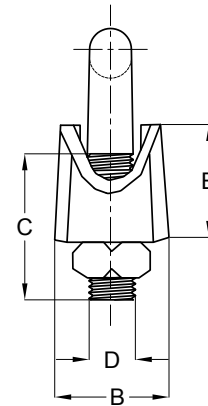
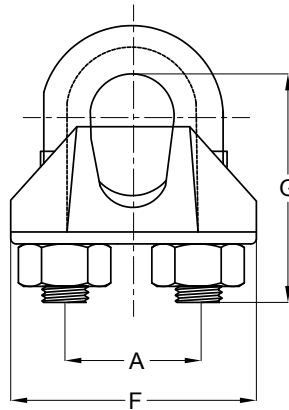


Drop Forged Fist Grip Wire Rope Clips

Hot Dipped Galvanized

To Federal Specification FF-C-450 Type 3, Class 1

Size	Weight Per Piece in	Dimensions (in)					Part No.
		C	D	E	G	N	
in	lbs						
5/16	0.28	0.47	1.06	0.38	1.50	1.54	DF516FG
3/8	0.40	0.51	1.06	0.44	1.84	1.78	DF38FG
7/16-1/2	0.62	0.59	1.25	0.50	2.21	2.15	DF12FG
9/16-5/8	1.03	0.72	1.50	0.63	2.72	2.57	DF58FG
3/4	1.75	0.86	1.81	0.75	2.94	2.67	DF34FG
7/8	2.25	0.97	2.12	0.75	3.31	2.86	DF78FG
1	3.00	1.13	2.25	0.75	3.72	3.06	DF1FG

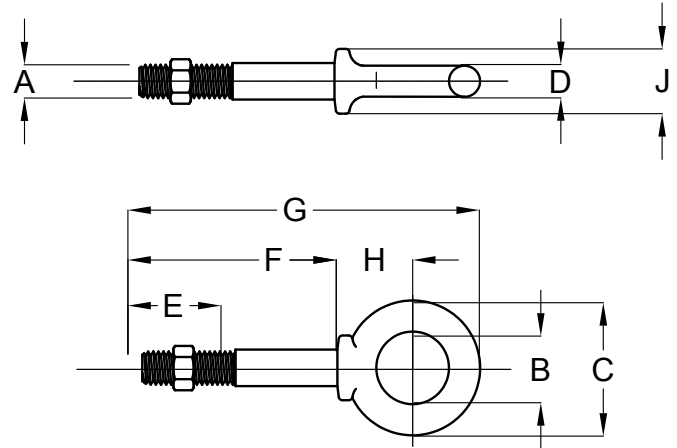


Malleable Wire Rope Clips

Electro Galvanized

To Federal Specification FF-C-450 Type 1, Class 2

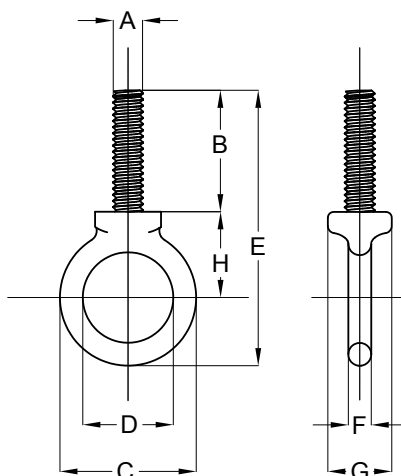
Size	Weight Per Piece in	Dimensions (in)							Part No.
		A	B	C	D	E	F	G	
in	lbs								
1/16	0.03	1/16	0.45	0.45	0.15	0.38	0.69	0.65	EGC116
1/8	0.04	1/8	0.55	0.55	0.18	0.42	0.87	0.79	EGC18
3/16	0.063	3/16	0.59	0.63	0.25	0.51	1.02	0.94	EGC316
1/4	0.13	1/4	0.73	0.79	0.31	0.59	1.25	1.24	EGC14
5/16	0.15	5/16	0.79	0.87	0.31	0.63	1.38	1.34	EGC516
3/8	0.21	3/8	0.87	1.06	0.38	0.87	1.59	1.65	EGC38
7/16	0.37	7/16	0.91	1.18	0.44	0.87	1.70	1.69	EGC716
1/2	0.37	1/2	1.02	1.38	0.44	0.92	1.93	2.12	EGC12
9/16	0.59	9/16	1.04	1.58	0.50	1.06	2.07	2.15	EGC916
5/8	0.59	5/8	1.12	1.58	0.50	1.10	2.26	2.33	EGC58
3/4	0.84	3/4	1.26	1.65	0.56	1.33	2.40	2.70	EGC34
7/8	1.25	7/8	1.46	1.81	0.63	1.50	2.80	3.08	EGC78
1	1.66	1	1.65	2.20	0.63	1.69	3.05	3.44	EGC1
1 1/8	2.43	1 1/8	2.06	2.75	0.75	2.19	3.38	4.00	EGC118



Shoulder Nut Eye Bolts

Forged Carbon Steel, Hot Dipped Galvanized
Meets or exceeds all requirements of ASME B30.26

Bolt Dia. & Shank Length	Working Load Limit	Weight Per Piece in	Dimensions (in)									Part No.
			A	B	C	D	E	F	G	H	J	
in	lbs	lbs										
1/4X2	500	0.07	0.25	0.50	0.88	0.19	1.50	2.00	2.94	0.50	0.47	HG14X2SN
1/4X4	500	0.09	0.25	0.50	0.88	0.19	2.50	4.00	4.94	0.50	0.47	HG14X4SN
5/16X2 1/4	800	0.13	0.31	0.62	1.12	0.25	1.50	2.25	3.50	0.69	0.56	HG516X214SN
5/16X4 1/4	800	0.19	0.31	0.62	1.12	0.25	2.50	4.25	5.50	0.69	0.56	HG516X414SN
3/8X2 1/2	1,200	0.21	0.38	0.75	1.38	0.31	1.50	2.50	3.97	0.78	0.66	HG38X212SN
3/8X4 1/2	1,200	0.25	0.38	0.75	1.38	0.31	2.50	4.50	5.97	0.78	0.66	HG38X412SN
1/2X3 1/4	2,200	0.43	0.50	1.00	1.75	0.38	1.50	3.25	5.12	1.00	0.91	HG12X314SN
1/2X6	2,200	0.57	0.50	1.00	1.75	0.38	3.00	6.00	7.88	1.00	0.91	HG12X6SN
5/8X4	3,500	0.69	0.62	1.25	2.25	0.50	2.00	4.00	6.44	1.31	1.12	HG58X4SN
5/8X6	3,500	1.02	0.62	1.25	2.25	0.50	3.00	6.00	8.44	1.31	1.12	HG58X6SN
3/4X4 1/2	5,200	1.25	0.75	1.50	2.75	0.62	2.00	4.50	7.44	1.56	1.38	HG34X412SN
3/4X6	5,200	1.50	0.75	1.50	2.75	0.62	3.00	6.00	8.94	1.56	1.38	HG34X6SN
7/8X5	7,200	2.25	0.88	1.75	3.25	0.75	2.50	5.00	8.47	1.84	1.56	HG78X5SN
1X6	10,000	3.75	1.00	2.00	3.75	0.88	3.00	6.00	9.97	2.09	1.81	HG1X6SN
1X9	10,000	4.29	1.00	2.00	3.75	0.88	4.00	9.00	12.97	2.09	1.81	HG1X9SN
1 1/4X8	15,200	6.50	1.25	2.50	4.50	1.00	4.00	8.00	12.72	2.47	2.28	HG114X8SN
1 1/4X12	15,200	7.75	1.25	2.50	4.50	1.00	4.00	12.00	16.72	2.47	2.28	HG114X12SN
1 1/2X15	21,400	14.25	1.50	3.00	5.50	1.25	6.00	15.00	20.75	3.00	2.75	HG112X15SN



Shoulder Type Machinery Eye Bolts

Hot Galvanized and Self Colored

Meets or exceeds all requirements of ASME B30.26

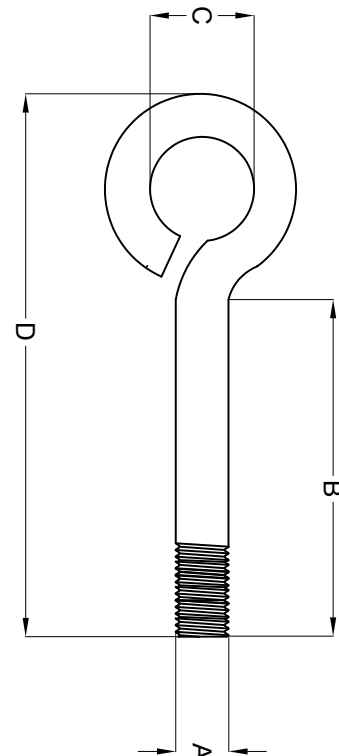
HARDWARE

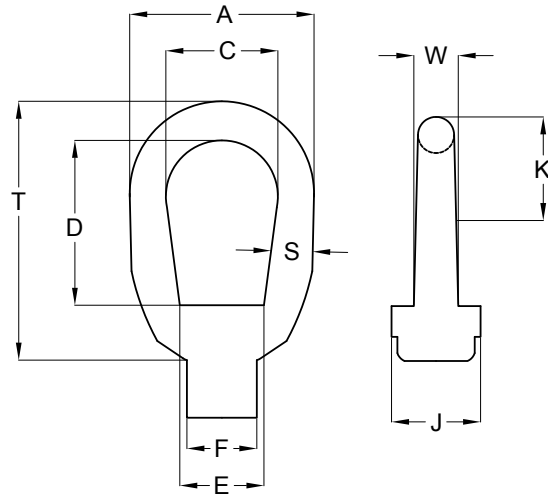
Shank Dia. & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)								Hot Galvanized Part No.	Self Colored Part No.
			A	B	C	D	E	F	G	H		
in	lbs	lbs										
1/4x1	650	0.05	1/4"-20	1.02	1.13	0.75	2.29	0.19	0.53	0.70	HG14X1ME	SC14X1ME
5/16X1 1/8	1,200	0.09	5/16"-18	1.15	1.38	0.88	2.74	0.25	0.59	0.90	HG516X118ME	SC516X118ME
3/8X1 1/4	1,550	0.15	3/8"-16	1.27	1.62	1.00	3.07	0.31	0.69	1.00	HG38X114ME	SC38X114ME
1/2X1 1/2	2,600	0.28	1/2"-13	1.53	1.95	1.19	3.70	0.38	0.91	1.20	HG12X112ME	SC12X112ME
5/8X1 3/4	5,200	0.55	5/8"-11	1.79	2.38	1.38	4.45	0.50	1.13	1.47	HG58X134ME	SC58X134ME
3/4X2	7,200	0.96	3/4"-10	2.05	2.76	1.50	5.07	0.63	1.38	1.64	HG34X2ME	SC34X2ME
7/8X2 1/4	10,600	1.54	7/8"-9	2.31	3.25	1.75	5.87	0.75	1.56	1.94	HG78X214ME	SC78X214ME
1X2 1/2	13,300	2.38	1"-8	2.57	3.76	2.00	6.66	0.88	1.81	2.21	HG1X212ME	SC1X212ME
1 1/4X3	21,000	3.99	1-1/4"-7	3.09	4.50	2.50	7.95	1.00	2.28	2.61	HG114X3ME	SC114X3ME
1 1/2X3 1/2	24,000	7.20	1-1/2"-6	3.60	5.50	3.00	9.49	1.25	2.75	3.14	HG112X312ME	SC112X312ME

Shank Dia. & Take Up	B	C	D	Thread Length	Weight per Each	Working Load Limit	Part No.
in						lbs	
1/8 (6-32)	.75	.25	1.25	.63	.75	22	EG18X34TE
5/32 (8-32)	1.12	.25	1.69	1.00	1.31	36	EG18X118TE
3/16 (10-24)	1.00	.38	1.69	.88	1.81	38	EG316X1TE
3/16 (10-24)	1.38	.94	2.00	1.25	1.88	38	EG316X138TE
3/16 (10-24)	2.00	.38	2.69	1.00	2.38	38	EG316X2TE
3/16 (10-24)	3.00	.38	3.69	1.50	2.94	38	EG316X3TE
7/32 (12-24)	1.50	.38	2.25	1.38	1.67	52	EG732X112TE
1/4 (20)	1.00	.50	2.00	.88	3.75	74	EG14X1TE
1/4 (20)	1.50	.50	2.50	1.25	4.38	74	EG14X112TE
1/4 (20)	1.88	.44	2.75	1.63	5.20	74	EG14X178TE
1/4 (20)	2.00	.50	3.00	1.25	5.00	74	EG14X2TE
1/4 (20)	2.50	.50	3.50	1.25	5.60	74	EG14X212TE
1/4 (20)	3.00	.50	4.00	1.50	6.30	74	EG14X3TE
1/4 (20)	3.50	.50	4.50	2.00	7.00	74	EG14X314TE
1/4 (20)	4.00	.50	5.00	2.50	7.50	74	EG14X4TE
1/4 (20)	5.00	.50	6.00	3.00	8.00	74	EG14X5TE
1/4 (20)	6.00	.50	7.00	4.00	9.00	74	EG14X6TE
5/16 (18)	1.00	.63	2.19	0.88	7.00	96	EG516X1TE
5/16 (18)	2.00	.63	3.19	1.25	9.00	96	EG516X2TE
5/16 (18)	2.25	.56	3.38	2.00	7.90	96	EG516X214TE
5/16 (18)	2.50	.63	3.63	2.25	10.00	96	EG516X212TE
5/16 (18)	3.00	.63	4.13	2.50	11.00	96	EG516X3TE
5/16 (18)	3.50	.63	4.63	2.00	11.00	96	EG516X312TE
5/16 (18)	4.00	.63	5.13	2.50	12.00	96	EG516X4TE
5/16 (18)	5.00	.63	6.13	3.00	14.00	96	EG516X5TE
5/16 (18)	6.00	.63	7.13	4.00	15.00	96	EG516X6TE
5/16 (18)	6.50	.88	7.75	4.00	18.00	144	EG516X612TE
3/8 (16)	1.00	.75	2.50	.88	12.00	144	EG38X1TE
3/8 (16)	2.00	.75	3.50	1.25	15.00	144	EG38X2TE
3/8 (16)	2.50	.75	3.75	2.25	15.25	144	EG38X212TE
3/8 (16)	2.50	.75	4.00	1.50	15.50	144	EG38X212TEX
3/8 (16)	3.00	.75	4.50	1.50	17.00	144	EG38X3TE
3/8 (16)	3.50	.75	5.00	2.00	18.00	144	EG38X312TE
3/8 (16)	4.00	.75	5.50	2.50	21.00	144	EG38X4TE
3/8 (16)	5.00	.75	6.50	3.00	22.00	144	EG38X5TE
3/8 (16)	6.00	.75	7.50	4.00	24.00	144	EG38X6TE
3/8 (16)	8.00	.75	9.50	4.00	30.00	144	EG38X8TE
3/8 (16)	10.00	.75	11.50	4.00	34.00	144	EG38X10TE
3/8 (16)	12.00	.75	13.50	4.00	39.00	144	EG38X12TE
7/16(14)	6.00	.88	7.75	4.00	36.00	216	EG716X6TE
7/16(14)	8.00	.88	9.75	4.00	42.00	216	EG716X8TE
1/2(13)	2.00	1.00	4.00	1.50	33.00	298	EG12X2TE
1/2(13)	4.00	1.00	6.00	2.50	41.00	298	EG12X4TE
1/2(13)	6.00	1.00	8.00	4.00	50.00	298	EG12X6TE
1/2(13)	8.00	1.00	10.00	4.00	58.00	298	EG12X8TE
1/2(13)	10.00	1.00	12.00	4.00	68.00	298	EG12X10TE

Turned Eyebolts

Electro Galvanized

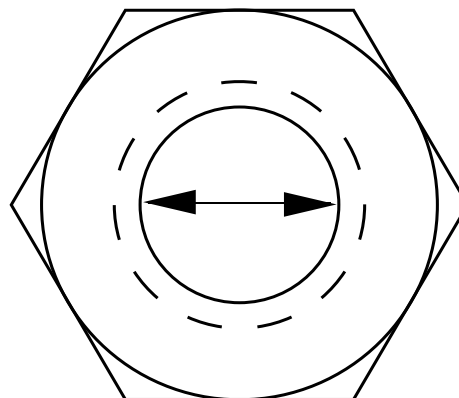




Forged Eye Nuts

Drop Forged, Hot Dipped Galvanized
Meets or exceeds all requirements of ASME B30.26

Size No.	Tap Size	Dimensions (in)							N	T	W	Working Load Limit	Weight Per Piece in	Part No.
		A	C	D	E	F	J	K						
	M											lbs	lbs	
1	1/4	1.25	0.75	1.00	0.75	0.50	0.69	0.63	0.46	1.72	0.31	1/4	0.09	DF1EN
2	3/8	1.62	1.00	1.20	0.83	0.56	0.81	0.89	0.58	2.09	0.41	3/8	0.17	DF2EN
3A	1/2	2.00	1.25	1.44	1.08	0.81	1.00	1.09	0.73	2.55	0.50	1/2	0.28	DF3AEN
4	5/8	2.50	1.50	1.92	1.35	1.00	1.31	1.31	0.83	3.25	0.69	5/8	0.60	DF4EN
5	3/4	3.00	1.75	2.28	1.59	1.12	1.50	1.57	1.05	3.96	0.84	3/4	1.00	DF5EN
6	7/8	3.50	2.00	2.50	1.96	1.38	1.88	1.77	1.14	4.40	1.00	7/8	1.65	DF6EN



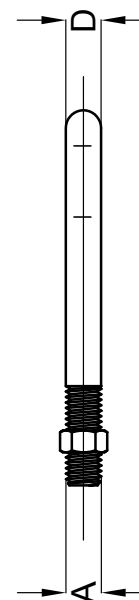
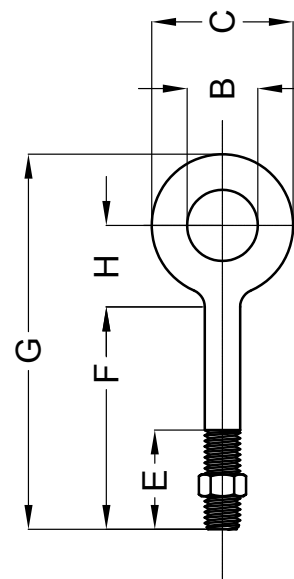
Locknuts (Jam Nuts) For Galvanized Turnbuckles

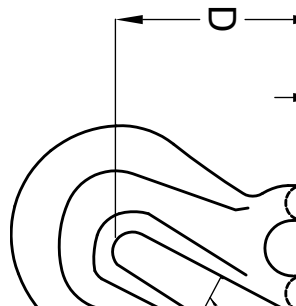
Size in	NC Threads Per Inch	Width Across Flat (A) in Inches	Weight Per Piece lbs	Part No.
1	8.00	1.50	0.18	HG1LN
1.25	7.00	1.81	0.37	HG114LN
1.5	6.00	2.19	0.60	HG112LN
1.75	5.00	2.56	1.02	HG134LN
2	4.50	2.94	2.25	HG2LN
2.5	4.00	3.75	3.13	HG212LN
2.75	4.00	4.13	3.30	HG234LN

Regular Nut Eye Bolts

Drop Forged, Hot Dipped Galvanized
Meets or exceeds all requirements of ASME B30.26

Bolt Dia. & Shank Length	Working Load Limit	Weight Per Piece in	Dimensions (in)								Part No.
			A	B	C	D	E	F	G	H	
in	lbs	lbs									
1/4x2	650	0.08	0.25	0.50	1.00	0.25	1.50	2.00	3.06	0.56	HG14X2RN
1/4x4	650	0.12	0.25	0.50	1.00	0.25	2.50	4.00	5.06	0.56	HG14X4RN
5/16x2 1/4	1,200	0.13	0.31	0.62	1.25	0.31	1.50	2.25	3.56	0.69	HG516X214RN
5/16x4 1/4	1,200	0.25	0.31	0.62	1.25	0.31	2.50	4.25	5.56	0.69	HG516X414RN
5/16x6	1,200	0.31	0.31	0.62	1.25	0.31	3.00	6.00	7.25	0.69	HG516X6RN
3/8x1 1/4	1,550	0.21	0.38	0.62	1.50	0.38	1.25	1.25	3.00	0.88	HG38X114RN
3/8x2 1/2	1,550	0.24	0.38	0.75	1.50	0.38	1.50	2.50	4.12	0.88	HG38X212RN
3/8x3	1,550	0.26	0.38	0.75	1.50	0.38	1.50	3.00	4.50	0.88	HG38X3RN
3/8x4 1/2	1,550	0.29	0.38	0.75	1.50	0.38	2.50	4.50	6.12	0.88	HG38X412RN
3/8x6	1,550	0.35	0.38	0.75	1.50	0.38	2.50	6.00	7.62	0.88	HG38X6RN
3/8x8	1,550	0.42	0.38	0.75	1.50	0.38	2.50	8.00	9.75	0.88	HG38X8RN
1/2x2	2,600	0.48	0.50	1.00	2.00	0.50	1.50	2.00	4.00	1.12	HG12X2RN
1/2x3 1/4	2,600	0.51	0.50	1.00	2.00	0.50	1.50	3.25	5.38	1.12	HG12X314RN
1/2x4 1/2	2,600	0.55	0.50	1.00	2.00	0.50	1.50	3.50	6.50	1.12	HG12X412RN
1/2x6	2,600	0.66	0.50	1.00	2.00	0.50	3.00	6.00	8.12	1.12	HG12X6RN
1/2x8	2,600	0.82	0.50	1.00	2.00	0.50	3.00	8.00	10.12	1.12	HG12X8RN
1/2x10	2,600	0.88	0.50	1.00	2.00	0.50	3.00	10.00	12.12	1.12	HG12X10RN
1/2x12	2,600	1.14	0.50	1.00	2.00	0.50	3.00	12.00	14.12	1.12	HG12X12RN
5/8x4	5,200	1.03	0.62	1.25	2.50	0.62	2.00	4.00	6.69	1.44	HG58X4RN
5/8x6	5,200	1.18	0.62	1.25	2.50	0.62	3.00	6.00	8.69	1.44	HG58X6RN
5/8x8	5,200	1.35	0.62	1.25	2.50	0.62	3.00	8.00	10.69	1.44	HG58X8RN
5/8x10	5,200	1.54	0.62	1.25	2.50	0.62	3.00	10.00	12.69	1.44	HG58X10RN
5/8x12	5,200	1.67	0.62	1.25	2.50	0.62	4.00	12.00	14.69	1.44	HG58X12RN
5/8x15	5,200	1.92	0.62	1.25	2.50	0.62	5.25	15.00	17.75	1.44	HG58X15RN
3/4x4 1/2	7,200	1.69	0.75	1.50	3.00	0.75	2.00	4.50	7.69	1.69	HG34X412RN
3/4x6	7,200	1.85	0.75	1.50	3.00	0.75	3.00	6.00	9.19	1.69	HG34X6RN
3/4x8	7,200	2.08	0.75	1.50	3.00	0.75	3.00	8.00	11.19	1.69	HG34X8RN
3/4x10	7,200	2.35	0.75	1.50	3.00	0.75	3.00	10.00	13.19	1.69	HG34X10RN
3/4x12	7,200	2.58	0.75	1.50	3.00	0.75	4.00	12.00	15.19	1.69	HG34X12RN
3/4x15	7,200	2.98	0.75	1.50	3.00	0.75	5.00	15.00	18.19	1.69	HG34X15RN
3/4x18	7,200	3.38	0.75	1.50	3.00	0.75	7.25	18.00	21.50	1.69	HG34X18RN
7/8x5	10,600	2.70	0.88	1.75	3.50	0.88	2.50	5.00	8.75	2.00	HG78X5RN
7/8x8	10,600	3.08	0.88	1.75	3.50	0.88	4.00	8.00	11.75	2.00	HG78X8RN
7/8x12	10,600	4.00	0.88	1.75	3.50	0.88	4.00	12.00	15.75	2.00	HG78X12RN
1x6	13,300	4.21	1.00	2.00	4.00	1.00	3.00	6.00	10.31	2.31	HG1X6RN
1x9	13,300	4.69	1.00	2.00	4.00	1.00	4.00	9.00	13.31	2.31	HG1X9RN
1x12	13,300	5.40	1.00	2.00	4.00	1.00	4.00	12.00	16.31	2.31	HG1X12RN
1x18	13,300	6.50	1.00	2.00	4.00	1.00	7.00	18.00	22.31	2.31	HG1X18RN
1 1/4x8	21,000	7.50	1.25	2.50	5.00	1.25	4.00	8.00	13.38	2.88	HG114X8RN
1 1/4x12	21,000	9.00	1.25	2.50	5.00	1.25	4.00	12.00	17.38	2.88	HG114X12RN
1 1/4x20	21,000	12.10	1.25	2.50	5.00	1.25	6.00	20.00	25.38	2.88	HG114X20RN
1 1/2x15	30,000	14	1.50	3.00	6.00	1.50	6.00	15.00	21.00	3.00	HG112X15RN

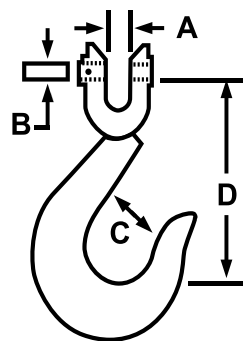




Grade 43 High-Test Hooks

Grade 43 Clevis Grab Hooks Forged Steel, Heat Treated

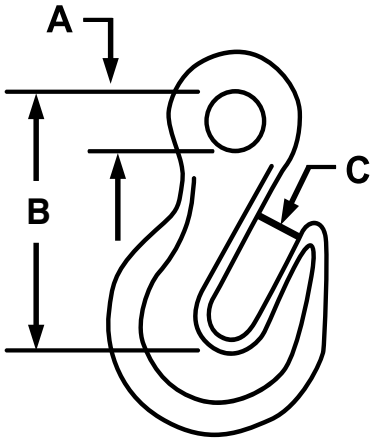
Size	Working Load Limit	Dimensions (in)				Weight Per Piece in	Part No. Zinc Plated	Part No. Self-Colored
		A	B	C	D			
in	lbs					lbs		
1/4	2,600	0.38	0.38	0.34	1.94	0.43	43CGH14	43CGH14SC
5/16	3,900	0.44	0.44	0.41	2.38	0.72	43CGH516	43CGH516SC
3/8	5,400	0.56	0.47	0.50	2.63	1.15	43CGH38	43CGH38SC
1/2	9,200	0.69	0.63	0.66	3.50	2.35	43CGH12	43CGH12SC
5/8	13,000	0.81	0.63	0.81	4.19	4.10	43CGH58	43CGH58SC



Grade 43 Clevis Slip Hooks Forged Steel, Heat Treated

Size	Working Load Limit	Dimensions (in)				Weight Per Piece in	Part No. Zinc Plated	Part No. Self-Colored
		A	B	C	D			
in	lbs					lbs		
1/4	1,950	0.38	0.27	0.88	2.56	0.50	43CSH14	43CSH14SC
5/16	2,875	0.44	0.44	1.00	2.81	0.75	43CSH516	43CSH516SC
3/8	4,000	0.56	0.47	1.28	3.25	1.20	43CSH38	43CSH38SC
1/2	6,500	0.63	0.56	1.38	4.00	2.80	43CSH12	43CSH12SC
5/8	9,250	0.75	0.75	2.00	4.81	6.00	43CSH58	43CSH58SC

*Clevis Slip Hooks come with stainless steel latches installed



Grade 43 High-Test Hooks

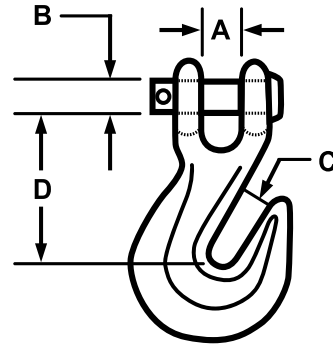
Grade 43 Eye Grab Hooks
Forged Steel, Zinc Plated Heat Treated

Size of Chain	Working Load Limit	Dimensions (in)			Weight Per Piece in	Part No. Zinc Plated
		A	B	C		
in	lbs				lbs	
1/4	2,600	0.50	0.34	1.97	0.28	43EGH14
5/16	3,900	0.56	0.44	2.25	0.45	43EGH516
3/8	5,400	0.66	0.50	2.56	0.79	43EGH38
7/16	7,200	0.75	0.56	2.94	1.19	43EGH716
1/2	9,200	0.88	0.66	3.38	1.80	43EGH12
5/8	13,000	1.06	0.78	4.11	3.30	43EGH58

G43 forged carbon steel
Quenched and tempered

NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.

HARDWARE

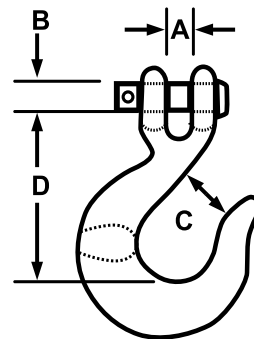


Grade 70 Transport Hooks

Grade 70 Alloy Clevis Grab Hooks

Forged Steel, Heat Treated, Yellow Chromate

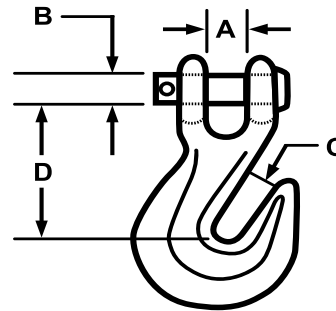
Size	Working Load Limit	Dimensions (in)				Weight Per Piece in	Part No.
		A	B	C	D		
in	lbs					lbs	
1/4	3,150	0.43	0.38	0.38	0.34	1.94	14G70CGH
5/16	4,700	0.72	0.44	0.44	0.41	2.38	516G70CGH
3/8	6,600	1.15	0.56	0.47	0.50	2.63	38G70CGH
1/2	11,300	2.35	0.69	0.63	0.66	3.50	12G70CGH
5/8	15,300	4.20	0.94	0.75	0.78	4.09	58G70CGH



Grade 70 Alloy Clevis Slip Hooks

Forged Steel, Heat Treated, Yellow Chromate

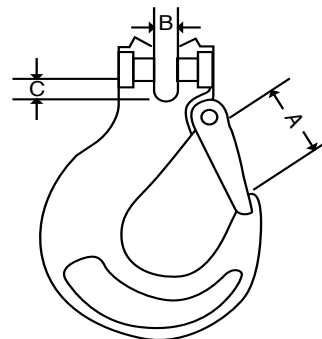
Size	Working Load Limit	Dimensions (in)				Weight Per Piece in	Part No.
		A	B	C	D		
in	lbs					lbs	
1/4	2,600	0.38	0.38	0.34	1.94	0.43	14G70CSH
5/16	3,900	0.44	0.44	0.41	2.38	0.72	516G70CSH
3/8	5,400	0.56	0.47	0.50	2.63	1.15	38G70CSH
1/2	9,200	0.69	0.63	0.66	3.50	2.35	12G70CSH
5/8	11,500	0.81	0.63	0.81	4.19	4.10	58G70CSH



Grade 80 Alloy Hooks

Grade 80 Alloy Clevis Grab Hooks W/ Cradle Forged Steel, Heat Treated, Painted Red

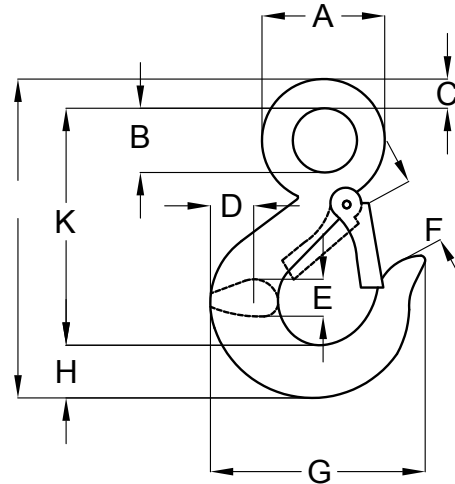
Size in	Working Load Limit lbs	Dimensions (in)					Weight Per Piece in lbs	Part No.
		A	B	C	D	E		
9/32" - 5/16	4,500	0.35	0.35	0.39	1.97	1.18	0.60	932G80CGH
3/8	7,100	0.51	0.51	0.51	2.83	1.73	1.65	38G80CGH
1/2	12,000	0.67	0.63	0.67	3.46	2.06	2.97	12G80CGH
5/8	18,100	0.83	0.82	0.79	4.01	2.52	6.16	58G80CGH
3/4	28,300	0.94	0.94	0.94	4.60	3.34	10.56	34G80CGH



Grade 80 Alloy Clevis Sling Hooks Forged Steel, Heat Treated, Painted Red

Size in	Working Load Limit lbs	Dimensions (in)				Weight Per Piece in lbs	Part No.
		A	B	C	D		
3/8	7,100	0.48	0.51	1.20	4.13	2.09	38G80CSH
1/2	12,000	0.60	0.63	1.61	5.06	3.67	12G80CSH
5/8	18,100	0.75	0.82	1.97	6.11	6.60	58G80CSH
3/4	28,300	0.83	1.02	2.36	7.24	12.54	34G80CSH

*Clevis Sling Hooks come with stainless steel latches installed

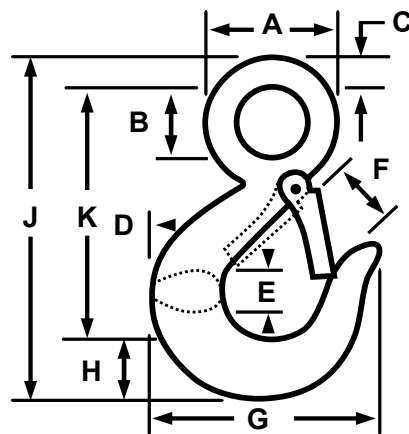


Grade 80 Alloy Eye Hoist Hooks

Forged Steel, Heat Treated, Painted Red

Working Load Limit tons	Dimensions (in)										Weight Per Piece in lbs	Part No.
	A	B	C	D	E	F	G	H	J	K		
1	1.50	0.75	0.38	0.88	0.63	0.94	2.88	0.75	4.38	3.25	0.60	AEHH1T
1.5	1.75	0.88	0.44	1.00	0.69	1.06	3.13	0.81	4.88	3.63	0.82	AEHH1.5T
2	2.00	1.13	0.44	1.19	0.81	1.06	3.50	1.00	5.50	4.13	1.44	AEHH2T
3	2.38	1.25	0.59	1.38	0.94	1.22	3.94	1.19	6.31	4.56	1.94	AEHH3T
4.5	3.00	1.56	0.69	1.63	1.19	1.50	5.00	1.50	7.94	5.75	3.96	AEHH4.5T
7	3.81	2.00	0.88	2.06	1.50	1.88	6.25	1.75	10.00	7.38	7.75	AEHH7T
11	4.69	2.44	1.13	2.63	1.63	2.25	7.56	2.25	12.44	9.06	13.00	AEHH11T
15	5.37	2.84	1.26	2.94	2.19	2.51	8.30	2.59	13.93	10.07	10.00	AEHH15T
22	6.64	3.50	1.58	3.50	2.69	3.30	10.30	3.00	17.08	12.50	16.80	AEHH22T

*All have stainless steel latches installed



Grade 80 Alloy Swivel Eye Hoist Hooks

Forged Steel, Heat Treated, Painted Red

HARDWARE

Working Load Limit tons	Dimensions (in)													Weight Per Piece in lbs	Part No.
	A	B	C	D	E	F	G	H	J	K	L	M	N		
2	3.00	1.50	1.75	3.59	1.50	1.00	1.16	1.06	0.88	7.94	0.88	6.01	0.63	2.50	ASH2T
3	3.50	1.56	2.00	4.00	1.62	1.13	1.31	1.19	0.94	8.60	0.94	6.72	0.75	3.80	ASH3T
5	4.00	1.56	2.25	4.84	2.00	1.44	1.63	1.50	1.31	10.32	1.13	8.00	0.88	7.00	ASH5T
7	5.00	1.94	2.75	6.27	2.50	1.81	2.06	1.78	1.66	12.84	1.44	9.90	1.13	14.00	ASH7T
11	5.62	2.05	3.12	7.54	3.00	2.25	2.63	2.41	1.88	15.24	1.63	11.74	1.25	22.30	ASH11T
15	7.12	3.00	4.10	8.30	3.25	2.59	2.94	2.62	2.19	18.64	1.94	14.41	1.50	37.80	ASH15T

*All have stainless steel latches installed



Lanyards Hooks

Breaking
Strength
in Lbs

5,000

Part No.

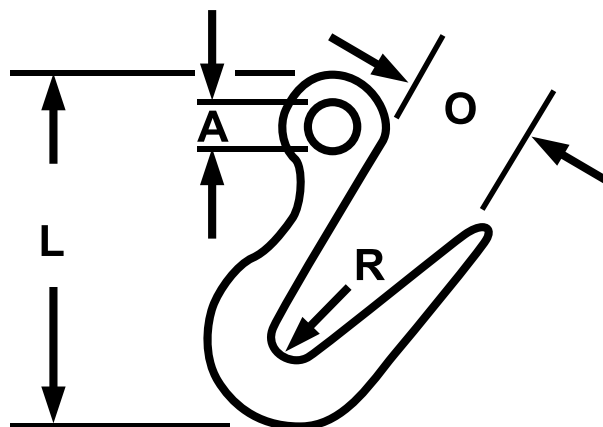
DL5000



S Hooks

Zinc Plated

Wire		Part No.
Size	Length	
1/8	1-1/8	SH18
3/16	1-7/8	SH316
1/4	3-1/8	SH14
5/16	3-1/8	SH516
3/8	3-7/8	SH38

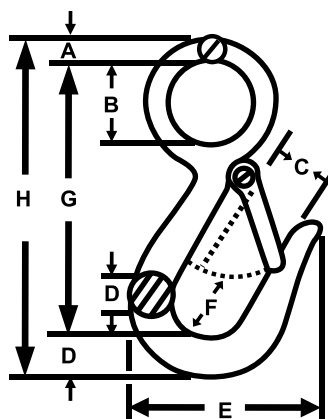


Sorting Hooks

Working Load Limit at Tip	Working Load Limit at Bottom	Dimensions (in)				Weight Per Piece in lbs	Part No.
		A	L	O	R		
tons	tons						
2	7 - 1/2	1.38	9.69	2.81	0.63	6.25	A2TSH

Forged alloy steel
Quenched and tempered

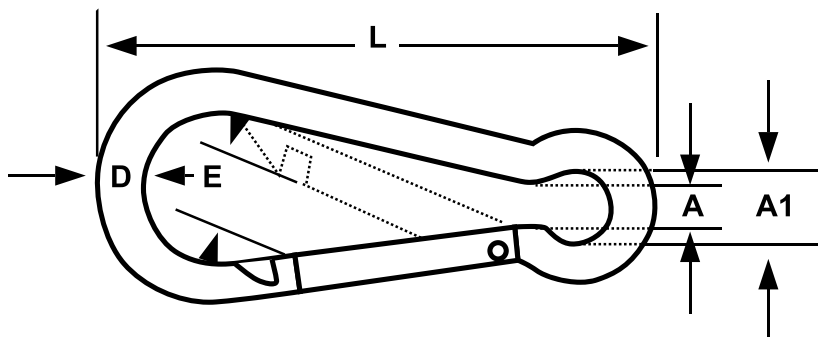
NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



Snap Hooks

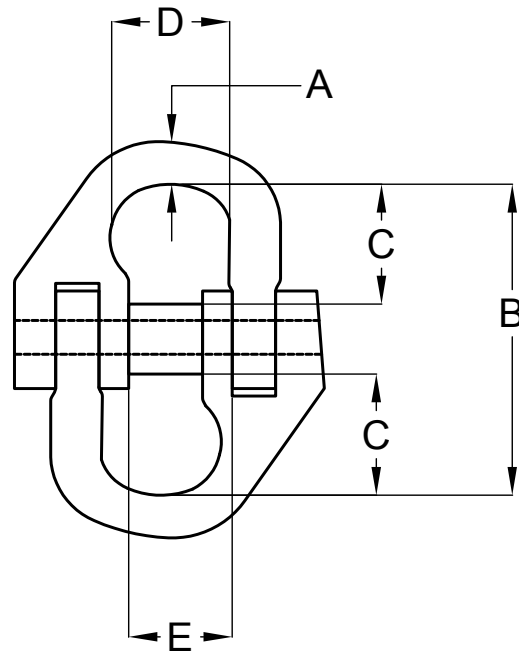
Forged Steel, Electro Galvanized, with Stainless Steel Latch

Size	Working Load Limit	Weight Per Piece in lbs	Dimensions (in)								Part No.
			A	B	C	D	E	F	G	H	
in	lbs	lbs									
7/16	750	0.38	0.28	0.68	0.72	0.58	2.05	0.74	3.18	4.06	EG716SHH
9/16	1,000	0.5	0.34	1.12	0.76	0.55	2.16	0.88	3.86	4.76	EG916SHH



Spring Snap Hooks Galvanized

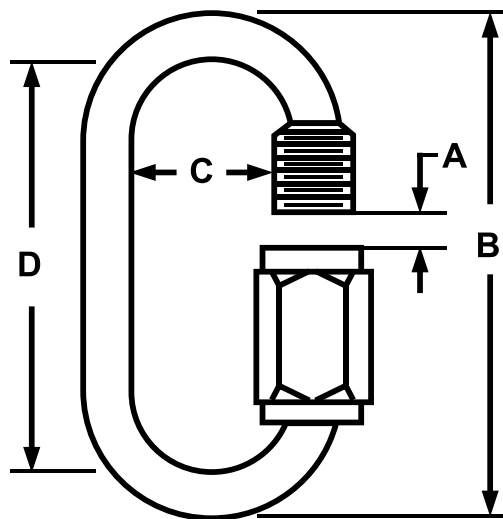
Length Overall	Snap Opening	Working Load Limit lbs	Weight Per Piece lbs	Part No.
2.13	0.25	220	0.044	EG316SH
2.50	0.32	260	0.077	EG14SH
3.13	0.31	500	0.172	EG516SH
4.00	0.50	550	0.243	EG38SH
5.50	0.75	1,200	0.551	EG12SH



Coupling Links

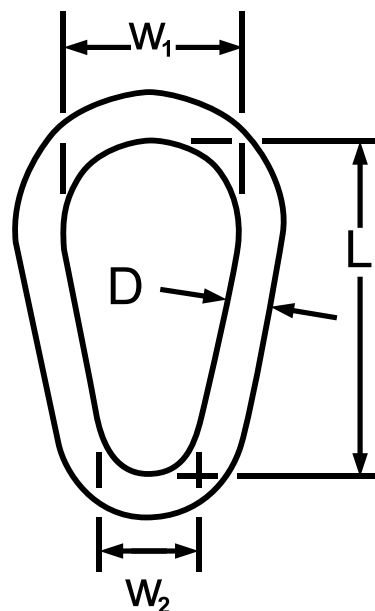
Grade 80, Forged Alloy Steel

Size	Working Load Limit	Dimensions (in)					Weight Per Piece in	Part No.
		A	B	C	D	E		
in	tons						lbs	
9/32	3,500	0.33	0.38	0.79	0.79	0.73	0.25	932G80CL
5/16	4,500	0.37	0.44	1.02	0.98	0.89	0.55	516G80CL
3/8	7,100	0.47	0.44	1.26	1.06	0.98	0.75	38G80CL
1/2	12,000	0.61	0.59	1.38	1.26	1.18	1.50	12G80CL
5/8	18,100	0.73	0.69	1.69	1.53	1.42	2.55	58G80CL
3/4	28,300	0.90	0.88	1.89	1.85	1.73	4.15	34G80CL
7/8	34,200	1.04	1.13	2.00	2.16	1.93	5.75	78G80CL
1	52,100	1.24	1.26	2.36	2.60	2.36	8.60	1G80CL



Rapid (Quick) Links Electro Galvanized

Size	Working	Dimensions (in)				Weight Per Piece in	Part No.
		A	B	C	D		
in	lbs					lbs	
1/8	400	0.19	1.45	0.39	1.19	0.02	EG18RL
3/16	660	0.25	2.06	0.50	1.69	0.05	EG316RL
1/4	880	0.31	2.38	0.56	1.88	0.08	EG14RL
5/16	1,760	0.38	2.94	0.69	2.31	0.18	EG516RL
3/8	2,200	0.44	3.19	0.69	2.44	0.24	EG38RL
1/2	3,300	0.56	4.25	0.94	3.25	0.53	EG12RL

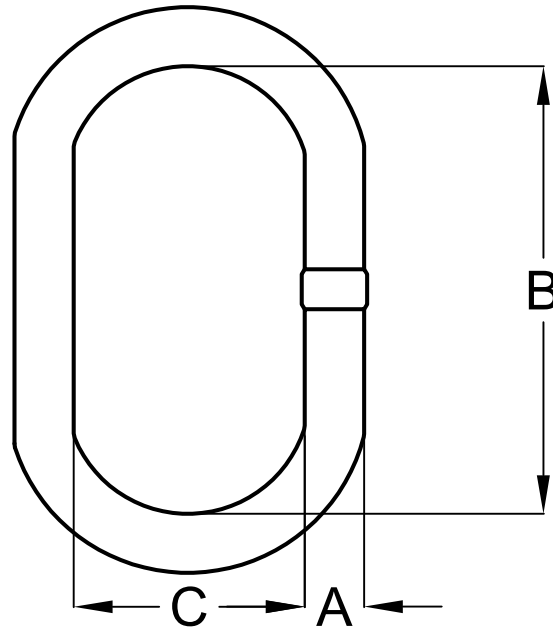


Pear Shaped Sling Links – High Test

Grade 43, Hot Dipped Galvanized & Self Colored(Painted)

Size	Working Load Limit	Weight Per Piece in	Dimensions (in)					Part No. H.D.G.	Part No. Self Colored
			B	C	D	E	F		
in	lbs	lbs							
3/8	1,800	0.23	1.13	0.75	3.00	2.25	0.38	43PSLG38	43PSLG38SC
1/2	2,900	0.55	1.50	1.00	4.00	3.00	0.50	43PSLG12	43PSLG12SC
5/8	4,200	1.06	1.87	1.25	5.00	3.75	0.63	43PSLG58	43PSLG58SC
3/4	6,000	1.88	2.25	1.50	6.00	4.50	0.75	43PSLG34	43PSLG34SC
7/8	8,300	2.75	2.63	1.75	7.00	5.25	0.88	43PSLG78	43PSLG78SC
1	10,800	4.35	3.00	2.00	8.00	6.00	1.00	43PSLG12	43PSLG1SC

Crosby Picture G-341/S-341



Alloy Oblong Master Links

Grade 80 Alloy, Painted Red

To Specifications ASTM A952 & ASME B30.26 SPEC

Size	Working Load Limit	Weight Per Piece in	Dimensions (in)			Part No.
			A	B	C	
in	lbs	lbs				
1/2	7,400	0.82	0.62	2.80	5.00	12G80OML
5/8	9,000	1.52	0.62	3.00	6.00	58G80OML
3/4	12,300	2.07	0.73	3.20	6.00	34G80OML
7/8	15,200	3.31	0.88	3.75	6.38	78G80OML
1	26,000	4.85	1.10	4.30	7.50	1G80OML
1 1/4	39,100	9.57	1.33	5.50	9.50	114G80OML
1 1/2	61,100	16.22	1.61	5.90	10.50	112G80OML
1 3/4	84,900	25.22	1.75	6.00	12.00	134G80OML
2	102,600	37.04	2.00	7.00	14.00	2G80OML
2-1/2	160,000	68.50	2.50	8.00	16.00	212G80OML
3	228,000	115.00	3.00	9.00	18.00	3G80OML
3-1/2	279,000	200.00	3.50	12.00	24.00	312G80OML

Crosby Picture A-342



Repair Link (Lap Link)

Electro Galvanized

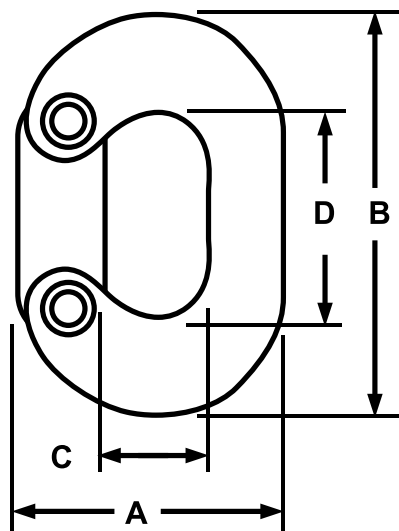
Size	Weight Per Piece in	Working Load Limit	Inside Length	Inside Width	Part No.
in	lbs	lbs			
1/8 x 3/4	0.01	190	0.78	0.36	18X34RL
3/16 x 1	0.03	240	1.00	0.50	316X1RL
1/4 x 1 1/4	0.07	400	1.25	0.50	14X114RL
5/16 x 1 1/2	0.13	950	1.50	0.75	516X112RL
3/8 x 1 5/8	0.23	1,250	1.63	0.75	38X158RL
1/2 x 2 1/2	0.53	2,125	2.00	1.00	12X212RL



Cold Shuts

Electro Galvanized

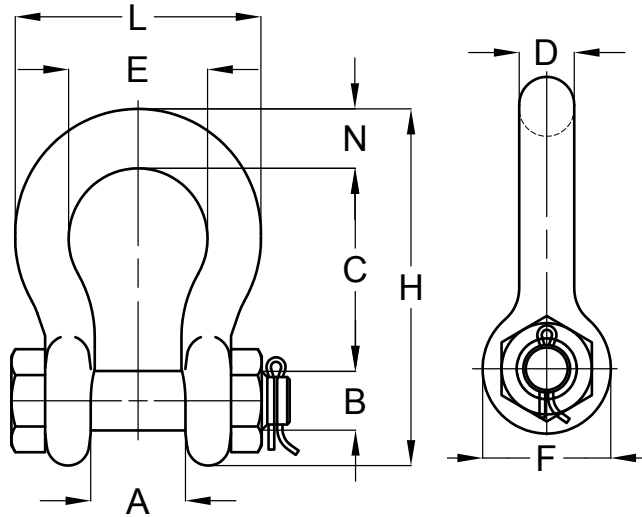
Size	Working Load Limit	Inside Length	Inside Width	Weight Per Piece in	Part No.
in	lbs			lbs	
3/16	525	1.06	.31	0.06	EG316CS
1/4	925	1.19	.38	0.10	EG14CS
5/16	1,450	1.44	.81	0.20	EG516CS
3/8	2,110	1.25	.63	0.25	EG38CS
1/2"	3,700	1.88	.75	0.38	EG12CS



Missing Links

Forged Steel- Quenched and Tempered
Meets or exceeds the performance requirement
of Federal Specifications RRC-271S, Type II

Size	Working Load Limit	Dimensions (in)							Weight Per Piece in	Part No.
		A	B	C	D	E	F	G		
in	lbs								lbs	
3/16	800	0.25	0.69	0.34	0.34	1.19	0.78	0.28	0.03	EG316ML
1/4	1,325	0.28	0.88	0.44	0.44	1.50	1.00	0.31	0.06	EG14ML
5/16	1,950	0.34	0.94	0.47	0.47	1.69	1.16	0.38	0.13	EG516ML
3/8	2,750	0.41	1.13	0.56	0.56	2.06	1.38	0.47	0.20	EG38ML
1/2	4,750	0.53	1.47	0.66	0.66	2.66	1.72	0.59	0.38	EG12ML
5/8	7,250	0.66	1.81	0.78	0.81	3.31	2.09	0.75	0.73	EG58ML
3/4	10,250	0.78	2.13	0.94	1.06	3.88	2.50	0.88	1.23	EG34ML



Bolt Type Anchor Shackles

Drop Forged, Hot Dipped Galvanized

To the Federal Specification RR-C-271F Type IVA, Grade A, Class 3

Nominal Shackle Size	Weight Per Piece in	Working Load Limit	Dimensions (in)									Part No.
			A	B	C	D	E	F	H	L	N	
in	lbs	tons										
5/16	0.22	3/4	0.53	0.38	1.22	0.31	0.84	0.75	2.09	1.47	0.31	HG516BTAS
3/8	0.33	1	0.66	0.44	1.44	0.38	1.03	0.91	2.49	1.78	0.38	HG38BTAS
1/2	0.79	2	0.81	0.64	1.88	0.50	1.31	1.19	3.28	2.31	0.50	HG12BTAS
5/8	1.68	3 1/4	1.06	0.77	2.38	0.63	1.69	1.50	4.19	2.94	0.69	HG58BTAS
3/4	2.72	4 3/4	1.25	0.89	2.81	0.75	2.00	1.81	4.97	3.50	0.81	HG34BTAS
7/8	3.95	6 1/2	1.44	1.02	3.31	0.88	2.28	2.09	5.83	4.03	0.97	HG78BTAS
1	5.66	8 1/2	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	1.06	HG1BTAS
1 1/8	8.27	9 1/2	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	1.25	HG118BTAS
1 1/4	11.71	12	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	1.38	HG114BTAS
1 3/8	15.83	13 1/2	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	1.50	HG138BTAS
1 1/2	19	17	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	1.62	HG112BTAS
1 3/4	33.91	25	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	2.25	HG134BTAS
2	52.25	35	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	2.40	HG2BTAS
2 1/2	98.25	55	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	3.13	HG212BTAS
3	154	85	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	3.62	HG3BTAS

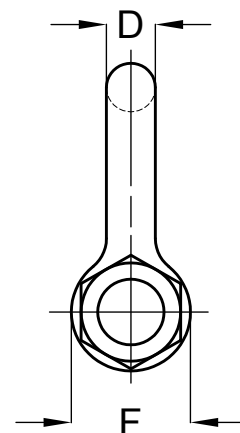
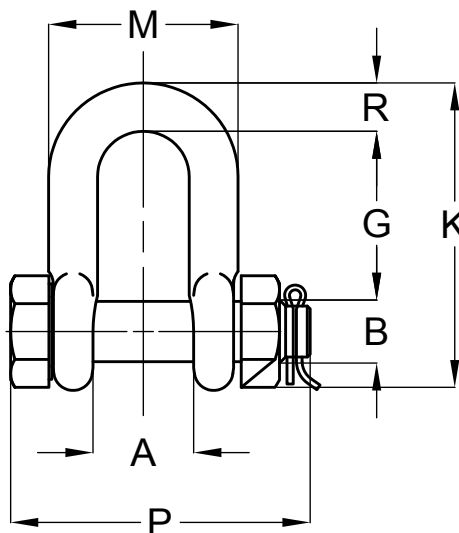
Hot dip galvanized forged steel.

Drop Forged, Carbon Steel, Heat Treated,

Quenched and tempered, with alloy pin.

NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ

AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



Bolt Type Chain Shackles

Drop Forged, Hot Dipped Galvanized

To the Federal Specification RR-C-271F Type IVB, Grade A, Class 3

Nominal Shackle Size	Weight Per Piece in	Working Load Limit	Dimensions (in)									Part No.
			A	B	D	F	G	K	M	P	R	
in	lbs	tons										
3/8	0.33	1	0.66	0.44	0.38	0.92	1.28	2.31	1.42	2.17	0.38	HG38BTCS
1/2	0.79	2	0.81	0.64	0.50	1.18	1.66	3.03	1.81	2.80	0.50	HG12BTCS
5/8	1.68	3 1/4	1.06	0.77	0.63	1.50	2.04	3.76	2.32	3.56	0.63	HG58BTCS
3/4	2.72	4 3/4	1.25	0.89	0.75	1.81	2.40	4.53	2.75	4.15	0.81	HG34BTCS
7/8	3.95	6 1/2	1.44	1.02	0.88	2.10	2.86	5.33	3.20	4.82	0.97	HG78BTCS
1	5.66	8 1/2	1.69	1.15	1.00	2.38	3.24	5.94	3.69	5.39	1.00	HG1BTCS
1 1/8	8.27	9 1/2	1.81	1.25	1.13	2.68	3.61	6.78	4.07	5.90	1.25	HG118BTCS
1 1/4	11.71	12	2.03	1.40	1.25	3.00	3.97	7.50	4.53	6.69	1.38	HG114BTCS
1 3/8	15.83	13 1/2	2.25	1.53	1.38	3.31	4.43	8.28	5.01	7.21	1.50	HG138BTCS
1 1/2	19.00	17	2.38	1.66	1.50	3.62	4.87	9.05	5.38	7.73	1.62	HG112BTCS
1 3/4	33.91	25	2.88	2.04	1.75	4.19	5.82	10.97	6.38	9.33	2.12	HG134BTCS
2	52.25	35	3.25	2.30	2.10	5.00	6.82	12.74	7.25	10.41	2.36	HG2BTCS
2 1/2	98.25	55	4.12	2.80	2.63	5.68	8.07	14.85	9.38	13.58	2.63	HG212BTCS
3	154.00	85	5.00	3.25	3.00	6.50	8.56	16.87	11.00	15.13	3.50	HG3BTCS

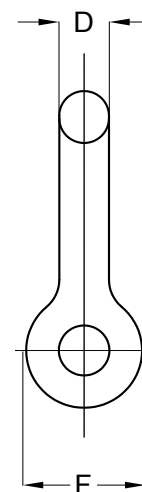
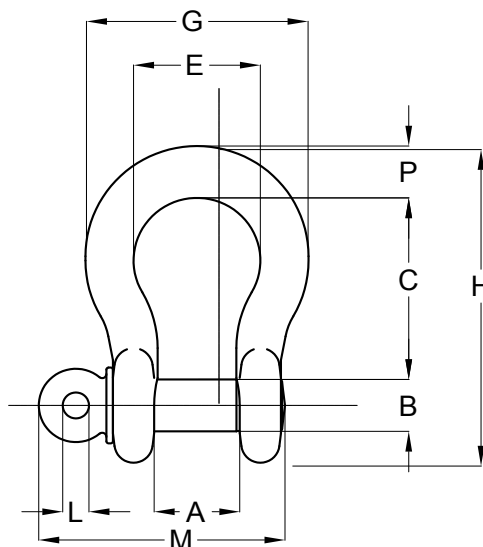
Hot dip galvanized forged steel.

Drop Forged, Carbon Steel, Heat Treated,

Quenched and tempered, with alloy pin.

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AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



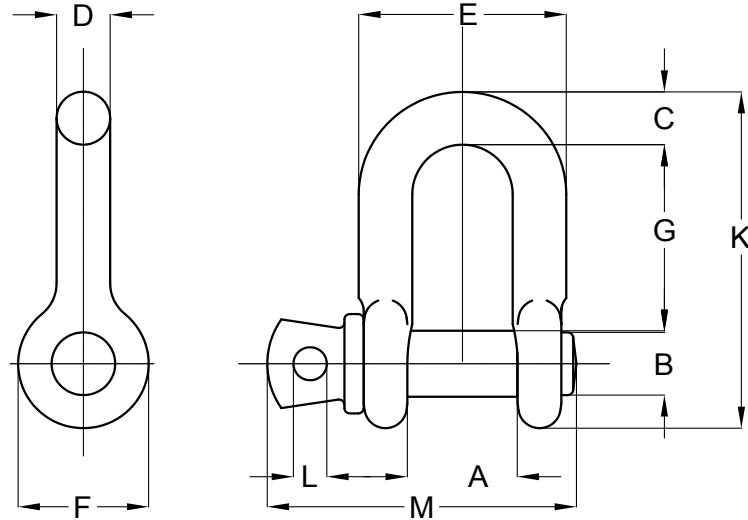
Screw Pin Anchor Shackles

Drop Forged, Carbon Steel, Heat Treated

To Federal Specification RR-C-271F, Type IVA, Grade A, Class 2

Nominal Size	Working Load Limit	Dimensions (in)									Weight Per Piece in	Part No.
		A	B	C	D	E	F	G	H	M		
in	lbs										lbs	
1/4	1/2	0.47	0.31	0.25	0.88	0.25	0.61	0.97	1.59	1.38	0.11	HG14SPAS
5/16	3/4	0.53	0.38	0.31	1.03	0.31	0.75	1.16	1.91	1.66	0.17	HG516SPAS
3/8	1	0.66	0.44	0.38	1.25	0.38	0.91	1.41	2.30	2.03	0.28	HG38SPAS
7/16	1 1/2	0.75	0.50	0.44	1.44	0.44	1.06	1.63	2.66	2.38	0.43	HG716SPAS
1/2	2	0.81	0.63	0.50	1.63	0.50	1.19	1.81	3.03	2.69	0.59	HG12SPAS
5/8	3 1/4	1.06	0.75	0.62	2.00	0.63	1.50	2.31	3.75	3.34	1.25	HG58SPAS
3/4	4 3/4	1.25	0.88	0.81	2.38	0.75	1.81	2.75	4.53	3.97	2.63	HG34SPAS
7/8	6 1/2	1.44	1.00	0.97	2.81	0.88	2.09	3.19	5.33	4.50	3.16	HG78SPAS
1	8 1/2	1.69	1.13	1.00	3.19	1.00	2.38	3.69	5.94	5.07	4.75	HG1SPAS
1 1/8	9 1/2	1.81	1.25	1.25	3.58	1.13	2.69	4.06	6.78	5.59	6.75	HG118SPAS
1 1/4	12	2.03	1.38	1.38	3.94	1.25	3.00	4.53	7.50	6.16	9.06	HG114SPAS
1 3/8	13 1/2	2.25	1.50	1.50	4.38	1.38	3.31	5.00	8.28	6.84	11.63	HG138SPAS
1 1/2	17	2.38	1.63	1.62	4.81	1.50	3.62	5.38	9.06	7.35	15.95	HG112SPAS
1 3/4	25	2.88	2.00	2.12	5.75	1.75	4.19	6.38	10.97	9.08	26.75	HG134SPAS
2	35	3.25	2.25	2.00	6.75	2.00	4.81	7.25	12.28	10.34	42.31	HG2SPAS
2 1/2	55	4.13	2.75	2.62	8.00	2.62	5.69	9.38	14.84	13.00	71.75	HG212SPAS
3	-	-	-	-	-	-	-	-	-	-	-	HG3SPAS

NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ
AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



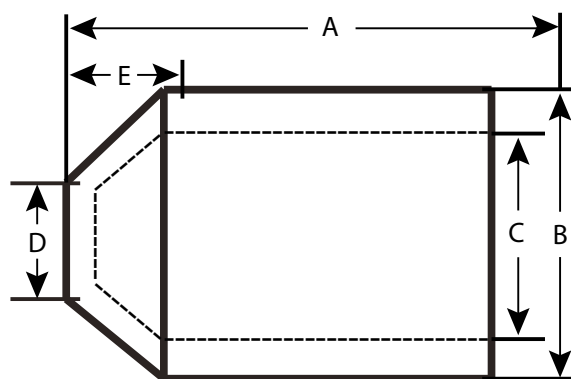
Screw Pin Chain Shackles

Drop Forged, Hot Dipped Galvanized

To Federal Specification RR-C-271F, Type IVB, Grade A, Class 2

Nominal Shackle Size	Weight Per Piece in	Working Load Limit	Dimensions (in)										Part No.
			A	B	C	D	E	F	G	K	L	M	
in	lbs	tons											
1/4	0.11	1/2	0.47	0.31	0.25	0.25	0.97	0.62	0.97	1.59	0.19	1.43	HG14SPCS
5/16	0.17	3/4	0.53	0.38	0.31	0.31	1.15	0.75	1.07	1.91	0.22	1.71	HG516SPCS
3/8	0.28	1	0.66	0.44	0.38	0.38	1.42	0.92	1.28	2.31	0.25	2.02	HG38SPCS
7/16	0.43	1 1/2	0.75	0.50	0.44	0.44	1.63	1.06	1.48	2.67	0.31	2.37	HG716SPCS
1/2	0.59	2	0.81	0.63	0.50	0.50	1.81	1.18	1.66	3.03	0.38	2.69	HG12SPCS
5/8	1.25	3 1/4	1.06	0.75	0.63	0.63	2.32	1.50	2.04	3.76	0.44	3.34	HG58SPCS
3/4	2.63	4 3/4	1.25	0.88	0.81	0.75	2.75	1.81	2.40	4.53	0.50	3.97	HG34SPCS
7/8	3.16	6 1/2	1.44	1.00	0.97	0.88	3.20	2.10	2.86	5.33	0.50	4.50	HG78SPCS
1	4.75	8 1/2	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	0.56	5.13	HG1SPCS
1 1/8	6.75	9 1/2	1.81	1.25	1.25	1.13	4.07	2.69	3.61	6.78	0.63	5.71	HG118SPCS
1 1/4	9.06	12	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	0.69	6.25	HG114SPCS
1 3/8	11.63	13 1/2	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	0.75	6.53	HG138SPCS
1 1/2	15.95	17	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	0.81	7.33	HG112SPCS
1 3/4	26.75	25	2.88	2.00	2.12	1.75	6.38	4.19	5.78	10.97	1.00	9.06	HG134SPCS
2	42.31	35	3.25	2.25	2.36	2.10	7.25	5.00	6.77	12.74	1.13	10.35	HG2SPCS

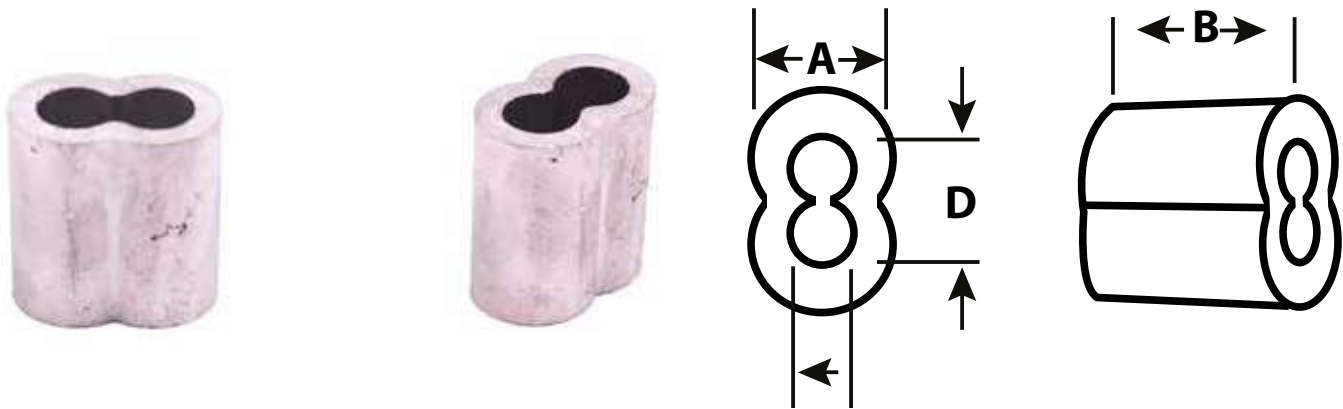
NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ
AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



Carbon Steel Sleeves (for Flemish Eyes)

Zinc Plated

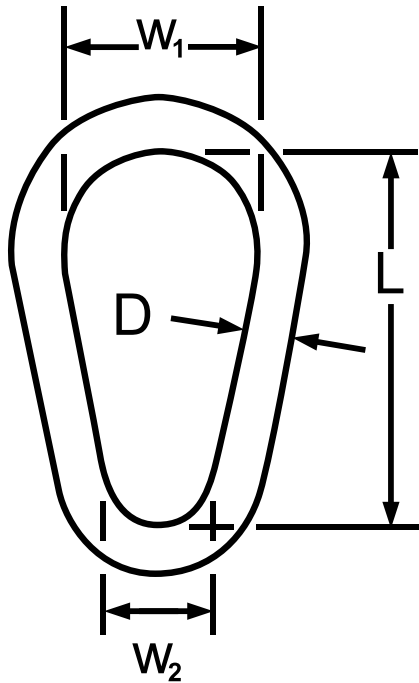
Size	Weight Per Piece in	Dimensions (in)					Part No.
		A	B	C	D	E	
in	lbs						
1/4	0.05	1.00	0.66	0.47	0.31	0.31	CSF14
5/16	0.15	1.50	0.91	0.62	0.44	0.44	CSF516
3/8	0.13	1.50	0.91	0.66	0.47	0.47	CSF38
7/16	0.33	2.00	1.22	0.85	0.55	0.55	CSF716
1/2	0.28	2.00	1.22	0.91	0.63	0.63	CSF12
9/16	0.64	2.75	1.47	1.03	0.69	0.69	CSF916
5/8	0.56	2.75	1.47	1.09	0.75	0.75	CSF58
3/4	0.90	3.19	1.72	1.28	0.91	0.91	CSF34
7/8	1.40	3.56	2.03	1.53	1.03	1.03	CSF78
1	1.90	4.00	2.28	1.72	1.16	1.16	CSF1
1 1/8	2.60	4.81	2.50	1.94	1.28	1.28	CSF118
1 1/4	3.50	5.19	2.78	2.16	1.44	1.44	CSF114
1 3/8	4.30	5.81	3.00	2.38	1.56	1.56	CSF138
1 1/2	5.00	6.25	3.25	2.63	1.69	1.69	CSF112
1 3/4	8.00	7.25	3.84	3.13	1.94	1.94	CSF134
2	12.00	8.50	4.38	3.63	2.25	2.25	CSF2
2 1/4	20.00	9.56	5.03	4.03	2.50	2.50	CSF214
2 1/2	24.00	10.50	5.50	4.50	2.75	2.75	CSF212
2 3/4	30.00	11.50	5.75	4.70	3.00	3.00	CSF234
3	31.00	12.00	6.00	5.00	3.25	3.25	CSF3



Hourglass/Duplex Sleeves

Aluminum, Copper & Zinc over Copper
 To Federal Specification FF-C-450, Type III, Class I

Rope Size & Sleeve Size	Dimensions (in)				Weight Per Piece in	Aluminum Part No.	Copper Part No.	Zinc Over Copper Part No.
	A	B	C	D				
in					lbs			
1/16	0.17	0.25	0.08	0.38	0.0009	AS116	CS116	ZCS116
3/32	0.28	0.40	0.13	0.50	0.0032	AS332	CS332	ZCS332
1/8	0.34	0.50	0.16	0.63	0.0064	AS18	CS18	ZCS18
5/32	0.38	0.56	0.19	0.69	0.0081	AS532	CS532	ZCS532
3/16	0.44	0.67	0.22	1.00	0.0156	AS316	CS316	ZCS316
1/4	0.54	0.82	0.29	1.13	0.0252	AS14	CS14	ZCS14
5/16	0.69	1.03	0.38	1.25	0.0451	AS516	CS516	ZCS516
3/8	0.75	1.16	0.44	1.44	0.0607	AS38	CS38	ZCS38

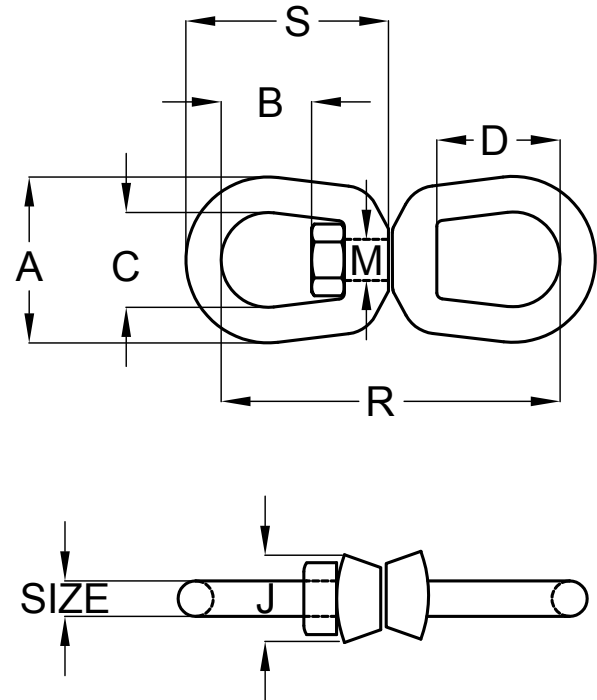


HARDWARE

Weldless Sling Links
Forged Carbon Steel

Size	Working Load Limit	Dimensions (in)					Weight Per Piece in	Part No.
		B	C	D	E	F		
in	lbs						lbs	
5/8	-	1.87	1.25	5.00	3.75	0.63	1.06	HG58PSL
3/4	6,000	2.25	1.50	6.00	4.50	0.75	1.88	HG34PSL
1	10,800	3.00	2.00	8.00	6.00	1.00	4.35	HG1PSL

Forged carbon steel- Quenched and Tempered.

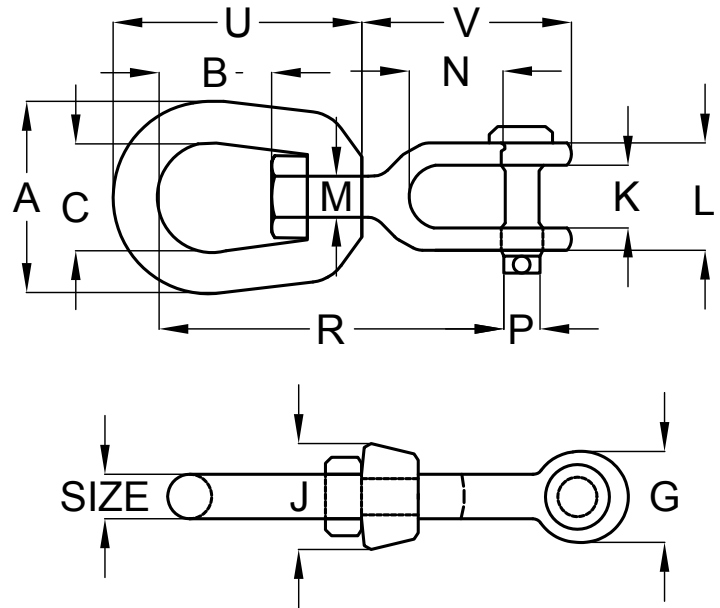


Eye & Eye Swivels

Hot Dip Galvanized

To Federal Specification RR-C-271D, Type VII, Class 2

Size	Working Load Limit	Dimensions (in)								Weight Per Piece in	Part No.
		A	B	C	D	J	M	R	S		
in	lbs									lbs	
1/4	850	1.25	0.69	0.75	1.06	0.69	0.31	2.94	1.69	0.21	14EES
5/16	1,250	1.63	0.81	1.00	1.25	0.81	0.38	3.56	2.06	0.39	516EES
3/8	2,250	2.00	0.94	1.25	1.50	1.00	0.50	4.31	2.50	0.71	38EES
1/2	3,600	2.50	1.31	1.50	2.00	1.31	0.63	5.44	3.19	1.32	12EES
5/8	5,200	3.00	1.56	1.75	2.38	1.50	0.75	6.56	3.88	2.49	58EES
3/4	7,200	3.50	1.75	2.00	2.63	1.88	0.88	7.19	4.31	4.02	34EES
7/8	10,000	4.00	2.06	2.25	3.06	2.13	1.00	8.38	5.00	6.25	78EES
1	12,500	4.50	2.31	2.50	3.50	2.38	1.13	9.63	5.75	8.95	1EES
1-1/4	18000	5.63	2.69	3.13	3.69	3.00	1.50	11.44	6.75	16.37	114EES
1 - 1/2	45,200	7.09	3.88	4.09	3.88	3.75	2.25	16.69	9.91	45.79	112EES

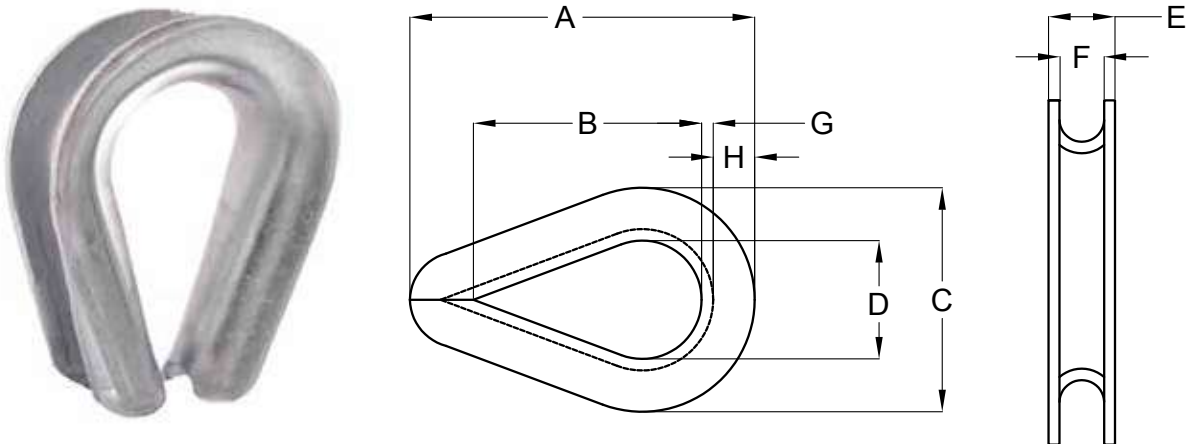


Jaw & Eye Swivels

Hot Dip Galvanized

To Federal Specification RR-C-271D, Type VII, Class 3

Size	Working Load Limit	Dimensions (in)													Weight Per Piece in	Part No.
		A	B	C	G	J	K	L	M	N	P	R	U	V		
in	lbs														lbs	
1/4	850	1.25	0.69	0.75	0.69	0.69	0.47	1.03	0.31	0.88	0.25	2.63	1.69	1.69	0.21	14JES
5/16	1,250	1.63	0.81	1.00	0.81	0.81	0.50	1.13	0.38	0.88	0.31	2.94	2.06	1.81	0.34	516JES
3/8	2,250	2.00	0.94	1.25	1.00	1.00	0.63	1.41	0.50	1.06	0.38	3.63	2.50	2.25	0.66	38JES
1/2	3,600	2.50	1.31	1.50	1.31	1.31	0.75	1.75	0.63	1.31	0.50	4.50	3.19	2.88	1.34	12JES
5/8	5,200	3.00	1.56	1.75	1.63	1.50	0.94	2.06	0.75	1.50	0.63	5.31	3.88	3.44	2.48	58JES
3/4	7,200	3.50	1.75	2.00	1.88	1.88	1.13	2.53	0.88	1.75	0.75	6.06	4.31	4.00	3.88	34JES
7/8	10,000	4.00	2.06	2.25	2.13	2.13	1.19	2.75	1.00	2.06	0.88	7.00	5.00	4.53	5.87	78JES
1	12,500	4.50	2.31	2.50	2.63	2.38	1.75	3.72	1.13	2.81	1.13	8.56	5.75	5.94	9.84	1JES
1 - 1/4	18,000	5.69	2.69	3.13	3.13	3.00	2.06	4.31	1.63	2.81	1.38	9.75	7.06	6.38	15.75	114JES
1 - 1/2	45,200	7.00	3.88	4.00	5.63	4.00	2.88	6.00	2.25	4.44	2.25	14.25	10.00	10.84	54.75	112JES

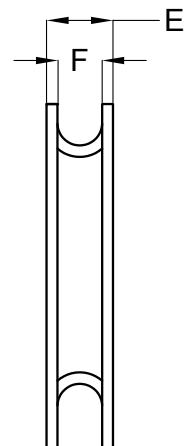
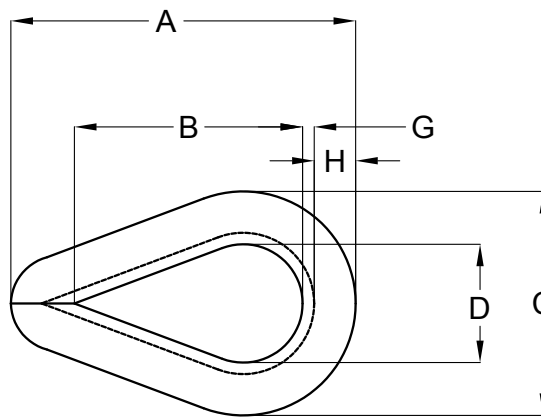


Heavy Duty Wire Rope Thimbles

Hot Dipped Galvanized

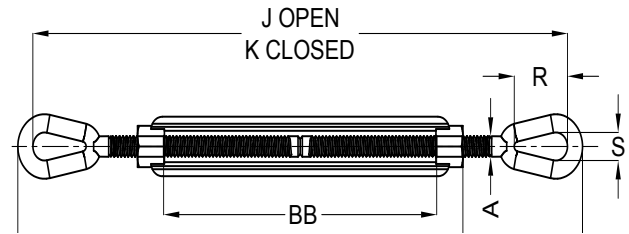
To Federal Specification FF-T-276 Type 3

Size	Weight Per Piece in	Dimensions (in)								Part No.
		A	B	C	D	E	F	G	H	
in	lbs									
1/4	0.07	2.19	1.62	1.50	0.88	0.41	0.28	0.06	0.25	HDT14
5/16	0.12	2.50	1.88	1.81	1.06	0.50	0.34	0.08	0.30	HDT516
3/8	0.22	2.88	2.12	2.12	1.12	0.63	0.41	0.11	0.39	HDT38
7/16	0.35	3.25	2.38	2.38	1.25	0.72	0.47	0.12	0.45	HDT716
1/2	0.51	3.54	2.60	2.63	1.46	0.84	0.53	0.15	0.48	HDT12
9/16	0.51	3.54	2.60	2.63	1.46	0.89	0.59	0.15	0.48	HDT916
5/8	0.76	4.25	3.25	3.12	1.75	1.00	0.66	0.16	0.53	HDT58
3/4	1.58	5.00	3.75	3.81	2.00	1.22	0.78	0.22	0.69	HDT34
7/8	1.78	5.50	4.25	4.25	2.25	1.38	0.94	0.22	0.78	HDT78
1	3.14	6.12	4.50	4.75	2.50	1.56	1.06	0.25	0.88	HDT1
1-1/8-1-1/4	4.00	7.00	5.12	5.88	2.88	1.88	1.31	0.25	1.25	HDT118
1-1/4-1-3/8	8.86	9.08	6.50	6.81	3.50	2.25	1.44	0.37	1.29	HDT114
1-3/8-1-1/2	12.95	9.00	6.25	7.12	3.50	2.62	1.56	0.50	1.31	HDT138
1 5/8	17.00	11.25	8.00	8.12	4.00	3.00	1.72	0.50	1.38	HDT158
1 3/4	17.75	12.19	9.00	8.50	4.50	3.06	1.84	0.50	1.50	HDT134
1-7/8 - 2	27.75	15.12	12.00	10.38	6.00	3.38	2.09	0.50	1.69	HDT178
2-1/4	39.50	17.50	14.00	11.88	7.00	3.88	2.38	0.62	1.82	HDT214
2-1/2	63.50	22.25	17.50	12.75	8.00	4.38	2.65	0.62	2.50	HDT212



Regular Duty Wire Rope Thimbles Hot Dipped Galvanized To Federal Specification FF-T-276 Type 2

Size in	Weight Per Piece in lbs	Dimensions (in)						Part No.
		A	B	C	D	E	F	
1/8	0.04	1.90	1.10	1.37	0.71	0.28	0.05	RDT18
3/16	0.04	1.90	1.10	1.37	0.71	0.33	0.05	RDT316
1/4	0.04	1.90	1.10	1.37	0.71	0.37	0.05	RDT14
5/16	0.04	2.10	1.20	1.60	0.81	0.43	0.05	RDT516
3/8	0.07	2.32	1.45	1.70	0.94	0.55	0.06	RDT38
1/2	0.13	2.71	1.73	1.93	1.14	0.69	0.08	RDT12
5/8	0.35	3.39	2.36	2.24	1.45	0.92	0.11	RDT58
3/4	0.47	3.70	2.48	2.48	1.57	1.10	0.15	RDT34
7/8	0.85	4.89	3.42	3.54	2.20	1.32	0.15	RDT78
1	0.98	5.60	3.93	4.01	2.51	1.46	0.15	RDT1



Eye & Eye Turnbuckles

Drop Forged, Hot Dipped Galvanized

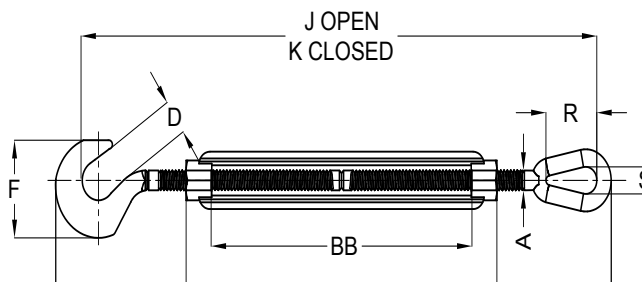
To Federal Specification FF-T791, Type 1, Form 1, Class 4 & ASTM F-1145

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)									Part No.
			A	J	K	M	N	R	S	X	BB	
in	lbs	lbs		Open	Closed	Open	Closed			Closed		
1/4x4	500	0.30	0.25	11.80	7.80	12.25	8.25	0.78	0.34	1.75	4.07	HG14X4EE
5/16x4-1/2	800	0.47	0.31	13.56	9.06	14.12	9.62	0.94	0.44	2.09	4.58	HG516X412EE
5/16x6	1,200	0.75	0.38	17.47	11.47	18.16	12.16	1.12	0.53	2.52	6.10	HG38X6EE
1/2x6	2,200	1.60	0.50	19.08	13.08	19.96	13.96	1.44	0.72	3.23	6.03	HG12X6EE
1/2X9	2,200	1.83	0.50	25.08	16.08	25.96	16.96	1.44	0.72	3.23	9.00	HG12X9EE
1/2x12	2,200	2.08	0.50	31.08	19.08	31.96	19.96	1.44	0.72	3.23	12.36	HG12X12EE
5/8x6	3,500	2.75	0.63	20.68	14.68	21.68	15.68	1.75	0.88	3.90	6.03	HG58X6EE
5/8x9	3,500	3.13	0.63	26.68	17.68	27.68	18.68	1.75	0.88	3.90	3.90	HG58X9EE
5/8x12	3,500	3.50	0.63	32.68	20.68	33.68	21.68	1.75	0.88	3.90	12.39	HG58X12EE
3/4x6	5,200	3.89	0.75	22.38	16.38	23.62	17.62	2.09	1.00	4.69	6.13	HG34X6EE
3/4X9	5,200	4.61	0.75	28.38	19.38	29.62	20.62	2.09	1.00	4.69	6.00	HG34X9EE
3/4x12	5,200	5.43	0.75	34.38	22.38	35.62	23.62	2.09	1.00	4.69	12.59	HG34X12EE
3/4x18	5,200	7.25	0.75	46.38	28.38	47.62	29.62	2.09	1.00	4.69	18.53	HG34X18EE
7/8x12	7,200	8.10	0.88	35.32	23.32	36.82	24.82	2.38	1.25	5.10	12.16	HG78X12EE
7/8X18	7,200	9.95	0.88	47.32	29.32	48.82	30.82	2.38	1.25	5.10	18.63	HG78X18EE
1X6	10,000	9.33	1.00	25.97	19.97	27.72	21.72	3.00	1.44	6.36	6.18	HG1X6EE
1X12	10,000	11.93	1.00	37.97	25.97	39.97	27.72	3.00	1.44	6.36	12.18	HG1X12EE
1X18	10,000	14.00	1.00	49.97	31.97	51.72	33.72	3.00	1.44	6.36	18.18	HG1X18EE
1X24	10,000	17.25	1.00	61.97	37.97	63.72	39.72	3.00	1.44	6.36	24.84	HG1X24EE
1-1/4x12	15,200	19.00	1.25	40.31	28.31	42.56	30.56	3.56	1.81	7.72	12.06	HG114X12EE
1-1/4x18	15,200	23.00	1.25	52.31	34.31	54.56	36.56	3.56	1.81	7.72	18.06	HG114X18EE
1-1/4x24	15,200	27.00	1.25	64.31	40.31	66.56	42.56	3.56	1.81	7.72	24.62	HG114X24EE
1-1/2x12	21,400	27.50	1.50	42.50	30.50	45.00	33.00	4.06	2.12	8.62	12.32	HG112X12EE
1-1/2x18	21,400	31.00	1.50	54.50	36.50	57.00	39.00	4.06	2.12	8.62	18.32	HG112X18EE
1-1/2x24	21,400	37.50	1.50	66.50	42.50	69.00	45.00	4.06	2.12	8.62	24.94	HG112X24EE
1-3/4x18	28,000	52.50	1.75	57.38	39.38	60.38	42.38	4.62	2.38	10.00	18.37	HG134X18EE
1-3/4x24	28,000	58.00	1.75	69.38	45.38	72.38	48.38	4.62	2.38	10.00	24.37	HG134X24EE
2x24	37,000	85.25	2.00	75.69	51.69	79.19	55.19	5.57	2.69	13.09	24.48	HG2X24EE
2-1/2x24	60,000	149.00	2.50	79.18	55.18	83.18	59.18	6.49	3.12	13.76	24.60	HG212X24EE
2-3/4x24	75,000	174.00	2.75	81.34	57.34	85.34	61.84	7.00	3.25	15.09	24.65	HG234X24EE

Hot dip galvanized • End fittings are quenched and tempered, bodies are normalized

NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ

AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.



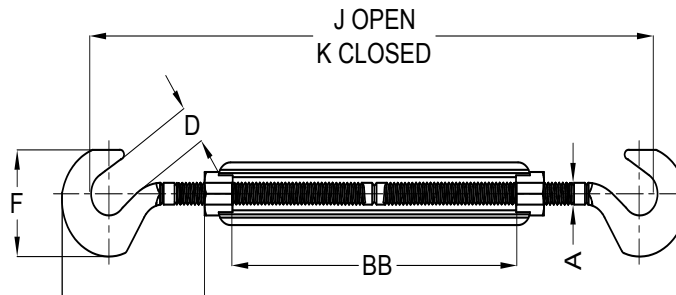
Hook & Eye Turnbuckles

Drop Forged, Hot Dipped Galvanized

To Federal Specification FF-T791, Type 1, Form 1, Class 6 & ASTM F-1145

HARDWARE

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)										Part No.
			A	B	C	D	E	F	G	H	K	P	
in	lbs	lbs			Closed	Closed	Closed					Closed	
1/4 x 4	400	0.30	0.25	0.45	1.59	11.94	7.94	1.27	4.00	0.78	0.34	1.75	HG14X4HE
5/16 x 4 1/2	700	0.47	0.31	0.50	1.94	13.81	9.31	1.50	4.50	0.94	0.44	2.09	HG516X412HE
3/8 x 6	1,000	0.75	0.38	0.56	2.30	17.72	11.72	1.77	6.00	1.12	0.53	2.52	HG38X6HE
1/2 x 6	1,500	1.60	0.50	0.66	2.94	19.38	13.38	2.28	6.00	1.44	0.72	3.23	HG12X6HE
1/2 x 9	1,500	1.83	0.50	0.66	2.94	25.38	16.38	2.28	9.00	1.44	0.72	3.23	HG12X9HE
1/2 x 12	1,500	2.08	0.50	0.66	2.94	31.38	19.38	2.28	12.00	1.44	0.72	3.23	HG12X12HE
5/8 x 6	2,250	2.75	0.63	0.84	3.69	21.25	15.25	2.81	6.00	1.75	0.88	3.90	HG58X6HE
5/8 x 9	2,250	3.13	0.63	0.84	3.69	27.25	18.25	2.81	9.00	1.75	0.88	3.90	HG58X9HE
5/8 x 12	2,250	3.50	0.63	0.84	3.69	33.25	21.25	2.81	12.00	1.75	0.88	3.90	HG58X12HE
3/4 x 6	3,000	3.89	0.75	0.98	4.52	23.28	17.28	3.33	6.00	2.09	1.00	4.69	HG34X6HE
3/4 x 9	3,000	4.61	0.75	0.98	4.52	29.28	20.28	3.33	9.00	2.09	1.00	4.69	HG34X9HE
3/4 x 12	3,000	5.43	0.75	0.98	4.52	35.28	23.28	3.33	12.00	2.09	1.00	4.69	HG34X12HE
3/4 x 18	3,000	7.25	0.75	0.98	4.52	47.28	29.28	3.33	18.00	2.09	1.00	4.69	HG34X18HE
7/8 x 12	4,000	8.10	0.88	1.13	5.19	37.00	25.00	3.78	12.00	2.38	1.25	5.10	HG78X12HE
1 x 6	5,000	9.33	1.00	1.25	5.84	26.69	20.69	4.25	6.00	3.00	1.44	6.36	HG1X6HE
1 x 12	5,000	11.93	1.00	1.25	5.84	38.69	26.69	4.25	12.00	3.00	1.44	6.36	HG1X12HE



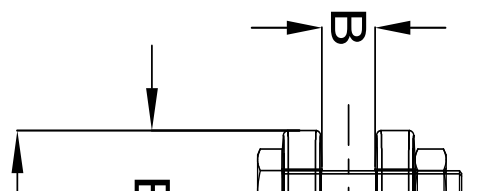
Hook & Hook Turnbuckles

Drop Forged, Hot Dipped Galvanized

To Federal Specification FF-T791, Type 1, Form 1, Class 5 & ASTM F-1145

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)							Part No.
			A	B	C	D	E	F	G	
in	lbs	lbs			Closed	Open	Closed			
1/4 x 4	400	0.30	0.25	0.45	1.59	11.94	7.94	1.27	4.00	HG14X4HH
5/16 x 4 1/2	700	0.47	0.31	0.50	1.94	13.81	9.31	1.50	4.50	HG516X412HH
3/8 x 6	1,000	0.75	0.38	0.56	2.30	17.72	11.72	1.77	6.00	HG38X6HH
1/2 x 6	1,500	1.60	0.50	0.66	2.94	19.38	13.38	2.28	6.00	HG12X6HH
1/2 x 9	1,500	1.83	0.50	0.66	2.94	25.38	16.38	2.28	9.00	HG12X9HH
1/2 x 12	1,500	2.08	0.50	0.66	2.94	31.38	19.38	2.28	12.00	HG12X12HH
5/8 x 6	2,250	2.75	0.63	0.84	3.69	21.25	15.25	2.81	6.00	HG58X6HH
5/8 x 9	2,250	3.13	0.63	0.84	3.69	27.25	18.25	2.81	9.00	HG58X9HH
5/8 x 12	2,250	3.50	0.63	0.84	3.69	33.25	21.25	2.81	12.00	HG58X12HH
3/4 x 6	3,000	3.89	0.75	0.98	4.52	23.28	17.28	3.33	6.00	HG34X6HH
3/4 x 9	3,000	4.61	0.75	0.98	4.52	29.28	20.28	3.33	9.00	HG34X9HH
3/4 x 12	3,000	5.43	0.75	0.98	4.52	35.28	23.28	3.33	12.00	HG34X12HH
7/8 x 12	4,000	8.10	0.88	1.13	5.19	37.00	25.00	3.78	12.00	HG78X12HH
7/8 x 18	4,000	9.95	0.88	1.13	5.19	49.00	31.00	3.78	18.00	HG78X18HH
1 x 6	5,000	9.33	1.00	1.25	5.84	26.69	20.69	4.25	6.00	HG1X6HH
1 x 12	5,000	11.93	1.00	1.25	5.84	38.69	26.69	4.25	12.00	HG1X12HH

Hot dip galvanized • End fittings are quenched and tempered, bodies are normalized



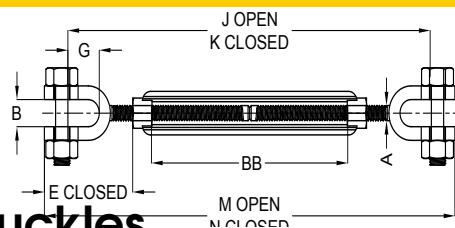
Jaw & Eye Turnbuckles

Drop Forged, Hot Dipped Galvanized

To Federal Specification FF-T791, Type 1, Form 1, Class 8 & ASTM F-1145

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)												Part No.
			A	B	E	G	J	K	M	N	R	S	X	BB	
in	lbs	lbs			Closed		Open	Closed	Open				Closed		
1/4x4	500	0.32	0.25	0.45	1.58	0.62	11.35	7.35	12.07	8.07	0.78	0.34	1.75	4.00	HG14X4JE
5/16x4-1/2	800	0.47	0.31	0.50	1.98	0.87	13.71	8.71	14.01	9.51	0.94	0.44	2.09	4.50	HG516X412JE
3/8x6	1,200	0.76	0.38	0.54	2.12	0.87	16.81	10.81	17.77	11.77	1.12	0.53	2.52	6.00	HG38X6JE
1/2x6	2,200	1.53	0.50	0.68	2.75	1.06	18.29	12.29	19.48	13.48	1.44	0.72	3.23	6.00	HG12X6JE
1/2X9	2,200	1.71	0.50	0.68	2.75	1.06	24.29	15.29	25.48	16.48	1.44	0.72	3.23	9.00	HG12X9JE
1/2x12	2,200	2.06	0.50	0.68	2.75	1.06	30.29	18.29	31.48	19.48	1.44	0.72	3.23	12.00	HG12X12JE
5/8x6	3,500	2.35	0.63	0.82	3.50	1.31	19.74	13.74	21.28	15.28	1.75	0.88	3.90	6.00	HG58X6JE
5/8X9	3,500	3.06	0.63	0.82	3.50	1.31	25.74	16.74	27.28	18.28	1.75	0.88	3.90	9.00	HG58X9JE
5/8x12	3,500	3.78	0.63	0.82	3.50	1.31	31.74	19.74	33.28	21.28	1.75	0.88	3.90	12.00	HG58X12JE
3/4x6	5,200	4.00	0.75	1.03	4.18	1.50	21.19	15.19	23.11	17.11	2.09	1.00	4.69	6.00	HG34X6JE
3/4X9	5,200	4.75	0.75	1.03	4.18	1.50	27.19	18.19	29.11	20.11	2.09	1.00	4.69	9.00	HG34X9JE
3/4x12	5,200	5.36	0.75	1.03	4.18	1.50	33.19	21.19	35.11	23.11	2.09	1.00	4.69	12.00	HG34X12JE
3/4x18	5,200	7.00	0.75	1.03	4.18	1.50	45.19	27.19	47.11	29.11	2.09	1.00	4.69	18.00	HG34X18JE
7/8x12	7,200	8.00	0.88	1.23	4.85	1.75	34.34	22.34	36.57	24.57	2.38	1.25	5.10	12.00	HG78X12JE
7/8X18	7,200	9.75	0.88	1.23	4.85	1.75	46.34	28.34	48.57	30.57	2.38	1.25	5.10	18.00	HG78X18JE
1X6	10,000	8.92	1.00	1.31	5.53	2.06	24.34	18.34	26.89	20.89	3.00	1.44	6.36	6.00	HG1X6JE
1x12	10,000	11.20	1.00	1.31	5.53	2.06	36.34	24.34	38.89	26.89	3.00	1.44	6.36	12.00	HG1X12JE
1X18	10,000	13.30	1.00	1.31	5.53	2.06	48.34	30.34	50.89	32.89	3.00	1.44	6.36	18.00	HG1X18JE
1X24	10,000	17.00	1.00	1.31	5.53	2.06	60.34	36.34	62.89	38.89	3.00	1.44	6.36	24.00	HG1X24JE
1-1/4X12	15,200	20.00	1.25	1.86	7.21	2.81	38.82	26.82	42.05	30.05	3.56	1.81	7.72	12.00	HG114X12JE
1-1/4x18	15,200	24.18	1.25	1.86	7.21	2.81	50.82	32.82	54.05	36.05	3.56	1.81	7.72	18.00	HG114X18JE
1-1/4x24	15,200	28.50	1.25	1.86	7.21	2.81	62.82	38.82	66.05	42.05	3.56	1.81	7.72	24.00	HG114X24JE
1-1/2x12	21,400	28.99	1.50	2.25	7.88	2.81	40.50	28.50	44.25	32.25	4.06	2.12	8.62	12.00	HG112X12JE
1-1/2x18	21,400	35.00	1.50	2.25	7.88	2.81	52.50	34.50	56.25	38.25	4.06	2.12	8.62	18.00	HG112X18JE
1-1/2x24	21,400	39.18	1.50	2.25	7.88	2.81	64.50	40.50	68.25	44.25	4.06	2.12	8.62	24.00	HG112X24JE
1-3/4x18	28,000	53.75	1.75	2.60	9.40	3.38	55.38	37.38	59.78	41.78	4.62	2.38	10.00	18.00	HG134X18JE
1-3/4x24	28,000	60.68	1.75	2.60	9.40	3.38	67.38	43.38	71.78	47.78	4.62	2.38	10.00	24.00	HG134X24JE
2x24	37,000	89.00	2.00	2.62	11.86	3.69	72.62	48.62	77.95	53.95	5.75	2.69	13.09	24.00	HG2X24JE

Hot dip galvanized • End fittings are quenched and tempered, bodies are normalized



Jaw & Jaw Turnbuckles

Drop Forged, Hot Dipped Galvanized

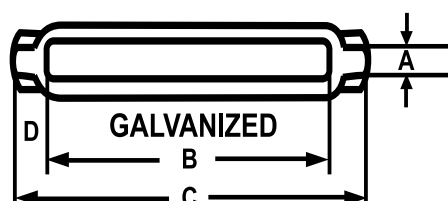
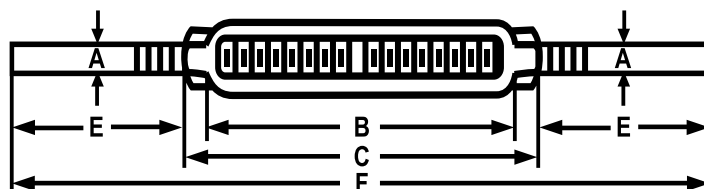
To Federal Specification FF-T791, Type 1, Form 1, Class 7 & ASTM F-1145

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)									Part No.
			A	B	E	G	J	K	M	N	BB	
in	lbs	lbs		Open		Open	Closed	Open				
1/4x4	500	0.36	0.25	0.45	1.58	0.62	10.90	6.90	11.90	7.90	4.00	HG14X4JJ
5/16x4-1/2	800	0.52	0.31	0.50	1.98	0.87	12.36	8.36	13.90	9.40	4.50	HG516X412JJ
3/8x6	1,200	0.81	0.38	0.54	2.12	0.87	16.14	10.14	17.38	11.38	6.00	HG38X6JJ
1/2x6	2,200	1.50	0.50	0.68	2.75	1.06	17.50	11.50	19.00	13.00	6.00	HG12X6JJ
1/2X9	2,200	1.74	0.50	0.68	2.75	1.06	23.50	14.50	25.00	16.00	9.00	HG12X9JJ
1/2x12	2,200	2.40	0.50	0.68	2.75	1.06	29.50	17.50	31.00	19.00	12.00	HG12X12JJ
5/8x6	3,500	2.72	0.63	0.82	3.50	1.31	18.80	12.80	20.88	14.88	6.00	HG58X6JJ
5/8X9	3,500	3.24	0.63	0.82	3.50	1.31	24.80	15.80	26.88	17.88	9.00	HG58X9JJ
5/8x12	3,500	3.74	0.63	0.82	3.50	1.31	30.80	18.80	32.88	20.88	12.00	HG58X12JJ
3/4x6	5,200	4.11	0.75	1.03	4.18	1.50	20.00	14.00	22.60	16.60	6.00	HG34X6JJ
3/4X9	5,200	5.10	0.75	1.03	4.18	1.50	26.00	17.00	28.60	19.60	9.00	HG34X9JJ
3/4x12	5,200	5.65	0.75	1.03	4.18	1.50	32.00	20.00	34.60	22.60	12.00	HG34X12JJ
3/4x18	5,200	7.00	0.75	1.03	4.18	1.50	44.00	26.00	46.60	28.60	18.00	HG34X18JJ
7/8x12	7,200	8.17	0.88	1.23	4.85	1.75	33.36	21.36	36.32	24.32	12.00	HG78X12JJ
7/8X18	7,200	9.96	0.88	1.23	4.85	1.75	45.36	27.36	48.32	30.32	18.00	HG78X18JJ
1X6	10,000	8.50	1.00	1.31	5.53	2.06	22.72	16.72	26.06	20.06	6.00	HG1X6JJ
1x12	10,000	12.00	1.00	1.31	5.53	2.06	34.72	22.72	38.06	26.06	12.00	HG1X12JJ
1X18	10,000	14.00	1.00	1.31	5.53	2.06	46.72	28.72	50.06	32.06	18.00	HG1X18JJ
1X24	10,000	17.00	1.00	1.31	5.53	2.06	58.72	34.72	62.06	38.06	24.00	HG1X24JJ
1-1/4X12	15,200	21.50	1.25	1.86	7.21	2.81	37.34	25.34	41.54	29.54	12.00	HG114X12JJ
1-1/4x18	15,200	24.25	1.25	1.86	7.21	2.81	49.34	31.34	53.54	35.54	18.00	HG114X18JJ
1-1/4x24	15,200	28.00	1.25	1.86	7.21	2.81	61.34	37.34	65.54	41.54	24.00	HG114X24JJ
1-1/2x12	21,400	30.50	1.50	2.25	7.88	2.81	38.50	26.50	43.50	31.50	12.00	HG12X12JJ
1-1/2x18	21,400	36.75	1.50	2.25	7.88	2.81	50.50	32.50	55.50	37.50	18.00	HG12X18JJ
1-1/2x24	21,400	40.67	1.50	2.25	7.88	2.81	62.50	38.50	67.50	43.50	24.00	HG112X24JJ
1-3/4x18	28,000	55.04	1.75	2.60	9.40	3.38	53.38	35.38	59.18	41.18	18.00	HG134X18JJ
1- 3/4x24	28,000	63.36	1.75	2.60	9.40	3.38	65.38	41.38	71.18	47.18	24.00	HG134X24JJ
2x24	37,000	94.25	2.00	2.62	11.86	3.69	69.54	45.54	76.72	52.72	24.00	HG2X24JJ
2-1/2x24	75,000	198.00	2.75	3.68	15.22	4.19	74.75	50.75	85.50	61.50	24.00	HG212X24JJ

Hot dip galvanized • End fittings are quenched and tempered, bodies are normalized

NEVER EXCEED PUBLISHED WORKING LOAD LIMIT. ALWAYS READ

AND UNDERSTAND THE GENERAL WARNINGS AND INFORMATION ON PAGE 4 AND 5.

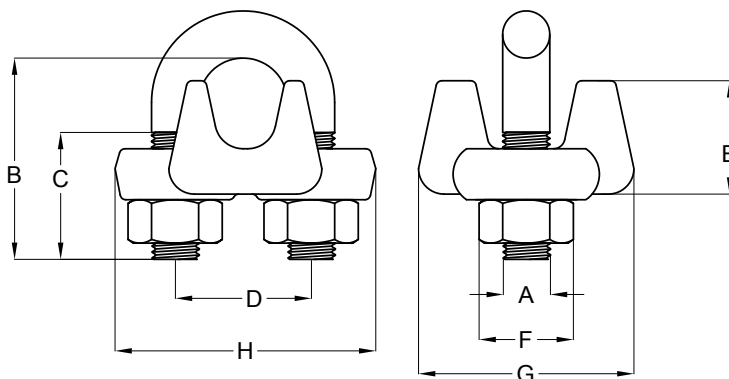


Turnbuckles – Body Only

Drop Forged, Hot Dipped Galvanized

To Federal Specifications FF-T-791b, Type 1, Form 1, Class 2

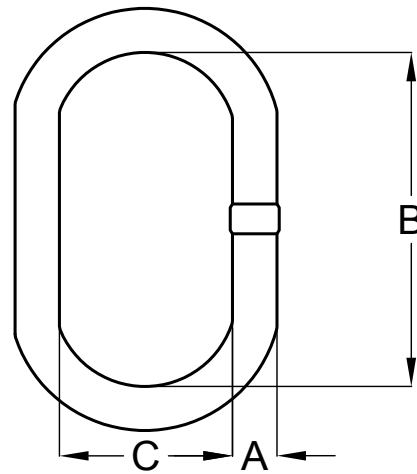
Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)								Part No.
			AA	BB	CC	DD	EE	GG	HH	JJ	
in	lbs	lbs		Open		Open	Closed	Open			
1/2x6	2,200	0.70	7.70	6.03	0.84	1.19	0.68	0.81	0.63	0.28	HG12X6TBB
1/2x9	2,200	1.03	11.03	9.36	0.84	1.19	0.68	0.81	0.63	0.28	HG12X9TBB
1/2x12	2,200	1.27	14.03	12.36	0.84	1.19	0.68	0.81	0.63	0.28	HG12X12TBB
5/8x6	3,500	1.11	8.02	6.03	1.00	1.43	0.83	1.00	0.75	0.34	HG58X6TBB
5/8x9	3,500	1.59	11.38	9.36	1.00	1.43	0.83	1.00	0.75	0.34	HG58X9TBB
5/8x12	3,500	1.96	14.38	12.39	1.00	1.43	0.83	1.00	0.75	0.34	HG58X12TBB
3/4x6	5,200	1.50	8.26	6.13	1.07	1.74	0.94	1.13	0.94	0.40	HG34X6TBB
3/4x9	5,200	2.17	11.72	9.59	1.07	1.74	0.94	1.13	0.94	0.40	HG34X9TBB
3/4x12	5,200	2.66	14.72	12.59	1.07	1.74	0.94	1.13	0.94	0.40	HG34X12TBB
3/4x18	5,200	3.63	20.66	18.56	1.07	1.74	0.94	1.13	0.94	0.40	HG34X18TBB
7/8x12	7,200	3.61	14.62	12.16	1.23	2.00	1.13	1.31	1.06	0.47	HG78X12TBB
7/8x18	7,200	5.27	21.09	18.63	1.23	2.00	1.13	1.31	1.06	0.47	HG78X18TBB
1x6	10,000	3.32	9.00	6.18	1.41	2.45	1.25	1.50	1.25	0.60	HG1X6TBB
1x12	10,000	5.34	15.00	12.18	1.41	2.45	1.25	1.50	1.25	0.60	HG1X12TBB
1x18	10,000	7.35	21.00	18.18	1.41	2.45	1.25	1.50	1.25	0.60	HG1X18TBB
1x24	10,000	9.85	27.66	24.84	1.41	2.45	1.25	1.50	1.25	0.60	HG1X24TBB



Drop Forged Wire Rope Clips

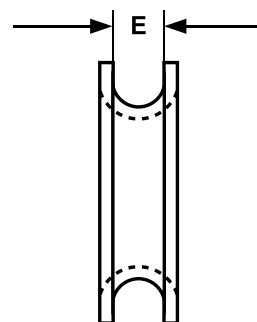
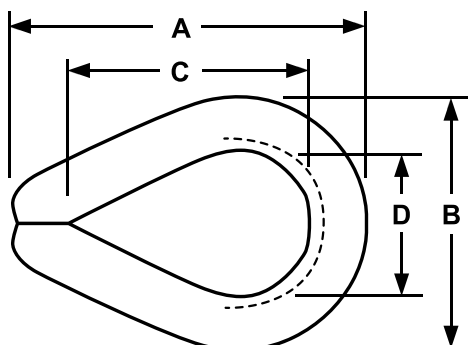
Forged Steel, Hot Galvanized

Rope Size	Weight Per Piece in	Dimensions (in)								Part No.
		A	B	C	D	E	F	G	H	
in	lbs									
1/4	0.19	0.31	1.03	0.5	0.75	0.66	0.56	1.19	1.43	DFC14-K
3/4	1.42	0.62	2.75	1.44	1.5	1.39	1.06	2.25	2.84	DFC34-K
7/8	2.12	0.75	3.12	1.62	1.75	1.58	1.25	2.44	3.16	DFC78-K
1-1/8	2.83	0.75	3.88	2	2	1.91	1.25	2.81	3.59	DFC118-K
1-5/8	7.04	1	5.31	2.62	2.75	2.66	1.63	3.63	4.75	DFC158-K
1-3/4	9.34	1.13	5.75	2.75	3.06	2.92	1.81	3.81	5.24	DFC134-K



Alloy Oblong Master Links Grade 80 Alloy, Painted Red

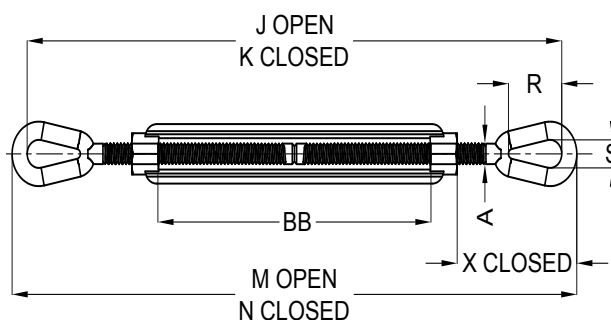
Size	Working Load Limit	Weight ea in	Dimensions (in)			Part No.
			A	B	C	
in	lbs	lbs				
1/2	7,400	0.82	0.62	2.8	5	12G80OMLK
5/8	9,000	1.52	0.62	3	6	58G80OMLK
3/4	12,300	2.07	0.73	3.2	6	34G80OMLK
7/8	15,200	3.31	0.88	3.75	6.38	78G80OMLK
1	26,000	4.85	1.1	4.3	7.5	1G80OMLK
1 1/4	39,100	9.57	1.33	5.5	9.5	114G80OMLK
1 1/2	61,100	16.22	1.61	5.9	10.5	112G80OMLK
1 3/4	84,900	25.22	1.75	6	12	134G80OMLK
2	102,600	37.04	2	7	14	2G80OMLK



Hawser Thimbles

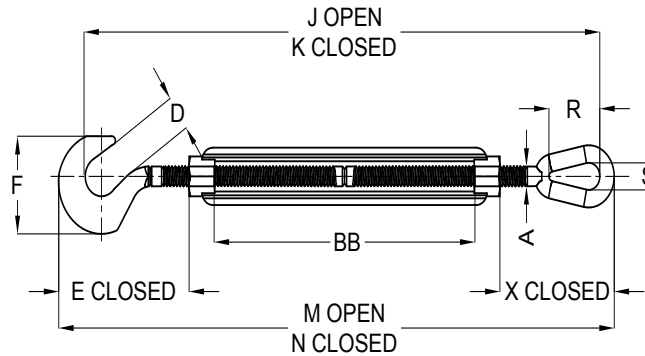
Cast Alloy Steel. Hot Galvanized

Size	Dimensions (in)					Weight Per Piece in	Part No.
	A	B	C	D	E		
in						lbs	
5/8 - 3/4	6-7/8	4-1/2	5	3	1-3/16	3.5	HGHT58K
7/8 - 1	8-5/8	5-3/4	6-1/4	3-3/4	1-7/16	6.0	HGHT78K
1-1/8 - 1-1/4	10	6-5/8	7-1/8	4-3/16	1-11/16	8.5	HGHT118K
1-3/8 - 1-1/2	12-1/8	CO	8-3/4	5	2-3/16	18.5	HGHT138K
1-5/8 - 1-3/4	12-3/4	CO	9-1/4	5	2-7/16	24	HGHT158K
1-7/8 - 2	14-3/4	9-1/2	10-3/4	6	2-11/16	30.5	HGHT178K
2-1/8 - 2-1/4	17-1/8	11	12-1/2	7	3-1/8	56	HGHT218K
2-3/8 - 2-1/2	19-1/4	12-3/4	14-1/4	8-1/4	3-7/8	95	HGHT238K
2-3/4 - 3	24-1/2	15	17	9-3/8	4-15/16	135	HGHT234K



Eye & Eye Turnbuckles Drop Forged, Hot Dipped Galvanized

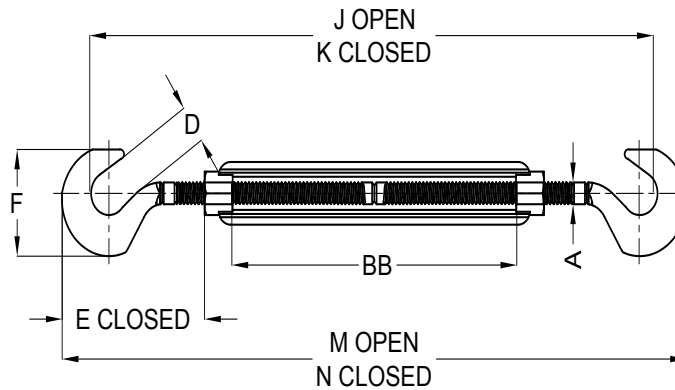
Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)									Part No.
			A	J	K	M	N	R	S	X	BB	
in	lbs	lbs		Open	Closed	Open	Closed			Closed		
1/4x4	500	0.3	0.25	11.8	7.8	12.25	8.25	0.78	0.34	1.75	4.07	HG14X4EEK
1/2x6	2200	1.6	0.5	19.08	13.08	19.96	13.96	1.44	0.72	3.23	6.03	HG12X6EEK
1/2X9	2200	1.83	0.5	25.08	16.08	25.96	16.96	1.44	0.72	3.23		HG12X9EEK
1/2x12	2200	2.08	0.5	31.08	19.08	31.96	19.96	1.44	0.72	3.23	12.36	HG12X12EEK
5/8x6	3500	2.75	0.63	20.68	14.68	21.68	15.68	1.75	0.88	3.9	6.03	HG58X6EEK
3/4x6	5200	3.89	0.75	22.38	16.38	23.62	17.62	2.09	1	4.69	6.13	HG34X6EEK
3/4X9	5200	4.61	0.75	28.38	19.38	29.62	20.62	2.09	1	4.69		HG34X9EEK
3/4x12	5200	5.43	0.75	34.38	22.38	35.62	23.62	2.09	1	4.69	12.59	HG34X12EEK
3/4x18	5200	7.25	0.75	46.38	28.38	47.62	29.62	2.09	1	4.69	18.53	HG34X18EEK
7/8x12	7200	8.1	0.88	35.32	23.32	36.82	24.82	2.38	1.25	5.1	12.16	HG78X12EEK
1X6	10000	9.33	1	25.97	19.97	27.72	21.72	3	1.44	6.36	6.18	HG1X6EEK
1X12	10000	11.93	1	37.97	25.97	39.97	27.72	3	1.44	6.36	12.18	HG1X12EEK
1X18	10000	14	1	49.97	31.97	51.72	33.72	3	1.44	6.36	18.18	HG1X18EEK
1X24	10000	17.25	1	61.97	37.97	63.72	39.72	3	1.44	6.36	24.84	HG1X24EEK
1-1/4x12	15200	19	1.25	40.31	28.31	42.56	30.56	3.56	1.81	7.72	12.06	HG114X12EEK
1-1/4x18	15200	23	1.25	52.31	34.31	54.56	36.56	3.56	1.81	7.72	18.06	HG114X18EEK
1-1/4x24	15200	27	1.25	64.31	40.31	66.56	42.56	3.56	1.81	7.72	24.62	HG114X24EEK
1-1/2x12	21400	27.5	1.5	42.5	30.5	45	33	4.06	2.12	8.62	12.32	HG112X12EEK
1-1/2x18	21400	31	1.5	54.5	36.5	57	39	4.06	2.12	8.62	18.32	HG112X18EEK
1-1/2x24	21400	37.5	1.5	66.5	42.5	69	45	4.06	2.12	8.62	24.94	HG112X24EEK
1-3/4x18	28000	52.5	1.75	57.38	39.38	60.38	42.38	4.62	2.38	10	18.37	HG134X18EEK
1-3/4x24	28000	58	1.75	69.38	45.38	72.38	48.38	4.62	2.38	10	24.37	HG134X24EEK
2x24	37000	85.25	2	75.69	51.69	79.19	55.19	5.57	2.69	13.09	24.48	HG2X24EEK
2-1/2x24	60000	149	2.5	79.18	55.18	83.18	59.18	6.49	3.12	13.76	24.6	HG212X24EEK
2-3/4x24	75000	174	2.75	81.34	57.34	85.34	61.84	7	3.25	15.09	24.65	HG234X24EEK



Hook & Eye Turnbuckles

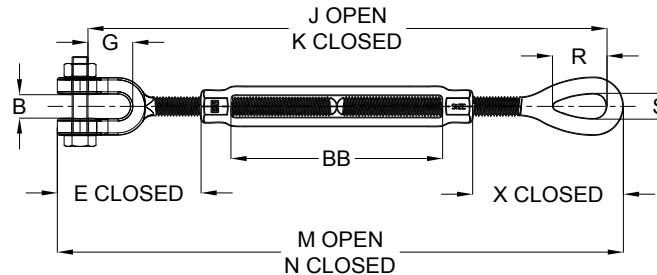
Drop Forged, Hot Dipped Galvanized

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)										Part No.
			A	B	C	D	E	F	G	H	K	P	
in	lbs	lbs			Closed	Closed	Closed					Closed	
1/4 x 4	400	0.3	0.25	0.45	1.59	11.94	7.94	1.27	4	0.78	0.34	1.75	HG14X4HEK
5/16 x 4 1/2	700	0.47	0.31	0.5	1.94	13.81	9.31	1.5	4.5	0.94	0.44	2.09	HG516X412HEK
3/8 x 6	1000	0.75	0.38	0.56	2.3	17.72	11.72	1.77	6	1.12	0.53	2.52	HG38X6HEK
1/2 x 6	1500	1.6	0.5	0.66	2.94	19.38	13.38	2.28	6	1.44	0.72	3.23	HG12X6HEK
1/2 x 9	1500	1.83	0.5	0.66	2.94	25.38	16.38	2.28	9	1.44	0.72	3.23	HG12X9HEK
1/2 x 12	1500	2.08	0.5	0.66	2.94	31.38	19.38	2.28	12	1.44	0.72	3.23	HG12X12HEK
5/8 x 6	2250	2.75	0.63	0.84	3.69	21.25	15.25	2.81	6	1.75	0.88	3.9	HG58X6HEK
5/8 x 9	2250	3.13	0.63	0.84	3.69	27.25	18.25	2.81	9	1.75	0.88	3.9	HG58X9HEK
5/8 x 12	2250	3.5	0.63	0.84	3.69	33.25	21.25	2.81	12	1.75	0.88	3.9	HG58X12HEK
3/4 x 6	3000	3.89	0.75	0.98	4.52	23.28	17.28	3.33	6	2.09	1	4.69	HG34X6HEK
3/4 x 9	3000	4.61	0.75	0.98	4.52	29.28	20.28	3.33	9	2.09	1	4.69	HG34X9HEK
3/4 x 12	3000	5.43	0.75	0.98	4.52	35.28	23.28	3.33	12	2.09	1	4.69	HG34X12HEK
3/4 x 18	3000	7.25	0.75	0.98	4.52	47.28	29.28	3.33	18	2.09	1	4.69	HG34X18HEK
7/8 x 12	4000	8.1	0.88	1.13	5.19	37	25	3.78	12	2.38	1.25	5.1	HG78X12HEK
1 x 6	5000	9.33	1	1.25	5.84	26.69	20.69	4.25	6	3	1.44	6.36	HG1X6HEK
1 x 12	5000	11.93	1	1.25	5.84	38.69	26.69	4.25	12	3	1.44	6.36	HG1X12HEK



Hook & Hook Turnbuckles Drop Forged, Hot Dipped Galvanized

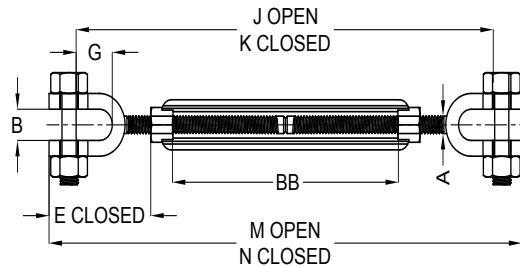
Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)							Part No.
			A	B	C	D	E	F	G	
in	lbs	lbs			Closed	Open	Closed			
1/4 x 4	400	0.3	0.25	0.45	1.59	11.94	7.94	1.27	4	HG14X4HHK
5/16 x 4 1/2	700	0.47	0.31	0.5	1.94	13.81	9.31	1.5	4.5	HG516X412HHK
3/8 x 6	1000	0.75	0.38	0.56	2.3	17.72	11.72	1.77	6	HG38X6HHK
1/2 x 6	1500	1.6	0.5	0.66	2.94	19.38	13.38	2.28	6	HG12X6HHK
1/2 x 9	1500	1.83	0.5	0.66	2.94	25.38	16.38	2.28	9	HG12X9HHK
1/2 x 12	1500	2.08	0.5	0.66	2.94	31.38	19.38	2.28	12	HG12X12HHK
5/8 x 6	2250	2.75	0.63	0.84	3.69	21.25	15.25	2.81	6	HG58X6HHK
5/8 x 9	2250	3.13	0.63	0.84	3.69	27.25	18.25	2.81	9	HG58X9HHK
5/8 x 12	2250	3.5	0.63	0.84	3.69	33.25	21.25	2.81	12	HG58X12HHK
3/4 x 6	3000	3.89	0.75	0.98	4.52	23.28	17.28	3.33	6	HG34X6HHK
3/4 x 9	3000	4.61	0.75	0.98	4.52	29.28	20.28	3.33	9	HG34X9HHK
3/4 x 12	3000	5.43	0.75	0.98	4.52	35.28	23.28	3.33	12	HG34X12HHK
7/8 x 12	4000	8.1	0.88	1.13	5.19	37	25	3.78	12	HG78X12HHK
7/8 x 18	4000	9.95	0.88	1.13	5.19	49	31	3.78	18	HG78X18HHK
1 x 6	5000	9.33	1	1.25	5.84	26.69	20.69	4.25	6	HG1X6HHK
1 x 12	5000	11.93	1	1.25	5.84	38.69	26.69	4.25	12	HG1X12HHK



Jaw & Eye Turnbuckles

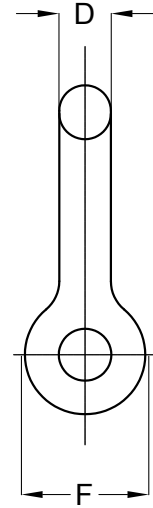
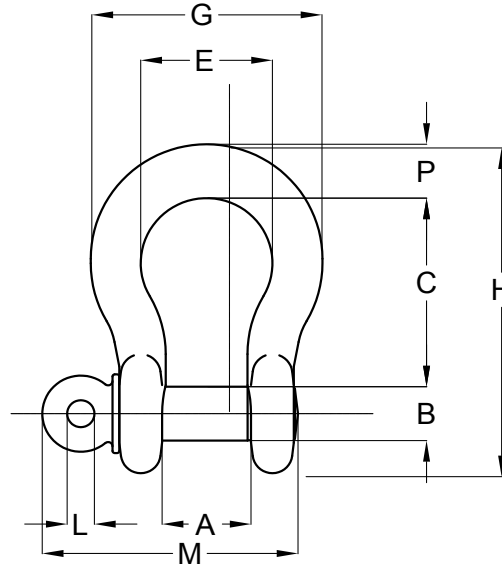
Drop Forged, Hot Dipped Galvanized

Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)												Part No.
			A	B	E	G	J	K	M	N	R	S	X	BB	
in	lbs	lbs			Closed		Open	Closed	Open	Closed			Closed		
1/4x4	500	0.32	0.25	0.45	1.58	0.62	11.35	7.35	12.07	8.07	0.78	0.34	1.75	1.75	HG14X4JEK
5/16x4-1/2	800	0.47	0.31	0.5	1.98	0.87	13.71	8.71	14.01	9.51	0.94	0.44	2.09	2.09	HG516X412JEK
3/8x6	1200	0.76	0.38	0.54	2.12	0.87	16.81	10.81	17.77	11.77	1.12	0.53	2.52	2.52	HG38X6JEK
1/2x6	2200	1.53	0.5	0.68	2.75	1.06	18.29	12.29	19.48	13.48	1.44	0.72	3.23	3.23	HG12X6JEK
1/2X9	2200	1.71	0.5	0.68	2.75	1.06	24.29	15.29	25.48	16.48	1.44	0.72	3.23	3.23	HG12X9JEK
1/2x12	2200	2.06	0.5	0.68	2.75	1.06	30.29	18.29	31.48	19.48	1.44	0.72	3.23	3.23	HG12X12JEK
5/8x6	3500	2.35	0.63	0.82	3.5	1.31	19.74	13.74	21.28	15.28	1.75	0.88	3.9	3.9	HG58X6JEK
5/8X9	3500	3.06	0.63	0.82	3.5	1.31	25.74	16.74	27.28	18.28	1.75	0.88	3.9	3.9	HG58X9JEK
5/8x12	3500	3.78	0.63	0.82	3.5	1.31	31.74	19.74	33.28	21.28	1.75	0.88	3.9	3.9	HG58X12JEK
3/4x6	5200	4	0.75	1.03	4.18	1.5	21.19	15.19	23.11	17.11	2.09	1	4.69	4.69	HG34X6JEK
3/4X9	5200	4.75	0.75	1.03	4.18	1.5	27.19	18.19	29.11	20.11	2.09	1	4.69	4.69	HG34X9JEK
3/4x12	5200	5.36	0.75	1.03	4.18	1.5	33.19	21.19	35.11	23.11	2.09	1	4.69	4.69	HG34X12JEK
3/4x18	5200	7	0.75	1.03	4.18	1.5	45.19	27.19	47.11	29.11	2.09	1	4.69	4.69	HG34X18JEK
7/8x12	7200	8	0.88	1.23	4.85	1.75	34.34	22.34	36.57	24.57	2.38	1.25	5.1	5.1	HG78X12JEK
7/8X18	7200	9.75	0.88	1.23	4.85	1.75	46.34	28.34	48.57	30.57	2.38	1.25	5.1	5.1	HG78X18JEK
1X6	10000	8.92	1	1.31	5.53	2.06	24.34	18.34	26.89	20.89	3	1.44	6.36	6.36	HG1X6JEK
1x12	10000	11.2	1	1.31	5.53	2.06	36.34	24.34	38.89	26.89	3	1.44	6.36	6.36	HG1X12JEK
1X18	10000	13.3	1	1.31	5.53	2.06	48.34	30.34	50.89	32.89	3	1.44	6.36	6.36	HG1X18JEK
1X24	10000	17	1	1.31	5.53	2.06	60.34	36.34	62.89	38.89	3	1.44	6.36	6.36	HG1X24JEK
1-1/4X12	15200	20	1.25	1.86	7.21	2.81	38.82	26.82	42.05	30.05	3.56	1.81	7.72	7.72	HG114X12JEK
1-1/4x18	15200	24.18	1.25	1.86	7.21	2.81	50.82	32.82	54.05	36.05	3.56	1.81	7.72	7.72	HG114X18JEK
1-1/4x24	15200	28.5	1.25	1.86	7.21	2.81	62.82	38.82	66.05	42.05	3.56	1.81	7.72	7.72	HG114X24JEK
1-1/2x12	21400	28.99	1.5	2.25	7.88	2.81	40.5	28.5	44.25	32.25	4.06	2.12	8.62	8.62	HG112X12JEK
1-1/2x18	21400	35	1.5	2.25	7.88	2.81	52.5	34.5	56.25	38.25	4.06	2.12	8.62	8.62	HG112X18JEK
1-1/2x24	21400	39.18	1.5	2.25	7.88	2.81	64.5	40.5	68.25	44.25	4.06	2.12	8.62	8.62	HG112X24JEK
1-3/4x18	28000	53.75	1.75	2.6	9.4	3.38	55.38	37.38	59.78	41.78	4.62	2.38	10	10	HG134X18JEK
1- 3/4x24	28000	60.68	1.75	2.6	9.4	3.38	67.38	43.38	71.78	47.78	4.62	2.38	10	10	HG134X24JEK
2x24	37000	89	2	2.62	11.86	3.69	72.62	48.62	77.95	53.95	5.75	2.69	13.09	13.09	HG2X24JEK



Jaw & Jaw Turnbuckles Drop Forged, Hot Dipped Galvanized

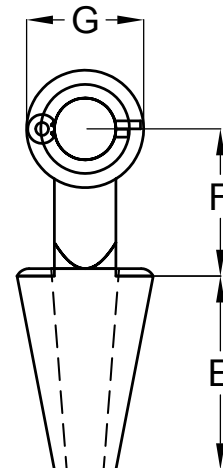
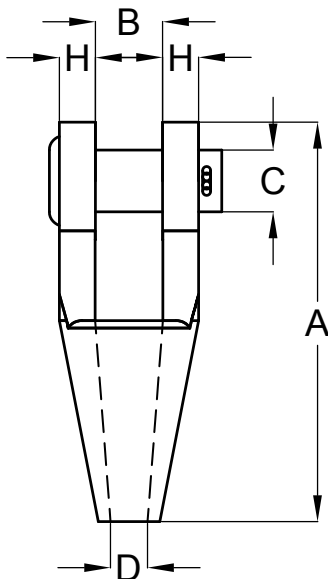
Thread Dia & Take Up	Working Load Limit	Weight Per Piece in	Dimensions (in)									Part No.
			A	B	E	G	J	K	M	N	BB	
in	lbs	lbs		Open	Closed	Open	Closed	Open	Closed			
1/4x4	500	0.36	0.25	0.45	1.58	0.62	10.9	6.9	11.9	7.9	4	HG14X4JJK
5/16x4-1/2	800	0.52	0.31	0.5	1.98	0.87	12.36	8.36	13.9	9.4	4.5	HG516X412JJK
3/8x6	1200	0.81	0.38	0.54	2.12	0.87	16.14	10.14	17.38	11.38	6	HG38X6JJK
1/2x6	2200	1.5	0.5	0.68	2.75	1.06	17.5	11.5	19	13	6	HG12X6JJK
1/2X9	2200	1.74	0.5	0.68	2.75	1.06	23.5	14.5	25	16	9	HG12X9JJK
1/2x12	2200	2.4	0.5	0.68	2.75	1.06	29.5	17.5	31	19	12	HG12X12JJK
5/8x6	3500	2.72	0.63	0.82	3.5	1.31	18.8	12.8	20.88	14.88	6	HG58X6JJK
5/8X9	3500	3.24	0.63	0.82	3.5	1.31	24.8	15.8	26.88	17.88	9	HG58X9JJK
5/8x12	3500	3.74	0.63	0.82	3.5	1.31	30.8	18.8	32.88	20.88	12	HG58X12JJK
3/4x6	5200	4.11	0.75	1.03	4.18	1.5	20	14	22.6	16.6	6	HG34X6JJK
3/4X9	5200	5.1	0.75	1.03	4.18	1.5	26	17	28.6	19.6	9	HG34X9JJK
3/4x12	5200	5.65	0.75	1.03	4.18	1.5	32	20	34.6	22.6	12	HG34X12JJK
3/4x18	5200	7	0.75	1.03	4.18	1.5	44	26	46.6	28.6	18	HG34X18JJK
7/8x12	7200	8.17	0.88	1.23	4.85	1.75	33.36	21.36	36.32	24.32	12	HG78X12JJK
7/8X18	7200	9.96	0.88	1.23	4.85	1.75	45.36	27.36	48.32	30.32	18	HG78X18JJK
1X6	10000	8.5	1	1.31	5.53	2.06	22.72	16.72	26.06	20.06	6	HG1X6JJK
1x12	10000	12	1	1.31	5.53	2.06	34.72	22.72	38.06	26.06	12	HG1X12JJK
1X18	10000	14	1	1.31	5.53	2.06	46.72	28.72	50.06	32.06	18	HG1X18JJK
1X24	10000	17	1	1.31	5.53	2.06	58.72	34.72	62.06	38.06	24	HG1X24JJK
1-1/4X12	15200	21.5	1.25	1.86	7.21	2.81	37.34	25.34	41.54	29.54	12	HG114X12JJK
1-1/4x18	15200	24.25	1.25	1.86	7.21	2.81	49.34	31.34	53.54	35.54	18	HG114X18JJK
1-1/4x24	15200	28	1.25	1.86	7.21	2.81	61.34	37.34	65.54	41.54	24	HG114X24JJK
1-1/2x12	21400	30.5	1.5	2.25	7.88	2.81	38.5	26.5	43.5	31.5	12	HG12X12JJK
1-1/2x18	21400	36.75	1.5	2.25	7.88	2.81	50.5	32.5	55.5	37.5	18	HG12X18JJK
1-1/2x24	21400	40.67	1.5	2.25	7.88	2.81	62.5	38.5	67.5	43.5	24	HG112X24JJK
1-3/4x18	28000	55.04	1.75	2.6	9.4	3.38	53.38	35.38	59.18	41.18	18	HG134X18JJK
1- 3/4x24	28000	63.36	1.75	2.6	9.4	3.38	65.38	41.38	71.18	47.18	24	HG134X24JJK
2x24	37000	94.25	2	2.62	11.86	3.69	69.54	45.54	76.72	52.72	24	HG2X24JJK



Screw Pin Anchor Shackles

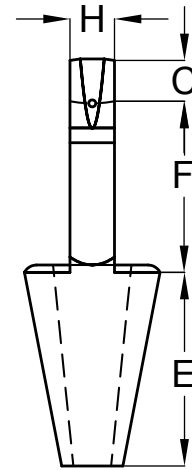
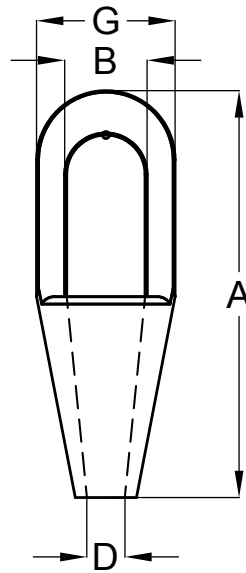
Drop Forged, Carbon Steel, Heat Treated

Nominal Size	Working Load Limit	Dimensions (in)									Weight Per Piece In	Part No.
		A	B	C	D	E	F	G	H	M		
in	tons										lbs	
1/2	2	0.81	0.63	0.5	1.63	0.5	1.19	1.81	3.03	2.69	0.59	HG12SPASK
5/8	3 1/4	1.06	0.75	0.62	2	0.63	1.5	2.31	3.75	3.34	1.25	HG58SPASK
3/4	4 3/4	1.25	0.88	0.81	2.38	0.75	1.81	2.75	4.53	3.97	2.63	HG34SPASK
7/8	6 1/2	1.44	1	0.97	2.81	0.88	2.09	3.19	5.33	4.5	3.16	HG78SPASK
1	8 1/2	1.69	1.13	1	3.19	1	2.38	3.69	5.94	5.07	4.75	HG1SPASK
1 1/8	9 1/2	1.81	1.25	1.25	3.58	1.13	2.69	4.06	6.78	5.59	6.75	HG118SPASK
1 1/4	12	2.03	1.38	1.38	3.94	1.25	3	4.53	7.5	6.16	9.06	HG114SPASK
1 3/8	13 1/2	2.25	1.5	1.5	4.38	1.38	3.31	5	8.28	6.84	11.63	HG138SPASK
1 1/2	17	2.38	1.63	1.62	4.81	1.5	3.62	5.38	9.06	7.35	15.95	HG112SPASK
2	35	3.25	2.25	2	6.75	2	4.81	7.25	12.28	10.34	26.75	HG2SPASK
2 1/2	55	4.13	2.75	2.62	8	2.62	5.69	9.38	14.84	13	42.31	HG212SPASK
3	-	-	-	-	-	-	-	-	-	-	71.75	HG3SPASK



Open Spelter Sockets Meet Federal Specifications RR-S-550D

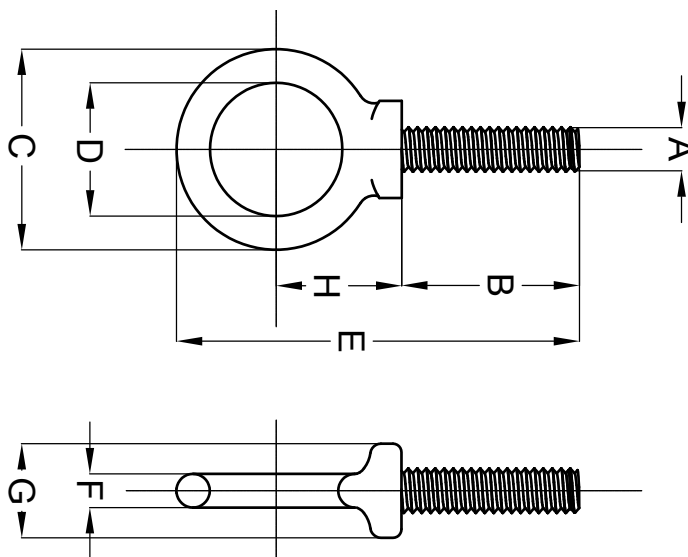
Size in	Dimensions (in)								Weight ea in lbs	Part No.
	A	B	C	D	E	F	G	H		
5/16-3/8	4.88	0.81	.81	.50	2.25	1.75	1.50	0.44	1.30	516OSS
7/16-1/2	5.56	1	1	.56	2.50	2.00	1.88	0.50	2.30	716OSS
9/16-5/8	6.75	1.25	1.19	.69	3.	2.50	2.25	.56	3.80	916OSS
3/4	7.94	1.50	1.38	.81	3.50	3.00	2.63	.63	6.00	34OSS
7/8	9.25	1.75	1.63	.94	4.00	3.50	3.13	.75	10.00	78OSS
1	10.56	2.00	2.00	1.13	4.50	4.00	3.75	0.88	15.50	1OSS
1-1/8	11.81	2.25	2.25	1.25	5.00	4.50	4.13	1.00	22.00	118OSS
1-1/4-1-3/8	13.19	2.50	2.50	1.50	5.50	5.00	4.75	1.13	32.00	114OSS
1-1/2	15.13	3.00	2.75	1.63	6.00	6.00	5.38	1.19	46.00	112OSS
1-5/8	16.25	3.00	3	1.75	6.50	6.50	5.75	1.31	55.00	158OSS
1-3/4-1-7/8	18.25	3.50	3.50	2.00	7.50	7.00	6.50	1.56	85.00	134OSS
2-2-1/8	21.50	4.00	3.75	2.25	8.50	9.00	7.00	1.81	125.00	2OSS
2-1/4-2-3/8	23.50	4.50	4.50	2.50	9.00	10.00	7.75	2.13	165.00	214OSS
2-1/2-2-5/8	25.50	5.	4.75	2.88	9.75	10.75	8.50	2.38	252.00	212OSS
2-3/4-2-7/8	27.25	5.25	5	3.13	11.00	11.00	9.00	2.88	315.00	234OSS
3-3-1/8	29.00	5.75	5.25	3.38	12.00	11.25	9.50	3.00	380.00	3OSS



Closed Spelter Sockets

Meet Federal Specifications RR-S-550D

Size	Dimensions (in)								Weight ea in lbs	Part No.
	A	B	C	D	E	F	G	H		
in										
5/16-3/8	4.88	0.94	0.63	0.50	2.25	2.00	1.69	0.69	1.10	516CSS
7/16-1/2	5.44	1.13	0.69	0.56	2.50	2.25	2.00	0.88	1.50	716CSS
9/16-5/8	6.31	1.38	0.81	0.69	3.00	2.50	2.63	1.00	3.00	916CSS
3/4	7.56	1.63	1.06	0.81	3.50	3.00	3.00	1.25	4.50	34CSS
7/8	8.75	1.88	1.25	0.94	4.00	3.50	3.63	1.50	7.00	78CSS
1	9.88	2.25	1.38	1.13	4.50	4.00	4.13	1.75	11.00	1CSS
1-1/8	11.00	2.50	1.50	1.25	5.00	4.50	4.50	2.00	16.00	118CSS
1-1/4-1-3/8	12.13	2.75	1.63	1.50	5.50	5.00	5.00	2.25	22.00	114CSS
1-1/2	13.94	3.13	1.94	1.63	6.00	6.00	5.38	2.50	28.00	112CSS
1-5/8	15.38	3.25	2.13	1.75	6.50	6.75	5.75	2.75	36.00	158CSS
1-3/4-1-7/8	17.25	3.53	2.79	2.00	7.50	7.56	6.75	3.00	58.00	134CSS
2-2-1/8	19.50	3.78	2.44	2.25	8.50	8.56	7.63	3.25	80.00	2CSS
2-1/4-2-3/8	21.38	4.28	2.88	2.50	9.00	9.50	8.50	3.63	105.00	214CSS
2-1/2-2-5/8	23.50	5.50	3.13	2.88	9.75	10.63	9.50	4.00	140.00	212CSS
2-3/4-2-7/8	25.38	6.50	3.13	3.13	11.00	11.25	10.75	4.88	220.00	234CSS
3-3-1/8	27.00	6.75	3.25	3.38	12.00	11.75	11.50	5.25	276.00	3CSS



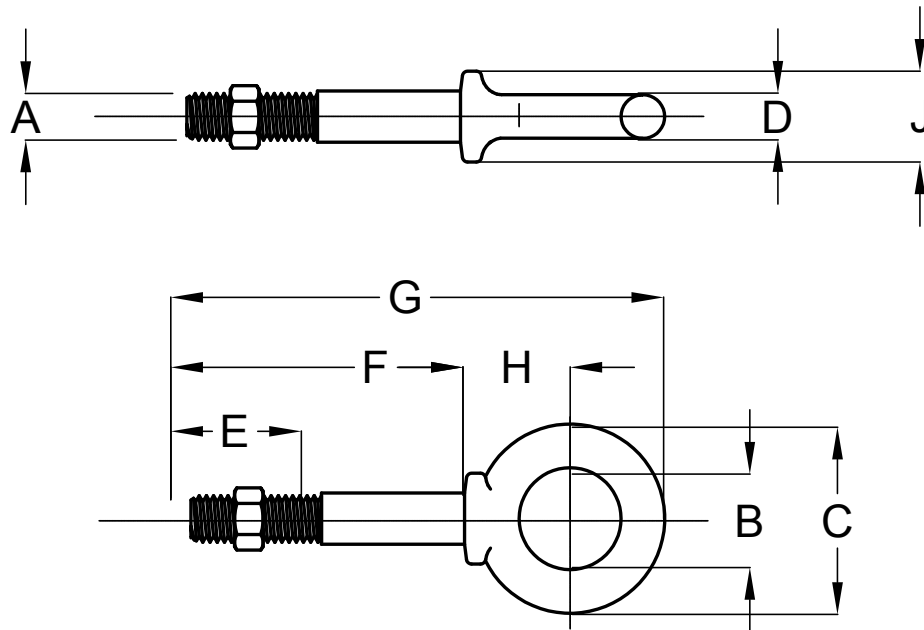
Shoulder Type Machinery Eye Bolts

Stainless Steel, Type 316

Meets or exceeds all requirements of ASME B30.26

HARDWARE

Diameter & Shank Length (in)	A-T.P.I.	Dimensions (in)							Working Load Limit LBS	Weight Per Piece in LBS	Stainless Steel Part No.
		B	C	D	E	F	G	H			
1/4 x 1	1/4"-20	1.02	1.13	0.75	2.29	0.19	0.53	0.70	575	0.05	SS14X1ME
5/16 X 1-1/8	5/16"-18	1.15	1.38	0.88	2.74	0.25	0.59	0.90	1217	0.09	SS516X118ME
3/8 X 1-1/4	3/8"-16	1.27	1.62	1.00	3.07	0.31	0.69	1.00	1300	0.15	SS38X114ME
1/2 X 1-1/2	1/2"-13	1.53	1.95	1.19	3.70	0.38	0.91	1.20	2288	0.28	SS12X112ME
5/8 X 1-3/4	5/8"-11	1.79	2.38	1.38	4.45	0.50	1.13	1.47	3500	0.55	SS58X134ME
3/4 X 2	3/4"-10	2.05	2.76	1.50	5.07	0.63	1.38	1.64	5250	0.96	SS34X2ME
7/8 X 2-1/4	7/8"-9	2.31	3.25	1.75	5.87	0.75	1.56	1.94	3266	1.54	SS78X214ME
1 X 2-1/2	1"-8	2.57	3.76	2.00	6.66	0.88	1.81	2.21	6500	2.38	SS1X212ME

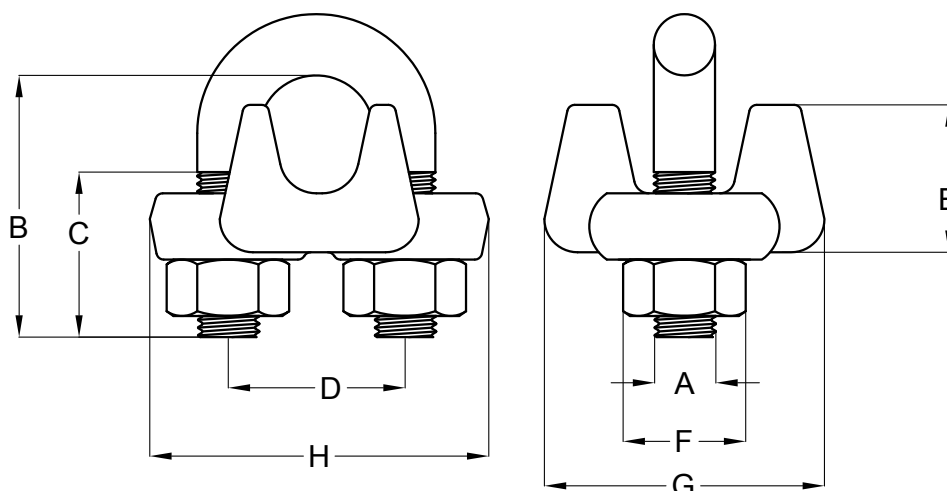


Shoulder Eye Bolts

Stainless Steel Type 316

Meets or exceeds all requirements of ASME B30.26

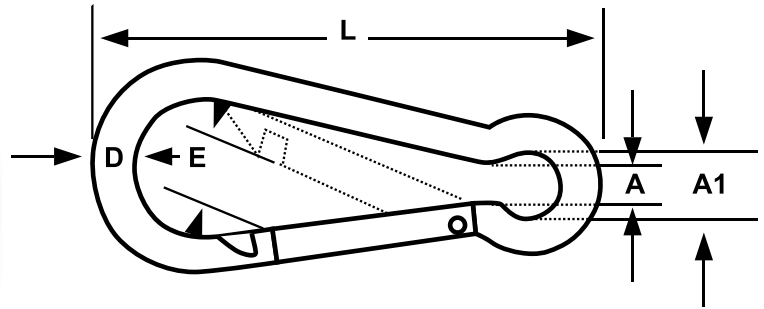
Diameter & Shank Length (in)	Dimensions (in)									Working Load Limit LBS	Weight Per Piece in LBS	Stainless Steel Part No.
	A	B	C	D	E	F	G	H	J			
1/4 x 2	.25	.50	.88	.19	1.50	2.00	2.94	.50	.47	767	.066	SS14X2SN
1/4 x 2-1/2	.25	.50	.88	.19	2.50	4.00	4.94	.50	.47	767	.091	SS14X212SN
5/16 x 2-1/4	.31	.62	1.12	.25	1.50	2.25	3.50	.69	.56	780	.125	SS516X214SN
5/16 x 4-1/4	.31	.62	1.12	.25	2.50	4.25	5.50	.69	.56	780	.188	SS516X414SN
3/8 x 2-1/2	.38	.75	1.38	.31	1.50	2.50	3.97	.78	.66	1,734	.214	SS38X212SN
3/8 x 4-1/2	.38	.75	1.38	.31	2.50	4.50	5.97	.78	.66	1,200	.253	SS38X412SN
1/2 x 3-1/4	.50	1.00	1.75	.38	1.50	3.25	5.12	1.00	.91	2,150	.426	SS12X314SN
1/2 x 6	.50	1.00	1.75	.38	3.00	6.00	7.88	1.00	.91	2,150	.568	SS12X6SN
5/8 x 4	.62	1.25	2.25	.50	2.00	4.00	6.44	1.31	1.12	3,440	.686	SS58X4SN
5/8 x 6	.62	1.25	2.25	.50	3.00	6.00	8.44	1.31	1.12	3,440	1.024	SS58X6SN
3/4 x 4-1/2	.75	1.50	2.75	.62	2.00	4.50	7.44	1.56	1.38	5,140	1.445	SS34X412SN
3/4 x 6	.75	1.50	2.75	.62	3.00	6.00	8.94	1.56	1.38	5,140	1.675	SS34X6SN



Stainless Steel Wire Rope Clips

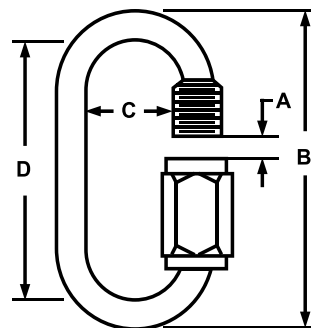
Type 304 & 316 Stainless Steel
To FF-C-450 Type 1, Class 1

Size	Weight per piece	Dimensions (in)								Part No. Type 304	Part No. Type 316
		A	B	C	D	E	F	G	H		
1/8	.06	.22	.72	.44	.47	.41	.38	.81	.94	SC18	SSC18
3/16	.10	.25	.97	.56	.59	.50	.44	.94	1.16	SC316	SSC316
1/4	.20	.31	1.03	.50	.75	.66	.56	1.19	1.44	SC14	SSC14
3/8	.47	.44	1.50	.75	1.00	.91	.75	1.63	1.94	SC38	SSC38
1/2	.77	.50	1.88	1.00	1.19	1.13	.88	1.91	2.28	SC12	SSC12
5/8	1.06	.56	2.38	1.25	1.31	1.34	.94	2.06	2.50	SC58	SSC58
3/4	1.42	0.62	2.75	1.44	1.50	1.39	1.06	2.25	2.84	SC34	SSC34
1	2.52	0.75	3.50	1.81	1.88	1.77	1.25	2.63	3.47	n/a	SSC1



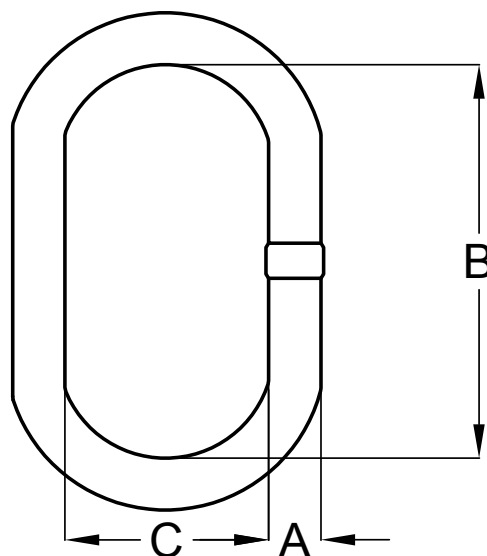
Spring Snap Hooks Stainless Steel Type 316

Size (A)	B	C	D	E	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
3/16"	0.32	2.00	.25	1/4"	120	0.04	SS316SH
1/4"	.36	2.38	.27	5/16"	180	0.06	SS14SH
5/16"	.48	3.13	.38	3/8"	280	0.15	SS516SH
3/8"	.63	3.88	.54	9/16"	400	0.27	SS38SH
7/16"	.75	4.63	.65	11/18"	550	0.42	SS716SH
1/2"	0.90	6.25	.95	1"	900	0.78	SS12SH

HARDWARE


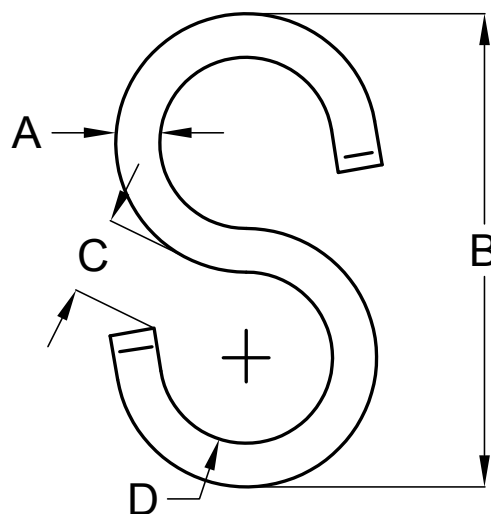
Quick Links/Rapid Links Stainless Steel Type 316

Size (A)	B	C	D	E	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/8"	1.15	.43	.18	.21	200	0.02	SS18RL
3/16"	1.56	.53	.28	.29	800	0.05	SS316RL
1/4"	1.86	.58	.32	.35	1200	0.08	SS14RL
5/16"	2.29	.70	.44	.44	2000	0.16	SS516RL
3/8"	2.78	.78	.52	.52	3500	0.29	SS38RL
1/2"	3.22	1.00	.53	.60	5000	0.52	SS12RL



Oblong Master Links Stainless Steel Type 316

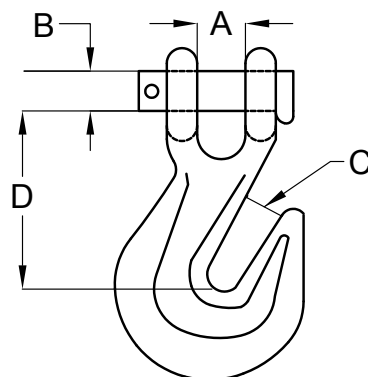
Size (A)	B	C	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
3/8	3.00	1.50	1,500	0.35	SS38OML
1/2	5.00	2.50	2,000	0.84	SS12OML
5/8	6.00	3.00	2,800	1.61	SS58OML
3/4	6.50	3.25	3,750	2.26	SS34OML
1	7.00	3.50	8,000	4.94	SS1OML
1-1/4	8.75	4.38	11,800	9.65	SS114OML



S Hooks

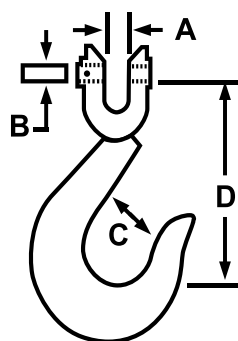
Stainless Steel Type 316

Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No. Type 316
1/8	1.38	.20	.42	50	.01	SSH18
5/32	1.59	.20	.51	80	.02	SSH532
3/16	1.90	.29	.63	120	.04	SSH316
1/4	2.25	.32	.70	200	0.06	SSH14
5/16	2.58	.46	.75	350	0.12	SSH516



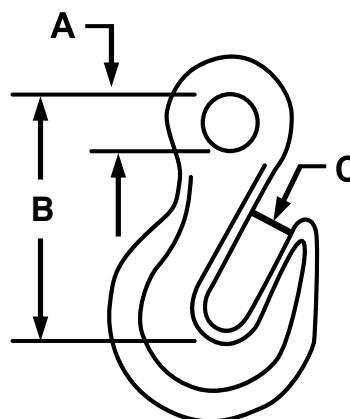
Clevis Grab Hooks Stainless Steel Type 316

Size (in)	A	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	0.37	0.41	0.34	1.83	1,500	0.40	SS14CGH
5/16	0.36	0.36	0.40	2.08	2,000	0.60	SS516CGH
3/8	0.47	0.43	0.48	2.55	2,500	1.05	SS38CGH
1/2	0.54	0.50	0.60	2.85	3,600	1.84	SS12CGH



Clevis Slip Hooks Stainless Steel Type 316

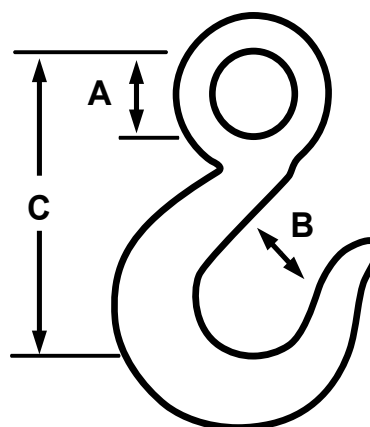
Size (in)	A	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	0.31	0.41	0.58	2.59	1,000	0.57	SS14CSH
5/16	0.37	0.42	0.83	2.71	1,500	0.82	SS516CSH
3/8	0.47	0.56	0.95	3.23	2,000	1.14	SS38CSH
1/2	0.54	0.64	1.05	3.58	3,000	2.13	SS12CSH



Eye Grab Hooks

Stainless Steel Type 316

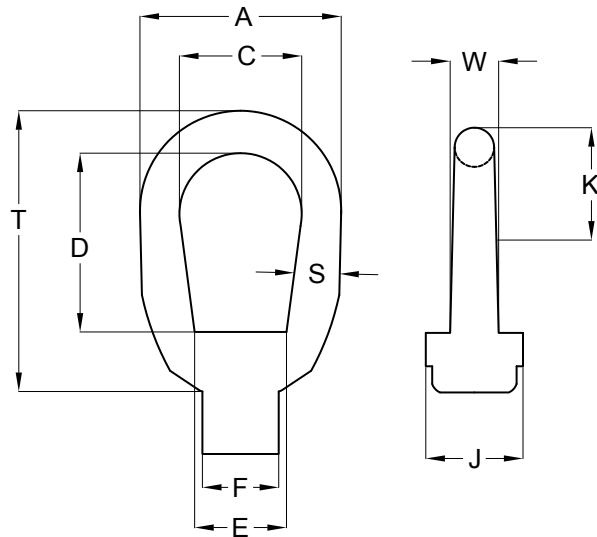
Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	0.50	0.35	2.00	1,500	0.35	SS14EGH
5/16	0.56	0.43	2.25	2,000	0.56	SS516EGH
3/8	0.65	0.50	2.50	2,500	0.89	SS38EGH
1/2	0.88	0.66	3.35	3,600	1.51	SS12EGH



Eye Slip Hook

Stainless Steel Type 316

Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	0.53	0.68	2.54	1,000	0.30	SS14ESH
5/16	0.65	0.75	3.00	1,500	0.54	SS516ESH
3/8	0.71	0.80	3.28	2,000	1.04	SS38ESH
1/2	0.94	1.02	4.17	3,000	1.87	SS12ESH

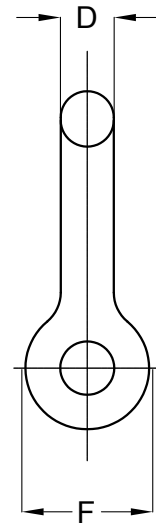
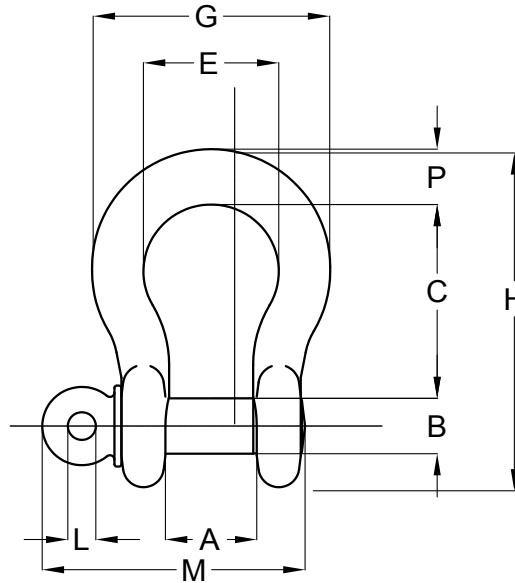


Eye Nuts

Stainless Steel Type 316

Meets or exceeds all requirements of ASME B30.26

Size No.	Tap No.	Dimensions (in)										Working Load Limit LBS	Weight Per Piece in LBS	Part No.
		A	C	D	E	F	J	K	N	T	W			
1	1/4	1.25	0.75	1.00	0.75	0.50	0.69	0.63	0.46	1.72	0.31	520	0.09	SSF1EN
2	3/8	1.62	1.00	1.20	0.83	0.56	0.81	0.89	0.58	2.09	0.41	1,250	0.17	SSF2EN
3A	1/2	2.00	1.25	1.44	1.08	0.81	1.00	1.09	0.73	2.55	0.50	2,250	0.28	SSF3AEN
4	5/8	2.50	1.50	1.92	1.35	1.00	1.31	1.31	0.83	3.25	0.69	3,600	0.60	SSF4EN
5	3/4	3.00	1.75	2.28	1.59	1.12	1.50	1.57	1.05	3.96	0.84	5,200	1.00	SSF5EN
6	7/8	3.50	2.00	2.50	1.96	1.38	1.88	1.77	1.14	4.40	1.00	7,200	1.65	SSF6EN
7	1	4.00	2.25	2.92	2.21	1.56	2.13	2.02	1.30	5.10	1.19	10,000	2.69	SSF7EN

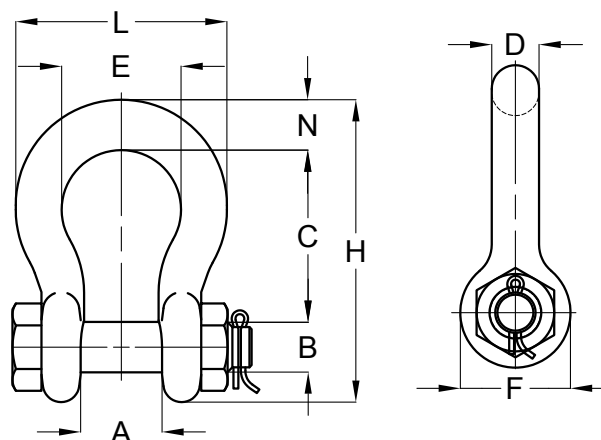


Load Rated Screw Pin Chain Shackles Stainless Steel Type 316 With Oversize Pin

Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4"	0.31	.46	.87	1000	0.09	SS14SPCS
5/16"	.38	.52	1.02	1300	0.16	SS516SPCS
3/8"	.44	.65	1.24	1500	.28	SS38SPCS
7/16"	.50	.75	1.43	2000	.43	SS716SPCS
1/2"	.63	.79	1.58	3000	0.70	SS12SPCS
5/8"	.75	1.05	1.94	4000	1.70	SS58SPCS
3/4"	.88	1.20	2.40	6000	2.13	SS34SPCS
7/8"	1.00	1.45	2.88	8000	3.22	SS78SPCS
1"	1.13	1.67	3.20	10000	4.77	SS1SPCS

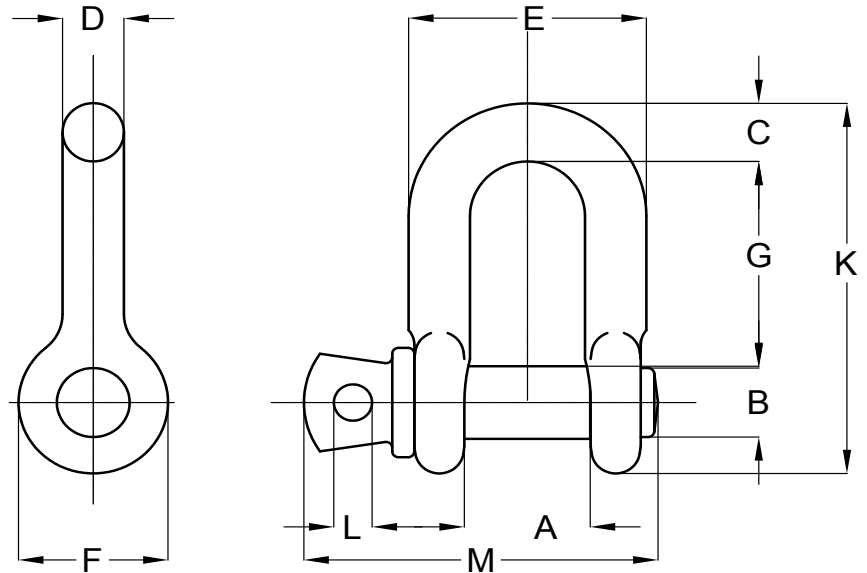
Load Rated Bolt Type Anchor Shackles

STAINLESS STEEL HARDWARE



Load Rated Bolt Type Anchor Shackles Stainless Steel Type 316

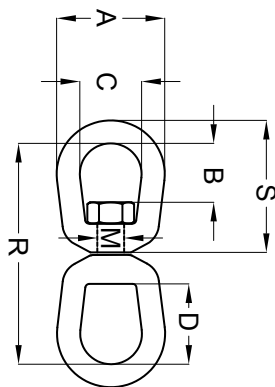
A Size	B Pin Dia	C Inside Width	D Inside Length	E	F	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	5/16	1.06	0.47	.66	0.75	1,000	0.06	SS14BTAS
5/16	3/8	1.25	.53	.81	0.84	1,300	0.12	SS516BTAS
3/8	7/16	1.44	.63	.97	1.00	1,500	0.25	SS38BTAS
1/2	5/8	1.88	.81	1.31	1.25	3,000	0.56	SS12BTAS
5/8	3/4	2.44	1.06	1.56	1.69	4,000	1.00	SS58BTAS
3/4	7/8	2.88	1.19	1.88	1.94	6,000	1.67	SS34BTAS
7/8	1	3.38	1.44	2.13	2.19	8,000	2.53	SS78BTAS
1	1-1/8	3.81	1.69	2.38	2.63	10,000	3.80	SS1BTAS



Screw Pin Anchor Shackles

Stainless Steel Type 304 and Type 316

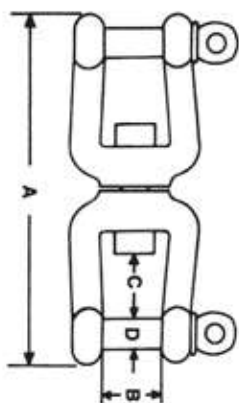
A Size	Pin Diam. in Inches (B)	C	D	E	F	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No. Type 304	Part No. Type 316
1/4	5/16	1.06	0.47	.66	.75	450	.10	SLR14SPAS	SSLR14SPAS
5/16	3/8	1.25	0.53	.81	.84	650	.18	SLR516SPAS	SSLR516SPAS
3/8	7/16	1.44	.63	.97	1.00	1000	.29	SLR38SPAS	SSLR38SPAS
1/2	5/8	1.88	.81	1.31	1.25	1990	.74	SLR12SPAS	SSLR12SPAS
5/8	3/4	2.44	1.06	1.56	1.69	3050	1.4	SLR58SPAS	SSLR58SPAS
3/4	7/8	2.88	1.19	1.88	1.94	4475	2.3	SLR34SPAS	SSLR34SPAS
7/8	1	3.38	1.44	2.13	2.19	6000	3.5	SLR78SPAS	SSLR78SPAS
1	1-1/8	3.81	1.69	2.38	2.63	77950	5.1	SLR1SPAS	SSLR1SPAS



Eye & Eye Swivels Stainless Steel Type 316

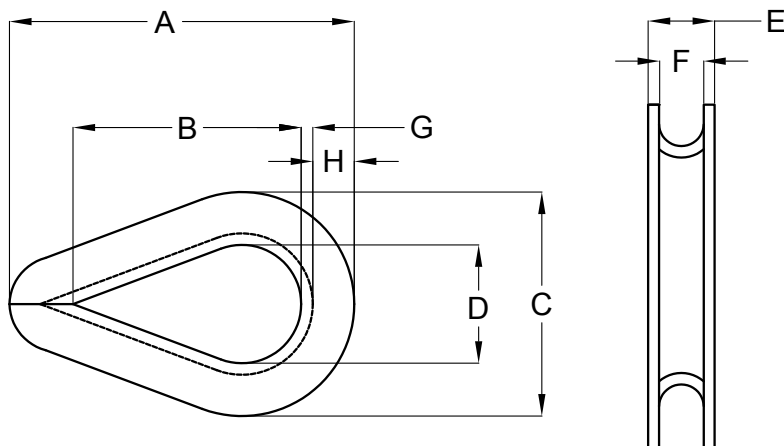
Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	.56	.56	2.56	600	.12	SS14EES
5/16	.75	.75	3.62	1100	.29	SS516ESS
3/8	.87	1.00	4.39	1540	.55	SS38ESS
1/2	1.25	1.31	5.83	2640	1.25	SS12ESS
5/8	1.50	1.62	7.37	4750	2.10	SS58ESS
3/4	1.62	2.00	8.50	7000	3.40	SS34ESS
7/8	1.87	2.00	9.25	8000	5.02	SS78ESS
1	2.50	2.56	11.00	10000	8.73	SS1ESS

HARDWARE



Jaw and Jaw Swivels Stainless Steel Type 316

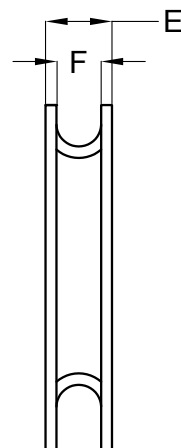
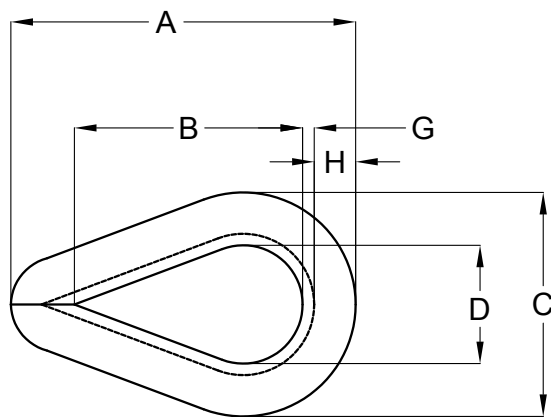
Size (A)	B	C	D	Working Load Limit (LBS)	Weight Per Piece in LBS	Part No.
1/4	.50	.44	2.63	650	.15	SS14JJS
5/16	.63	.63	3.63	1200	.38	SS516JJS
3/8	.75	.88	4.63	1500	.75	SS38JJS
1/2	1	1.13	6	2600	1.50	SS12JJS
5/8	1.25	1.38	7.38	4500	2.60	SS58JJS
3/4	0.75	1.63	8.63	7000	4.30	SS34JJS



Stainless Steel Heavy Duty Wire Rope Thimbles

Type 304 and 316 Stainless Steel
To FF-T-276B, Type III

Size	Weight per piece	Dimensions (in)								Part No. Type 304	Part No. Type 316
		A	B	C	D	E	F	G	H		
1/4	.65	2.19	1.62	1.50	.88	.44	.28	.06	0.25	SHDT14	SSHDT14
5/16	.118	2.50	1.88	1.81	1.06	.50	.34	0.08	0.30	SHDT516	SSHDT516
3/8	.216	2.88	2.12	2.12	1.12	.63	.41	.11	0.39	SHDT38	SSHDT38
1/2-9/16	.51	3.62	2.75	2.75	1.50	.89	.59	.15	0.48	SHDT12	SSHDT12
5/8	.757	4.25	3.25	3.12	1.75	1.00	.66	.16	0.53	SHDT58	SSHDT58
3/4	1.581	5.00	3.75	3.81	2.00	1.22	.78	.22	0.69	SHDT34	SSHDT34
7/8	1.78	5.50	4.25	4.25	2.25	1.38	0.94	0.22	0.78	SHDT78	SSHDT78
1	3.14	6.12	4.50	4.75	2.50	1.56	1.06	0.25	0.88	SHDT1	SSHDT1

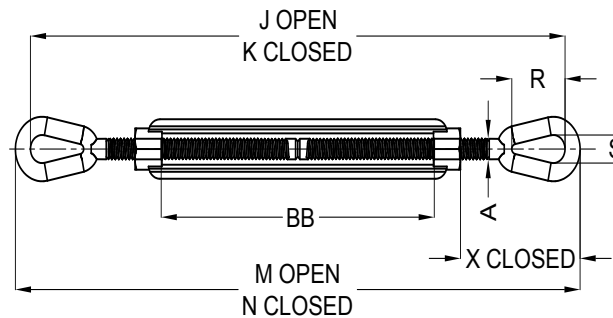


Stainless Steel Regular Duty Wire Rope Thimbles

Type 304 Stainless Steel

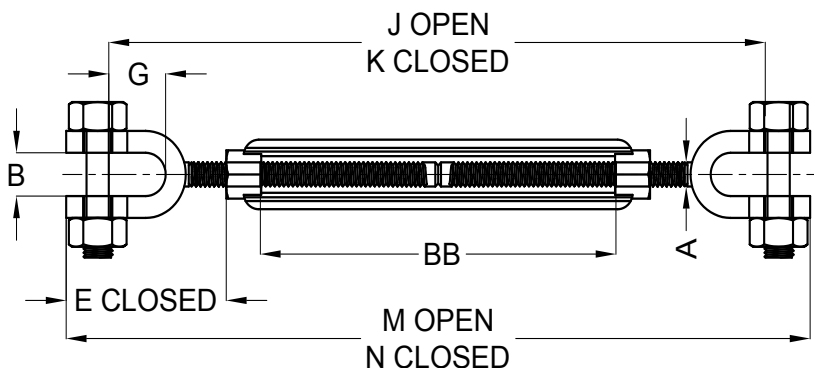
To FF-T-276B, Type II

Size	Weight per piece	Dimensions (in)				Part No.
		A	B	C	D	
1/8	0.01	0.12	0.37	0.71	0.03	SRDT18
3/16	0.02	0.19	0.44	0.80	0.04	SRDT316
1/4	0.02	0.25	0.69	0.95	0.05	SRDT14
5/16	0.04	0.34	0.78	1.40	0.06	SRDT516
3/8	0.06	0.42	0.94	1.70	0.06	SRDT38
1/2	0.14	0.50	1.14	2.80	0.09	SRDT12
5/8	0.17	0.68	1.45	2.37	0.07	SRDT58



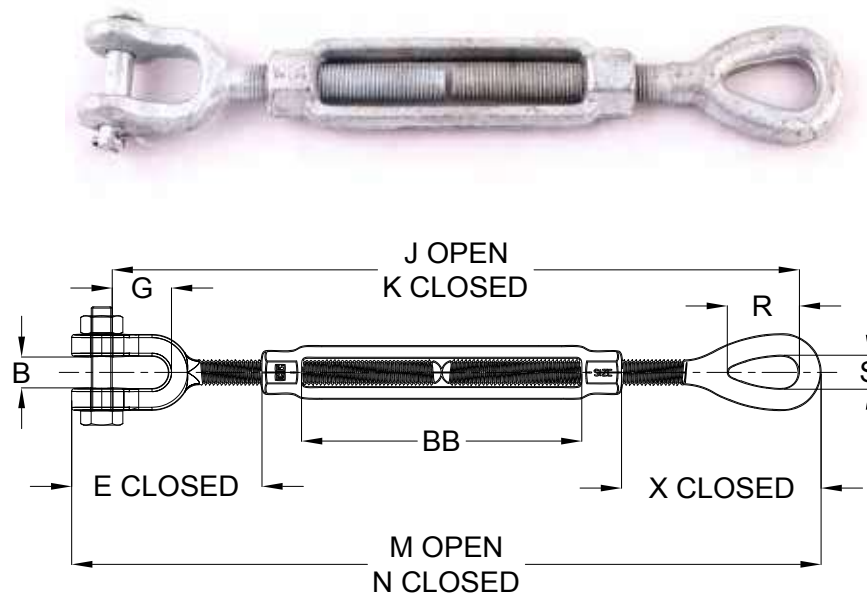
Eye and Eye Turnbuckle Type 316 Stainless Steel

Thread Dia & Take Up (in)	Working Load Limit (lbs)	Working Piece (lbs)	Dimensions (in)									Part No.
			A	J Open	K Closed	M Open	N Closed	R	S	X	BB Closed	
174 x 4	500	0.30	0.25	11.80	780	12.25	8.25	0.78	0.34	1.75	4.00	SSF14X4EE
5/16 x 4-1/2	800	0.47	0.1	13.56	9.06	14.12	9.62	0.94	0.44	2.09	4.50	SSF516X412EE
1/2 x 6	2,200	1.60	0.50	19.08	13.08	19.96	13.96	1.44	0.72	3.23	6.03	SSF12X6EE
5/8 x 6	3,500	2.75	0.63	20.68	14.68	21.68	15.68	1.75	0.88	3.90	6.03	SSF58X6EE
3/4 x 6	5,200	3.89	0.75	22.38	16.38	23.62	17.62	2.09	1.00	4.69	6.13	SSF34X6EE
1x6	10,000	9.33	1.00	25.97	19.97	27.72	21.72	3.00	1.44	6.36	6.18	SSF1X6EE
1-1/4 x 12	15,200	19.00	1.25	40.31	28.31	42.56	30.56	3.56	1.81	7.72	12.06	SSF114X12EE



Jaw and Jaw Turnbuckle Type 316 Stainless Steel

Thread Dia & Take Up (in)	Working Load Limit (LBS)	Weight Per Piece in LBS	Dimensions (in)										Part No.
			A	J Open	K Closed	M Open	N Closed	R	S	X Closed	BB		
1/4 x 4	500	0.36	0.25	0.45	1.58	0.62	10.90	6.90	11.90	7.90	4.0	SSF14X4JJ	
5/16 x 4	800	0.50	0.31	0.50	1.98	0.87	12.36	8.36	13.90	9.40	4.50	SSF516X4JJ	
3/8 x 6	1,200	0.81	0.38	0.54	2.12	0.87	16.14	10.14	17.38	11.38	6.00	SSF38X6JJ	
1/2 x 6	2,200	1.50	0.50	0.68	2.75	1.06	17.50	11.50	19.00	13.00	6.00	SSF12X6JJ	
5/8 x 6	3,500	2.72	0.63	0.82	3.50	1.31	12.80	12.80	20.88	14.88	6.00	SSF58X6JJ	



Jaw and Eye Turnbuckle Stainless Steel Type 316

Thread Dia & Take Up (in)	Working Load Limit (LBS)	Weight Per Piece in LBS	Dimensions (in)												Part No.
			A	B	E Closed	G	J Open	K Closed	M Open	N Closed	R	S	X Closed	BB	
1/4 x 4	500	0.32	0.25	0.45	1.58	0.62	11.35	7.35	12.07	8.07	0.78	0.34	1.75	4.00	SSF14X4JE
5/16 x 4	800	0.47	0.31	0.50	1.98	0.87	8.71	14.01	9.51	0.94	0.44	2.09	0.44	2.09	SSF516X412JE
3/8 x 6	1,200	0.76	0.38	0.54	2.12	0.87	16.81	10.81	17.77	11.77	1.12	0.53	2.52	6.00	SSF38X6JE
1/2 x 6	2,200	1.53	0.50	0.68	2.75	1.06	18.29	12.29	19.48	13.48	1.44	0.72	3.23	6.00	SSF12X6JE
5/8 x 6	3,500	2.35	0.63	0.82	3.50	1.31	19.74	13.74	21.28	15.28	1.75	0.88	3.90	6.00	SSF58X6JE
3/4 x 6	5,200	4.00	0.75	1.03	4.18	1.50	27.19	18.19	29.11	20.11	2.09	1.00	4.69	9.00	SSF34X6JE
1 x 6	10,000	8.92	1.00	1.31	5.53	2.06	24.34	18.34	26.89	20.89	3.00	1.44	6.36	6.00	SSF1X6JE
1 x 12	10,000	11.20	1.00	1.31	5.53	2.06	36.34	26.34	38.89	26.89	3.00	1.44	6.36	12.00	SSF1X12JE
1-1/4 x 12	15,000	20.00	1.25	1.86	7.21	2.81	38.82	26.82	42.05	30.05	3.56	1.81	7.72	18.00	SSF114X12JE



Tie Down





Twin J Hook
Yellow Chromate

Webbing Size	Style	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
1	Twin J	0.11	3,000	YC1TJH3
2	Twin J	0.15	5,000	YC2TJH5
2	Twin J	0.20	11,000	YC2TJH10S
3	Twin J	2.00	22,000	YC3TJH22



Flat Hook
Yellow Chromate

Webbing Size	Style	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
2	Flat	0.40	5,000	YC2FH5
2	Flat w/ Protector	0.75	10,000	YC2FH10P
4	Flat w/ Protector	1.26	15,000	YC4FH15P



Flat Snap Hook Yellow Chromate

Webbing Size	Style	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
2	Flat Snap	0.75	11,000	YC2SH11



S Type Hook Yellow Chromate

Webbing Size	Style	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
1	S-Type	0.40	3,000	YC1SWH3



Ratchet Buckles Yellow Chromate

Size	Description	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
1"	Long & Wide Steel Round Handle	1.40	3,300	YC1RB3
2"	Long & Wide Steel Round Handle	1.45	10,000	YC2RB10LW
2"	Standard & Short Steel Round Handle	2.30	10,000	YC2RB10SS
2"	Short & Wide Steel Round Handle	2.40	10,000	YC2RB10WS
3"	Long & Wide Steel Round Handle	7.20	22,000	YC3RBS33
4"	Long & Wide Steel Round Handle	8.10	24,000	YC4RB25



Ratchet Strap Assembly

Long & Wide Steel Handle Ratchet with Hooks on both ends

Webbing Diameter	Webbing Length	Break Strength in LBS	Ends	Weight per Assembly in LBS	Part No.
2"	27'	10,000	J- Hooks	6.38	RA2X27JHDRL
2"	27'	10,000	Flat Hook	6.60	RA2X27FHDRL
4"	30'	20,000	Flat Hook	15.32	RA4X30FH



Tie Down Webbing

Yellow Polyester

Webbing Diameter	Webbing Length	Breaking Strength (LBS)	Weight per Roll in LBS	Part No.
2"	300'	12,000	19	2X300/12000
4"	300'	20,000	32	4X300/20000



Grade 43 High Test Binding/Boomer Chains With Clevis Grab Hooks on Each End

Chain Diameter	Chain Length	Finish	Weight per Piece in LBS	Part No.
5/16	20'	Self-Colored	20.00	516SC43BC20
3/8	20'	Self-Colored	31.00	38SC43BC20
1/2	20'	Self-Colored	57.00	12SC43BC20



Grade 70 Transport Binding/Boomer Chains With Clevis Grab Hooks on Each End

Chain Diameter	Chain Length	Finish	Weight per Piece in LBS	Part No.
5/16	20'	Yellow Chromate	20.00	516SCG70BC20
3/8	20'	Yellow Chromate	31.00	38SCG70BC20
1/2	20'	Yellow Chromate	57.00	12SCG70BC20



Ratchet Load Binders

Forged Steel & Heat Treated

Size	Description	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
5/16-3/8	Ratchet Load Binder	11.25	6,600	RL516
3/8-1/2	Ratchet Load Binder	13.25	9,200	RL38
1/2-5/8	Ratchet Load Binder	19.20	13,000	RL12



Lever Load Binders

Forged Steel & Heat Treated

Size	Description	Weight per Piece (LBS)	Working Load Limit (LBS)	Part No.
1/4	Lever Load Binder	3.50	2,600	LL14
5/16-3/8	Lever Load Binder	11.00	5,400	LL516
3/8	Lever Load Binder	13.70	9,200	LL38



Miscellaneous





Product Description	Size	Catalog #	Weight
SAF-T-LIFT Personnel Basket	3'x3'x88"	PB3X3	460
SAF-T-LIFT Personnel Basket	4'x4'x88"	PB4x4	560
SAF-T-LIFT Personnel Basket	4'x6'x88"	PB4x6	790
SAF-T-LIFT Personnel Basket	4'x8'x88"	PB4x8	990
Personnel Basket Crane Rigging Kit	Rigging Kit	RIG 2	20
Test Weight form 125% of capacity	-	TST1250	100

Product Description	Size	Catalog #	Weight
Forklift Basket	4'x4'x75"	FB4x4	450
Tool Tray	8" x 35" x 6.5"	TTBA	20
Light Bulb Utility Caddy	30.5"x 6" x 36"	LBUC	60

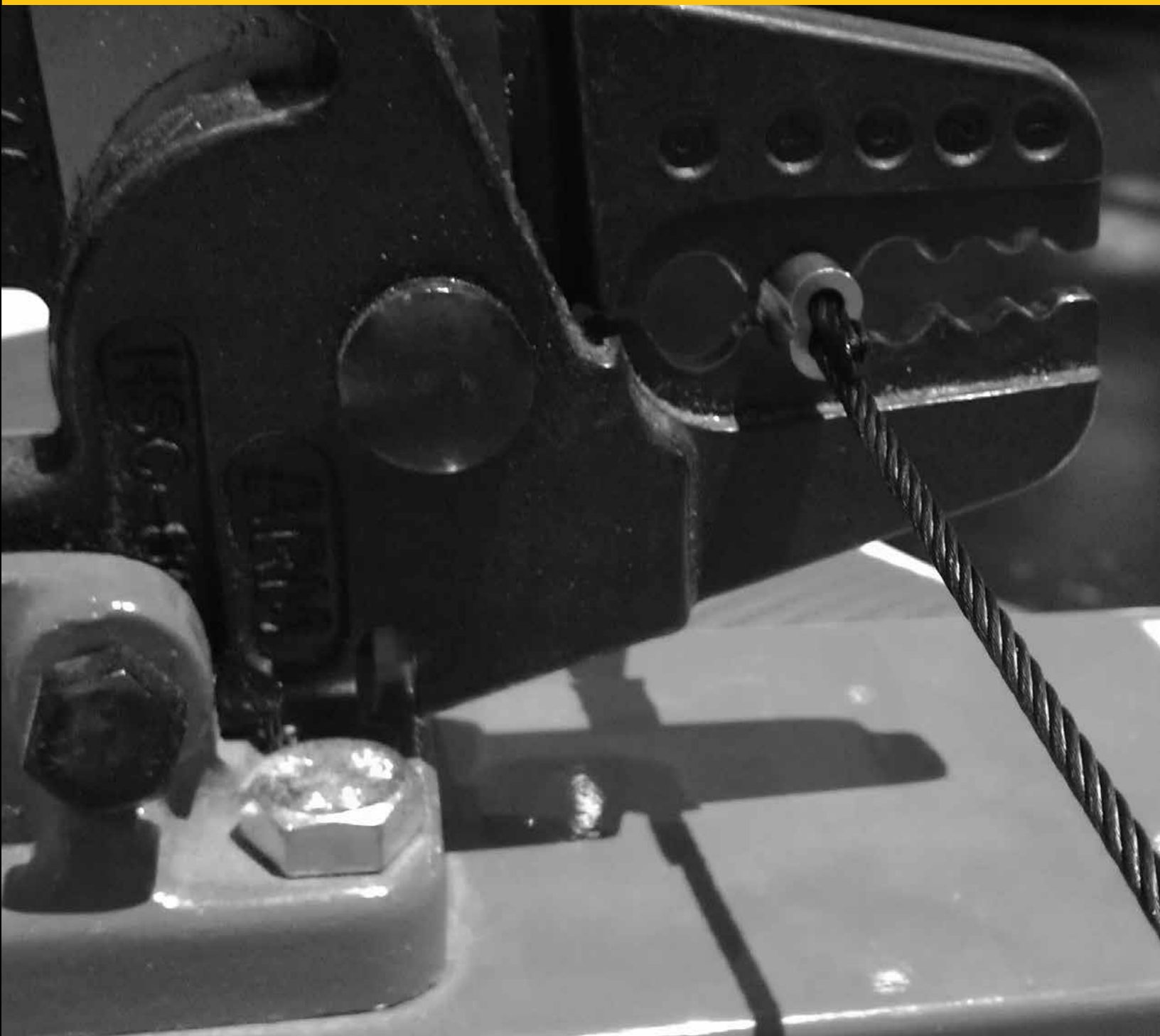
Product Description	Size	Catalog #	Weight
Material Bins Slanted Sides	4' x 4' x 3'	DB4x4x3 (2.22 yds)	610
Material Bins Slanted Sides	4' x 4' x 4'	DB4x4x4 (2.96 yds)	820
Material Bins Slanted Sides	4' x 7' x 3'	DB4x7x3 (3.56 yds)	1070

Product Description	Size	Catalog #	Weight
Material Bins Straight Sides	4' x 4' x 3'	MB4x4x3	570
Material Bins Straight Sides	4' x 4' x 4'	MB4x4x4	670
Material Bins Straight Sides	4' x 8' x 3'	MB4x8x3 (3.56 yds)	1140
Material Bins Straight Sides	4' x 8' x 4'	MB4x8x4 (4.74 yds)	1340

Product Description	Size	Catalog #	Weight
Heavy Duty Skip Pans 2.58 cu.yd	48"w x 96"Length 32 Deep	SP-6000	1200
Heavy Duty Skip Pans 3.91 cu.yd	48"w x 96"Length 32 Deep	SP- 8000	1500
Heavy Duty Skip Pans 3.91 cu.yd	48"w x 96"Length 32 Deep	SP- 12000	1600

Product Description	Size	Catalog #	Weight
Heavy Duty Skip Pans 2.58 cu.yd	48"w x 96"Length 32 Deep	SP-6000	1200
Heavy Duty Skip Pans 3.91 cu.yd	48"w x 96"Length 32 Deep	SP- 8000	1500
Heavy Duty Skip Pans 3.91 cu.yd	48"w x 96"Length 32 Deep	SP- 12000	1600

Tools





Cable Cutting Tools

Cuts Cable Sizes	Capacity in inches	Weight Per Piece in LBS	Part No.
1/16 – 3/16	1/16 – 3/16	0.50	CUTTER116
1/16 – 3/8	1/16 – 3/8	3.00	CUTTER116-38



Hand Swaging Tools

Swages Cable Sizes	Size	Weight Per Piece in LBS	Part No.
5/32, 1/4 & 5/16	30"	2.00	HST532-516
3/8	36"	3.00	HST38
1/16, 3/32, 1/8, 5/32 & 3/16	36"	14.00	BMST
1/16, 3/32, 1/8, 5/32 & 3/16	24"	15.00	HST116-316

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