



**SLINGS - HARDWARE - TIE DOWNS - HOISTS & TROLLEYS**

Slings made in the USA for over 50 years

877.889.8833 • [TuffySales@tuffyweb.com](mailto:TuffySales@tuffyweb.com) • [www.tuffyweb.com](http://www.tuffyweb.com)

*Setting the standard for quality, safety,  
and dependability in lifting products for  
over 50 years.*

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For more information, please  
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# TAKE A LOAD OFF YOUR MIND

## INFORMATION TO HELP YOU FIT WEB SLINGS TO YOUR APPLICATION

In this handbook, you'll find how to match the sling to your load according to rated capacity, how to use the right hitch, how to calculate the load on each leg of a sling and how to adjust the rated capacity of choker hitches. You'll also find out how to choose the right material, coatings and wear pads to fit your many different lift requirements.

## SETTING THE STANDARD FOR QUALITY

Tuffy™ Products is proud to announce that its quality management system has been certified to ISO 9001:2015 through their third party registrar, SAI Global. Tuffy™ Products received the certification after extensive audits reviewed the Company's internal sling fabrication and quality systems. The scope of the certification includes the design, development, manufacture, distribution, inspection and testing of synthetic slings, lifting devices and associated hardware. Through internal and third party quality management system audits, Tuffy™ Products will ensure high quality products and on-time delivery to meet and exceed customers' needs and expectations through continual improvement.

## PROVEN EXPERIENCE IN TECHNICAL AND SALES SUPPORT

Nobody else has more experience in the lifting industry than we do. Look to us for engineering assistance in sling selection and design, including experience in high-capacity, multiple-sling rigging systems. We also offer expert technical sales support at the local level.

Call us today, and we'll help you take a load off your mind.

## WARRANTY

Any warranty, expressed or implied as to quality, performance or fitness for use is always premised on the condition that the published rated capacities apply only to new, unused slings and assemblies, that the mechanical equipment on which such products are used is properly designed and maintained, that such products are properly stored, handled, used and maintained, and properly inspected on a regular basis during the period of use.

Seller shall not be liable under any circumstances for consequential or incidental damages or secondary charges including but not limited to personal injury, labor costs, a loss of profits resulting from the use of said products or from said products being incorporated in or becoming a component of any other product.



# MAKING SLING BUYING EASY: HOW TO ORDER

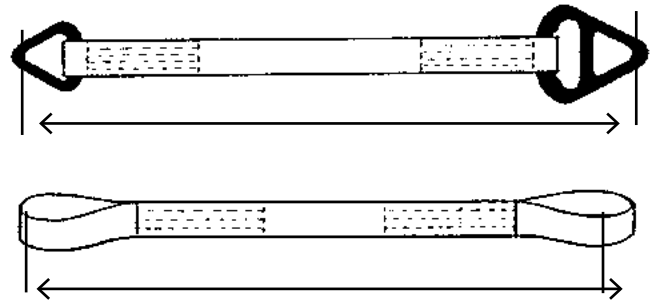
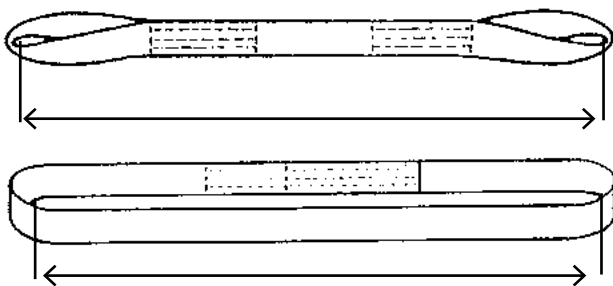
## UNDERSTANDING PART NUMBERS

EEF-2-9 03 x 8' Type 4 - Polyester

Type of Sling    No. of Body Plies    Grade of Webbing    Width    Length    Sling Type    Sling Material

## MEASURING LENGTH OF SLING

To calculate the correct length of the sling, measure pull to pull when flat.



## CALCULATING SLING'S RATED CAPACITY

We use the following guidelines for calculating a sling's rated capacity:

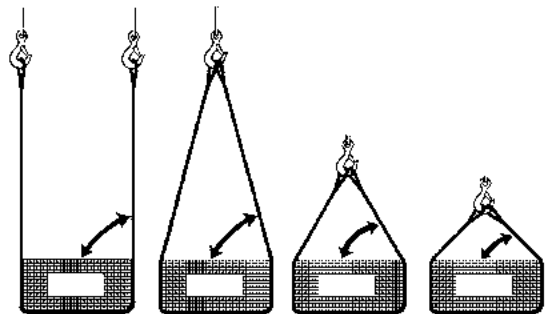
**1. Web tensile strength:** This factor is the foundation for the calculation. Every webbing material is made with a specified nominal strength, measured in pounds per inch of width, in two basic grades. The webbing manufacturer is required to meet or exceed these nominal strengths with written proof. Any variation must exceed these ratings. This nominal strength of the webbing is used to calculate the sling's rated capacity.

**2. Fabrication factor:** This compensates for the reduction in webbing strength that occurs due to stitching and tapering. The greater the stitching, the more the reduction in webbing strength. Two-ply slings, for example, require more stitching than one-ply slings, thereby increasing the fabrication factor for the two-ply sling. Another factor is applied when webbing must be tapered such as in slings' eyes.

**3. Hardware strength:** This becomes a factor only when the nominal strength of the hardware is lower than the nominal strength of the sling. If so, the nominal strength of the hardware is used in calculating a sling's rated capacity.

**4. Design factor:** After web nominal strength has been adjusted by applying the fabrication factor, the sling's rated capacity is then determined by using a design factor of 5 to 1, as specified by American Society of Mechanical Engineers (ASME) standard ASME B30.9, Section 9 - 4.4. ANSI and OSHA both require sling manufacturers to document published sling ratings with records of test data.

**5. Random testing:** In addition to using the above factors for calculating each sling's rated capacity, we test randomly selected slings from production runs to make sure every new sling meets or exceeds specifications and the rated capacity.



# CHOOSE MATERIAL, AND COATINGS TO FIT YOUR LOAD

All the synthetic web products in this handbook are both the same and different.

They all have the same proven workmanship and long-lasting quality you can depend on. But they've all been engineered to give you different performance traits and rated capacities to perform to your different lifting needs.

## NYLON VS. POLYESTER

Both materials are heavy webbing loomed specifically to deliver dependable service in tough industrial conditions. Each is offered in two grades or strength ratings, identified in the numbering code of every stock number. Choose the strength that fits your application.

Nylon and polyester perform equally well in many applications, but each is designed for use in specific conditions. Here's a summary of their differences and similarities.

### DIFFERENCES

**Elastic stretch:** Nylon will stretch about 6% when loaded — about twice that of polyester — at sling's rated capacity and still return to original length. Overloading beyond rated capacity will permanently stretch and weaken both types.

**Stability to acids vs. alkalis:** In general, nylon is more stable when exposed to alkalis, while polyester performs better when exposed to acids. But there are exceptions to each. For more details, please check with us.

### SIMILARITIES

**Handling characteristics:** Each type handles the same way. Water absorption is also low for both, which means the sling's rated capacity isn't seriously affected.

**Identical temperature constraints.** Neither nylon nor polyester should be exposed to heat exceeding 194° F (90° C) or below -40° F (-40° C).

**Susceptibility to prolonged sunlight:** Although we've added special treatments to provide some protection against long-term exposure to direct sunlight, both nylon and polyester are vulnerable. In direct exposure to sunlight, properly stabilized nylon outperforms polyester, but when exposed under glass, it's polyester that outperforms nylon. We recommend you store both types inside or under cover.

**Stability under exposure to many common chemicals:** As shown in the chart, neither is affected by common chemicals, normal dry-cleaning solutions, or soap and water. Both also retain their strength in oil and grease.

**Both materials work best clean:** Neither material supports the growth of mildew or bacteria, although dirt may accumulate on slings to support such growth. That's why we recommend cleaning with water and then hanging to allow the sling to completely dry before use.

CHEMICAL	NYLON	POLYESTER
Acid	✗	*
Alcohol	✓	✓
Aldehydes	✓	✗
Strong Alkalis	✓	**
Bleaching Agents	✗	✓
Dry Cleaning Solvents	✓	✓
Ethers	✓	✗
Halogenated Hydrocarbons	✓	✓
Hydrocarbons	✓	✓
Ketones	✓	✓
Oil, Crude	✓	✓
Oil, Lubricating	✓	✓
Soaps, Detergents	✓	✓
Water, Seawater	✓	✓
Weak Alkalis	✓	✓

\*Disintegrated by concentrated sulfuric acid.

\*\*Degraded by strong alkalis at elevated temperatures.

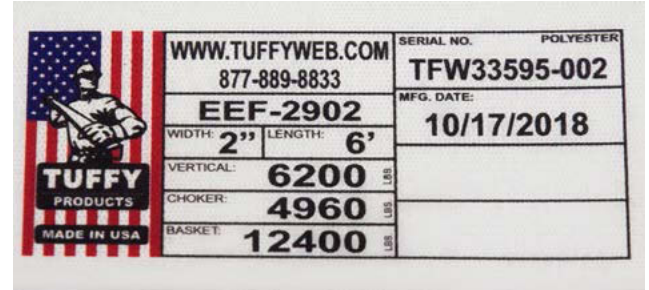
# WE TAKE RESPONSIBILITY FOR EVERY SLING

## SLING IDENTIFICATION TAG

That's why we sew a permanent tag on each new sling to show its rated capacity and can trace each sling to a manufacturing work order. It's not only a stamp of quality assurance, it's also a permanent record for us to know the precise sources and specification of webbing and hardware, even the machine operator who made the sling. Think of it as our seal of approval. What better way to take a load off your mind?

Each sling shall be marked to show the following:

- Name or Trademark of Manufacturer
- Manufacturer's code or stock number
- Rated loads for the type(s) of hitch(es) used and the angle upon which it is based
- Type of synthetic web material
- Number of legs, if more than one
- Sling identification shall be done by the manufacturer



## SLING WARNING TAG

Each sling, web or round, has a specific set of recommended warnings and standards for users to ensure proper use of slings in the field. We attach the Web Sling Tie Down Association official tags. These four sided tags are attached to each sling next to the sling identification tag.



ROUNDSLING  
RSWT-1 2010

**WARNING**

Read and follow all use and safety information provided with this sling. Failure to do so may result in severe **INJURY** or **DEATH** due to sling failure and/or loss of load.

The following six points briefly summarize some important safety issues:

- 1 All users must be trained** in sling selection, use and inspection, cautions to personnel, environmental effects and rigging practices.
- 2 Inspect sling for damage regularly.** A sling shall be removed from service if you see any of the conditions listed on the back of this label. If you have ANY doubts about the condition of a sling, do not use or repair it.
- 3 Protect sling from damage.** ALWAYS protect slings in contact with edges, corners, protrusions or abrasive surfaces with materials of sufficient strength, thickness and construction to prevent damage.
- 4 Do not exceed a sling's rated capacity.** Always consider the effect of sling angle and tension on the sling's capacity.
- 5 Do not stand on, under or near a load** with the sling under tension. All personnel should be alert to dangers of falling or uncontrolled loads, sling tension and the potential for snagging.
- 6 Maintain and store slings properly.** Slings should be protected from mechanical, chemical and environmental damage.

(continued on back)

also, never engage an eye, hand or foot with the sling, of hitch and the environment.

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WEB SLING  
WSWT-1 2010

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also, never engage an eye, hand or foot with the sling, of hitch and the environment.

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# CHOOSE THE RIGHT HITCH FOR YOUR LOAD

By using the following descriptions, you'll ensure the right choice when selecting a hitch for your various lifting operations:



Vertical

**Vertical:** Also called straight hitches. These attach by simply using a sling to connect a lifting hook to a load. Use the sling to its full rated lifting capacity, but never above it. Use a tagline to keep the load from rotating, which may damage the sling. When you attach two or more slings to the same lifting hook, the total hitch becomes a lifting bridle, distributing the load among the individual slings. When using two or more slings, remember that the sling angle affects the slings' rated capacities.

**Choker:** These hitches are used when the load won't be seriously damaged by the sling body (or vice versa) and when the lift requires the sling to hug the load. These reduce a sling's lifting capability.

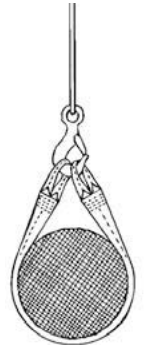


Choker

The diameter of the bend where the sling contacts the load should keep the point of choke against the sling body — never against a splice or the base of the eye. When a choke is used at an angle of less than 120°, the sling rated capacity must be reduced.

**Two notes of caution:** Always pull a choker hitch tight before a lift is made — not during the lift. And never use only one choker hitch to lift a load that may shift or slide out of the choke.

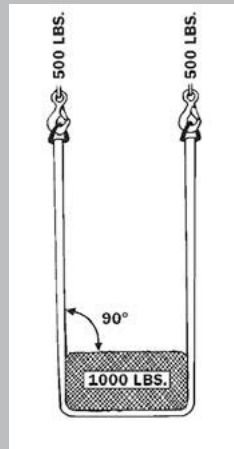
**Basket:** These hitches distribute a load between the two legs of a sling within the limitations described below.



Basket

## CALCULATE THE LOAD OF BASKET HITCHES

There's an important principle to remember before you calculate your load. As the horizontal angle of a sling decreases, the load on each leg increases (see illustrations at right). That's true whether you use a single sling as a basket or two slings with each in a straight pull such as a two-legged bridle.



Anytime you lift a load with a leg (or legs) of a sling at an angle, you can calculate the load per leg as well as the sling's rated capacity by using the following three-step formula.

**1. Divide your total load by the number of legs you're using.**

This gives you the load per leg if the lift were being made with all lifting vertically. All of these calculations assume the center of gravity is directly below the hook. If not, more complicated engineering calculations are needed.

**2. Find out the angle between the legs of the sling and the horizontal plane.**

**3. Multiply the load per leg** (from step 1) by the load factor for the leg angle you're using (from the table above). This gives you the actual load on each leg for this lift and angle. The actual load must never exceed the sling's rated capacity.



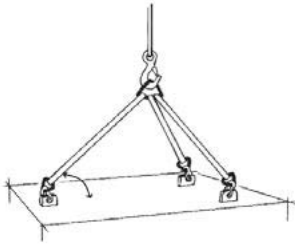
## CALCULATING THE ANGLE OF BRIDLES

The horizontal angle of bridles with three or more legs is measured the same way as horizontal sling angles of two-legged hitches. If a bridle is designed with different leg lengths, it may result in different horizontal angles. Normally, the leg with the smallest horizontal angle will carry the greatest load. That means you should use the smallest horizontal angle when you calculate the actual leg load and evaluate your sling's rated capacity.

### Load Factor Guidelines

Leg Angle	Load Factor
90	1.000
85	1.003
80	1.015
75	1.035
70	1.064
65	1.103
60	1.154
55	1.220
50	1.305
45	1.414
40	1.555
35	1.743
30	2.000

In extreme angular conditions, an engineering analysis should be made.

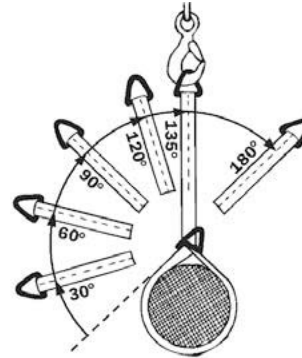


## ADJUSTING CHOKER HITCH RATED CAPACITY

When a choker hitch is drawn tight at an angle of less than 120°, you'll need to reduce the hitch's rated capacity to allow for loss of rated capacity as the chart shows. Our tests have shown that when the angle was less than 120°, the sling body always failed at the point of choke when pulled to maximum. You must always allow for this anytime you use a choker hitch to shift, turn or control a load, or when the pull is against the choke in a multi-leg lift.

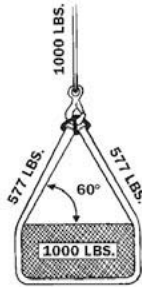
Angle of Choke	Rated Capacity*
120° - 180°	100%
60° - 119°	95%
0° - 59°	90%

\*Percent of sling's rated capacity in a choker hitch.



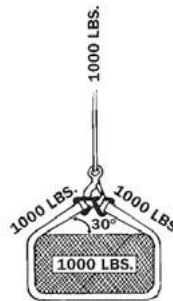
### Example 1:

1. Total load is 1,000 lbs. divided by two legs = 500 lbs. (load per leg if vertical lift).
2. Horizontal sling angle is 60°.
3. Multiply 500 lbs. by 1.154 load factor (from table) = 577 lbs. actual load per leg.



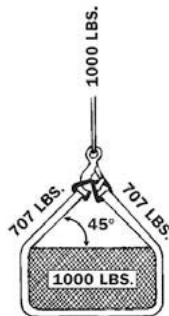
### Example 3:

1. Two-leg total load is 1,000 lbs.
2. Horizontal sling angle is 30°.
3. Multiply by 2 and actual load is 1,000 lbs.



### Example 2:

1. Total load is 1,000 lbs. divided by two legs = 500 lbs. (load per leg if vertical lift).
2. Horizontal sling angle is 45°.
3. Multiply 500 lbs. by 1.414 load factor (from table) = 707 lbs. actual load per leg.



**WARNING:** Horizontal sling angles less than 30° shall not be used.

# INCREASE LIFE OF SLINGS WITH WEAR PROTECTION

## WEAR PADS

Wear protection is standard only on Types 6 and 7. If you plan to use any of our other slings in damaging conditions, please specify wear pads when you order.

Our padded slings include a nylon and polyester buffer designed specially for this application. They're also available in synthetic leather that's more economical and stiffer than regular leather or in the same material as the sling body. You may choose another material if you wish — please specify when you order.



### REGULAR:

An extra layer of material is sewn at the wear points on either or both sides of the sling body or eyes. Multiple layers are also available upon request.



### EDGE GUARD:

Pads are sewn along the edges of the sling body to offer extra protection at a critical wear area.



### SLEEVE OR TUBE:

Protects both sides of the sling body, and you can easily slide it across the sling. It remains stationary as the sling stretches while the load is being lifted.



### WRAP:

Similar to the sleeve, but is sewn onto the sling body to protect the edges as well as the lifting surface.

## PROTECTIVE COATINGS

To protect the finished webbing against moisture and dirt penetration, we treat all our sling webbing with a special coating during the final stages of looming to promote cohesion of the yarns in the fabric. This also helps reduce abrasion.

You may also choose a coating of **Neoprene** if you wish. We'll apply it after sling fabrication but it will increase the stiffness of the finished sling. The coating helps improve abrasion resistance and helps decrease absorption of fluids and dirt. For cut edge protection, see page 25.

## SLIDING SLEEVES SWC1 / SWC2

### SWC1

Sliding Sleeve, 1 ply heavy duty polyester webbing both sides, sewn both sides with ends open

### SWC2

Sliding Sleeve, 2 ply heavy duty polyester webbing both sides, sewn both sides with ends open

**Features:**

- Protects the sling from localized abrasion
- Heavy duty polyester webbing
- Sewn both sides
- Can slide on the sling and be positioned in a specific location

**How to order:**

Combine model and length



Part Number – 1 ply		Width	Sling Width
Model	Length		
03SWC1	*	3"	1"
04SWC1	*	4"	2"
06SWC1	*	6"	3"
08SWC1	*	8"	4"
10SWC1	*	10"	6"
12SWC1	*	12"	8"
16SWC1	*	16"	10-12"
Part Number – 2 ply			
03SWC2	*	3"	1"
04SWC2	*	4"	2"
06SWC2	*	6"	3"
08SWC2	*	8"	4"
10SWC2	*	10"	6"
12SWC2	*	12"	8"
16SWC2	*	16"	10-12"

## SLIDING SLEEVES SBV2

Sliding Sleeve, 2 ply, heavy duty web inner plies, buffer webbing outer plies, sewn closed one side with Velcro closure other side

**Features:**

- Protects the sling from localized abrasion
- Heavy duty polyester and buffer webbing
- Easily attached and removed with the Velcro closure
- Can slide on the sling and be positioned in a specific location

**How to order:**

Combine model and length



Part Number		Width	Sling Width
Model	Length		
03SBV2	*	3"	1"
04SBV2	*	4"	2"
06SBV2	*	6"	3"
08SBV2	*	8"	4"
10SBV2	*	10"	6"
12SBV2	*	12"	8"
16SBV2	*	16"	10-12"

## SLIDING SLEEVES SFV1

Sliding Sleeve, 1 ply, white felt sewn closed one side with Velcro closure other side.

**Features:**

- Protects the sling from localized abrasion
- Heavy duty 3/8" thick white felt
- Easily attached and removed with the Velcro closure
- Can slide on the sling and be positioned in a specific location
- Larger widths available upon request

**How to order:**

Combine model and length

Part Number		Width	Sling Width
Model	Length		
03SFV1	*	3"	1"
04SFV1	*	4"	2"
06SFV1	*	6"	3"
08SFV1	*	8"	4"
10SFV1	*	10"	6"
12SFV1	*	12"	8"
16SFV1	*	16"	10-12"



## SLIDING SLEEVES SFV2

Sliding Sleeve, 2 ply, polyester web inner lined with white felt outer layers, sewn closed one side with Velcro closure other side.

**Features:**

- Protects the sling from localized abrasion
- Heavy duty nylon webbing and 3/8" thick white felt
- Easily attached and removed with the Velcro closure
- Can slide on the sling and be positioned in a specific location
- Larger widths available upon request

**How to order:**

Combine model and length



Part Number		Width	Sling Width
Model	Length		
03SFV2	*	3"	1"
04SFV2	*	4"	2"
06SFV2	*	6"	3"
08SFV2	*	8"	4"
10SFV2	*	10"	6"
12SFV2	*	12"	8"
16SFV2	*	16"	10-12"



**TRIANGLE - CHOKER TCA/TCS – Type 1**  
**TRIANGLE - TRIANGLE TTA/TTS – Type 2**



TCA Type 1 - Aluminum Choker & Basket Fitting



TTA Type 2 - Aluminum Basket Fittings



TCS Type 1 - Steel Choker & Basket Fitting



TTS Type 2 - Steel Basket Fittings

Triangle Choker Slings are polyester web slings with a Choker fitting on one end and a Triangle on the other. Available in steel or aluminum fittings, they can be rigged in vertical, choker, or basket hitches.







Triangle Basket Slings are polyester web slings with steel, aluminum, links, or shackles on both ends. They are designed for use only in a vertical or basket hitch.

**Features:**

These are polyester web slings with steel or aluminum end fittings for use in vertical, choker and basket hitch applications.

**How to Order:**

\* Insert TCA/TTA prefix for aluminum fittings or TCS/TTS prefix for steel fittings.

Stock No.	Width (inches)	Ply	Rated Capacities in Lbs.					
			Vertical 	Choker** 	Basket 	60° 	45° 	30° 
*-1-902P	2	1	3,100	2,480	6,200	5,369	4,383	3,100
*-2-902P	2	2	6,200	4,960	12,400	10,738	8,767	6,200
*-1-903P	3	1	4,700	3,760	9,400	8,140	6,646	4,700
*-2-903P	3	2	8,800	7,040	17,600	15,242	12,443	8,800
*-1-904P	4	1	6,200	4,960	12,400	10,738	8,767	6,200
*-2-904P	4	2	11,000	8,800	22,000	19,052	15,554	11,000
*-1-906P	6	1	9,300	7,440	18,600	16,108	13,150	9,300
*-2-906P	6	2	16,500	13,200	33,000	28,578	23,331	16,500
*-1-908P	8	1	11,800	9,440	23,600	20,438	16,665	11,800
*-2-908P	8	2	22,700	18,160	45,400	39,316	32,098	22,700
*-1-910P	10	1	14,700	11,760	29,400	25,460	20,786	14,700
*-2-910P	10	2	28,400	22,720	56,800	49,189	40,158	28,400
*-1-912P	12	1	17,600	14,080	35,200	30,483	24,886	17,600
*-2-912P	12	2	34,100	27,280	68,200	59,061	48,217	34,100

\*\* Choker rated capacities apply to Type 1 slings only.

**Notes:**

- Polyester Webbing standard, unless otherwise requested
- Steel fittings are standard on both 1-ply and 2-ply slings.
- These slings are also available in 3-ply and 4-ply construction
- Aluminum fittings are available up to 6" in 1-ply capacities.

**Warning:** Never use aluminum fittings where fumes, vapors, mists or liquids of caustics are present. Horizontal sling angles less than 30° shall not be used.



## EYE & EYE - FLAT **EEF – Type 3** EYE & EYE - TWIST **EET – Type 4**

**EEF Type 3** - Polyester web slings with Flat Eyes each end. The eye openings are in the same plane as the sling. This sling can be used in all hitches (vertical, Choker, Basket).









Type 3 - Eye & Eye - Flat (EEF)

**EET Type 4** - Polyester Web Slings with Twisted Eyes each end. The eye openings are at a right angle to the sling body. This sling is suitable in all hitches, but recommended when the sling will be used primarily in a choker hitch application.



Type 4 - Eye & Eye - Twist (EET)

Stock No. (* start with EEF or EET)	Width (inches)	Ply	Rated Capacities in Pounds						Nominal Eye Dimensions		Weights	
			Vertical 	Choker 	Basket Hitch			Eye Length L (inches)	Eye Width W (inches)	3' Base	Adder/ Ft.	
						60° 	45° 					30° 
*-1-901P	1	1	1,600	1,250	3,200	2,771	2,262	1,600	9	1	0.35	0.07
*-2-901P	1	2	3,100	2,450	6,200	5,369	4,383	3,100	9	1	0.50	0.11
*-3-901P	1	3	4,100	3,300	8,200	7,052	5,781	4,100	12	1	0.77	0.17
*-4-901P	1	4	5,500	4,400	11,000	9,526	7,777	5,500	12	1	0.94	0.22
*-1-902P	2	1	3,100	2,450	6,200	5,369	4,383	3,100	9	2	0.66	0.13
*-2-902P	2	2	6,200	4,950	12,400	10,738	8,767	6,200	9	2	0.95	0.21
*-3-902P	2	3	8,200	6,600	16,400	14,104	11,562	8,200	12	2	1.48	0.32
*-4-902P	2	4	11,000	8,800	22,000	19,052	15,554	11,000	12	2	1.69	0.72
*-1-903P	3	1	4,700	3,750	9,400	8,140	6,646	4,700	12	1-1/2	1.25	0.27
*-2-903P	3	2	8,800	7,000	17,600	15,242	12,443	8,800	12	1-1/2	1.48	0.33
*-3-903P	3	3	12,300	9,900	24,600	21,156	17,343	12,300	15	1-1/2	2.30	0.49
*-4-903P	3	4	16,400	13,100	32,800	28,405	23,190	16,400	15	1-1/2	2.62	0.66
*-1-904P	4	1	6,200	4,950	12,400	10,738	8,767	6,200	12	2	1.54	0.36
*-2-904P	4	2	11,000	8,800	22,000	19,052	15,554	11,000	12	2	1.94	0.43
*-3-904P	4	3	15,300	12,200	30,600	26,316	21,573	15,300	15	2	3.23	0.66
*-4-904P	4	4	20,400	16,300	40,800	35,333	28,846	20,400	15	2	3.50	0.86
*-1-906P	6	1	9,300	7,400	18,600	16,108	13,150	9,300	12	2	3.11	0.43
*-2-906P	6	2	16,500	13,200	33,000	28,578	23,331	16,500	15	2	3.20	0.70
*-3-906P	6	3	22,900	18,300	45,800	39,388	32,289	22,900	18	3	4.62	1.07
*-4-906P	6	4	30,600	24,450	61,200	52,999	43,268	30,600	18	3	4.68	1.42
*-1-908P	8	1	11,800	9,400	23,600	20,438	16,665	11,800	18	3	4.10	0.47
*-2-908P	8	2	22,700	18,150	45,400	39,316	32,098	22,700	18	3	4.21	0.93
*-3-908P	8	3	30,700	24,600	61,400	52,804	43,287	30,700	24	4	6.07	1.40
*-4-908P	8	4	40,960	32,768	81,920	70,451	57,753	40,960	24	4	7.47	1.87
*-1-910P	10	1	14,700	11,750	29,400	25,460	20,786	14,700	18	3-1/2	4.60	0.57
*-2-910P	10	2	28,400	22,700	56,800	49,189	40,158	28,400	18	3-1/2	5.17	1.15
*-3-910P	10	3	36,000	28,800	72,000	61,920	50,760	36,000	24	5	7.47	1.72
*-4-910P	10	4	48,000	38,400	96,000	82,560	67,680	48,000	24	5	9.19	2.30
*-1-912P	12	1	17,600	14,050	35,200	30,483	24,886	17,600	24	4	5.46	0.68
*-2-912P	12	2	34,100	27,250	68,200	59,061	48,217	34,100	24	4	6.14	1.36
*-3-912P	12	3	40,300	32,200	80,600	69,316	56,823	40,300	24	6	8.87	2.05
*-4-912P	12	4	53,760	43,008	107,520	92,467	75,801	53,760	24	6	10.91	2.73

\* Insert EEF prefix to indicate Type 3 and EET prefix to indicate Type 4.\*

\* Polyester Webbing standard, unless otherwise requested

**Warning:** Horizontal sling angles less than 30° shall not be used.



# ENDLESS EN – Type 5

Endless polyester web slings are designed to be used in vertical, choker, and basket hitches. Legs may be spaced for load stability. Hook points can be tapered to fit hoist hooks and are reinforced upon request.



Stock No.	Width (inches)	Ply	Rated Capacities in Pounds						Taper		Weights	
			Vertical	Choker	Basket Hitch			Width W (inches)	Length L (inches)	3' Base	Adder/ft.	
						60°	45°					30°
EN-1-901P	1	1	3,200	2,550	6,400	5,369	4,525	3,100	—	—	0.44	0.11
EN-2-901P	1	2	6,200	4,950	12,400	10,738	8,767	6,200	—	—	0.83	0.22
EN-3-901P	1	3	8,200	6,600	16,400	14,104	11,562	8,200	—	—	1.27	0.33
EN-4-901P	1	4	11,000	8,800	22,000	19,052	15,554	11,000	—	—	1.60	0.44
EN-1-902P	2	1	6,200	4,950	12,400	10,738	8,767	6,200	1	9	0.85	0.21
EN-2-902P	2	2	12,400	9,900	24,800	21,477	17,534	12,400	1	9	1.59	0.42
EN-3-902P	2	3	16,500	13,200	33,000	28,380	23,265	16,500	*	*	2.43	0.63
EN-4-902P	2	4	22,000	17,600	44,000	38,104	31,108	22,000	—	—	3.06	0.85
EN-1-903P	3	1	9,400	7,500	18,800	16,281	13,292	9,400	1-1/2	12	1.31	0.33
EN-2-903P	3	2	17,600	14,050	35,200	30,483	24,866	17,600	1-1/2	12	2.62	0.49
EN-3-903P	3	3	24,700	19,800	49,400	42,484	34,827	24,700	*	*	3.77	0.98
EN-4-903P	3	4	32,900	26,300	65,800	56,983	46,521	32,900	—	—	4.76	1.15
EN-1-904P	4	1	12,400	9,900	24,800	21,477	17,534	12,400	2	12	1.73	0.43
EN-2-904P	4	2	22,000	17,600	44,000	38,104	31,108	22,000	2	12	3.25	0.86
EN-3-904P	4	3	30,600	24,500	61,200	52,632	43,146	30,600	*	*	4.96	1.29
EN-4-904P	4	4	40,800	32,600	81,600	70,666	57,691	40,800	—	—	6.25	1.72
EN-1-906P	6	1	18,600	14,850	37,200	32,215	26,300	18,600	2	15	2.84	0.71
EN-2-906P	6	2	33,000	26,400	66,000	57,156	46,662	33,000	3	15	5.68	1.42
EN-3-906P	6	3	45,900	36,700	91,800	78,948	64,719	45,900	*	*	8.17	2.13
EN-4-906P	6	4	61,200	48,950	122,400	105,998	86,537	61,200	—	—	10.30	2.84
EN-1-908P	8	1	21,200	16,950	42,400	36,718	29,977	21,200	3	18	3.74	0.93
EN-2-908P	8	2	42,300	33,800	84,600	73,264	59,812	42,300	4	18	7.47	1.87
EN-3-908P	8	3	61,400	49,100	122,800	105,608	86,574	61,400	*	*	10.74	2.80
EN-4-908P	8	4	81,920	65,536	163,840	140,902	115,507	81,920	—	—	13.54	3.74
EN-1-910P	10	1	26,500	21,200	53,000	45,580	37,471	26,500	3-1/2	18	4.60	1.15
EN-2-910P	10	2	52,900	42,300	105,800	91,623	74,801	52,900	5	18	9.19	2.30
EN-3-910P	10	3	72,000	57,600	144,000	123,840	101,520	72,000	*	*	13.21	3.45
EN-4-910P	10	4	96,000	76,800	192,000	165,120	135,360	96,000	—	—	16.66	4.60
EN-1-912P	12	1	31,800	25,400	63,600	55,078	44,965	31,800	4	18	5.46	1.36
EN-2-912P	12	2	63,500	50,800	127,000	109,982	89,789	63,500	6	18	10.91	2.73
EN-3-912P	12	3	80,600	64,500	161,200	138,632	113,646	80,600	*	*	15.69	4.09
EN-4-912P	12	4	107,520	86,016	215,040	184,934	151,603	107,520	—	—	19.78	5.46

Please specify when sling is to be tapered at hook contact area.

**Warning:** Horizontal sling angles less than 30° shall not be used.

\*Three-ply slings are tapered by special request only.

\*Polyester Webbing standard, unless otherwise requested









**REVERSED EYE RE – Type 6**  
**FLAT EYE FE – Type 7**



**RE TYPE 6** - Heavy Duty Reverse Eye Polyester Web Slings are exceptionally durable and feature full body and eye protection. Eye openings are 90° to the sling body for tighter choker hitches and easy vertical and basket hitch rigging..



**FE TYPE 7** -Heavy Duty Flat Eye Polyester Web Slings are the same construction as Reversed Eye Slings with one exception. The eyes are on the same plane as the sling body. Flat eye permits rigging through narrower openings and easier removal from under loads. These slings also rig effectively in choker and basket hitches.

Stock No. (* start with RE or FE)	Width (inches)	Ply	Rated Capacities in Pounds						Taper	
			Vertical 	Choker 	Basket Hitch			Width W (inches)	Length L (inches)	
						60° 	45° 			30° 
*-1-902P	2	1	3,100	2,480	6,200	5,369	4,383	3,100	1	9
*-2-902P	2	2	6,200	4,960	12,400	10,738	8,767	6,200	1	12
*-1-904P	4	1	6,200	4,960	12,400	10,738	8,767	6,200	2	12
*-2-904P	4	2	12,400	9,920	24,800	21,477	17,534	12,400	2	12
*-3-904P	4	3	16,500	13,200	33,000	28,380	23,265	16,500	2	15
*-4-904P	4	4	22,000	17,600	44,000	38,104	31,108	22,000	2	15
*-1-906P	6	1	9,400	7,520	18,800	16,281	13,262	9,400	1-1/2	12
*-2-906P	6	2	17,600	14,080	35,200	30,483	24,866	17,600	1-1/2	15
*-3-906P	6	3	24,700	19,800	49,400	42,484	34,827	24,700	3	18
*-4-906P	6	4	32,900	26,320	65,800	56,983	46,521	32,900	3	18

\* Insert RE prefix to indicate Type 6 and FE prefix to indicate Type 7.  
 \* Polyester Webbing standard, unless otherwise requested





**Warning:** Horizontal sling angles less than 30° shall not be used.



## WIDE BODY BASKET WBB - TYPE 8

Wide Body Basket slings, also called Wide Body Cargo Slings, are designed for use in basket hitches where you need a wide sling for load stability and for proper handling of fragile or highly finished surfaces. Eyes of slings are tapered to fit in hoist or crane hooks.



Stock No.	Width (inches)	Ply	Rated Capacity in Lbs.				Nominal Eye Dimensions	
							Eye Length L (inches)	Eye Width W (inches)
WBB-1-906P	6	1	17,200	14,900	12,100	8,600	12	1-1/2
WBB-2-906P	6	2	32,000	27,700	22,600	16,000	15	1-1/2
WBB-1-908P	8	1	22,600	19,600	16,000	11,300	12	2P
WBB-2-908P	8	2	42,000	36,400	29,700	21,000	15	2
WBB-1-910P	10	1	28,200	24,400	20,000	14,100	15	1-3/4
WBB-2-910P	10	2	52,500	45,500	37,100	26,300	18	2-1/2
WBB-1-912P	12	1	33,900	29,300	23,900	16,900	15	2
WBB-2-912P	12	2	63,000	54,600	44,600	31,500	18	3*
WBB-1-916P	16	1	43,900	38,000	31,000	22,000	18	3*
WBB-2-916P	16	2	72,800	63,000	51,400	36,400	24	4*
WBB-1-920P	20	1	51,000	44,100	36,000	25,500	24	3-1/2*
WBB-2-920P	20	2	80,000	69,300	56,500	40,000	24	5*
WBB-1-924P	24	1	56,400	48,900	39,900	28,200	24	4*
WBB-2-924P	24	2	88,400	76,600	62,500	44,200	24	6*

\* Narrower taper available on special request only.

\* Wider widths available upon request.

\* Polyester Webbing standard, unless otherwise requested





Wear pads are available for eyes and sling body on request.

**Warning:** Horizontal sling angles less than 30° shall not be used.

## LOAD BALANCER BASKET LBB - TYPE 9



Load Balancer Basket Slings, also called Attached Eye Cargo Slings, are designed for applications where you need a wide sling for load stability and for proper handling of fragile or highly finished surfaces. They have lower rated capacity than the Wide Body Basket. Eyes are constructed to fit properly on small hoist hooks and are reinforced for longer life.

Stock No.	Width (inches)	Ply	Rated Capacity in Lbs.				Nominal Eye Dimensions	
							Eye Width W (inches)	Eye Length L (inches)
LBB-1-906P	6	1	6,000	5,200	4,200	3,000	1	9
LBB-1-908P	8	1	6,000	5,200	4,200	3,000	1	12
LBB-1-910P	10	1	6,000	5,200	4,200	3,000	1	15
LBB-1-912P	12	1	6,000	5,200	4,200	3,000	1	18
LBB-1-916P	16	1	10,000	8,700	7,100	5,000	2	24
LBB-1-920P	20	1	10,000	8,700	7,100	5,000	2	24
LBB-1-924P	24	1	10,000	8,700	7,100	5,000	2	24

\* Wider widths available upon request.

\* Polyester Webbing standard, unless otherwise requested

**Warning:** Horizontal sling angles less than 30° shall not be used.



MULTI-LEG BRIDLES Type 10

These bridle assemblies are ideal for loads equipped with permanent lifting attachments. They're lightweight, easy to use and economical. Choose from Scuff-Edge®, nylon or polyester.

Choose from P (pear-shaped) or O (oblong) links for bridles. Hoist hooks and shackles are options on sling legs as well.



"O" - Oblong



"P" - Pear

Stock No.	Width (inches)	Ply	Rated Capacity for 2 legs (lbs.)			Pear Link (P)	Oblong Link (O)	Eye Hook (SH)	Eye Dimensions	
			60°	45°	30°	Size (inches)	Size (inches)	Size (W.L.L.)	L	W
*-1-901P	1	1	2,800	2,300	1,600	1/2	1/2	1	9	1
*-2-901P	1	2	5,400	4,400	3,100	3/4	5/8	2	9	1
*-1-192P	1-3/4	1	3,200	2,600	1,800	5/8	1/2	1	9	1-3/4
*-1-262P	1-3/4	1	4,600	3,700	2,600	3/4	5/8	1-1/2	9	1-3/4
*-2-192P	1-3/4	2	6,400	5,200	3,700	3/4	3/4	2	9	1-3/4
*-2-262P	1-3/4	2	9,200	7,500	5,300	1	3/4	3	9	1-3/4
*-1-902P	2	1	5,400	4,400	3,100	3/4	5/8	2	9	2
*-2-902P	2	2	10,700	8,800	6,200	1	1	5	9	2
*-1-903P	3	1	8,100	6,800	4,800	7/8	3/4	3	12	1-1/2
*-2-903P	3	2	15,400	12,400	8,800	1-1/4	1	5	12	1-1/2

\* Insert prefix by code letters for leg and end attachments (see above).

\* Polyester Webbing standard, unless otherwise requested

Note: One-, three- and four-legged assemblies are available on request.

Additional end fittings can also be supplied. Please check with your distributor for details.


Warning: Horizontal sling angles less than 30° shall not be used.

HOW TO ORDER

**1**

**CHOOSE THE STOCK NUMBER**

Choose the stock number you'll need for your application from the chart.



**2**

**CHOOSE THE ATTACHMENT**

Each end attachment is represented by the code letters shown above. Insert these letters as a prefix for your stock number in this sequence:

- Link attachment: P (pear-shaped) or O (oblong) link.
- Number of legs: 2, 3, or 4
- End attachment: SH (hook with latch), E (sewn eye), P (pear-shaped), SS (shackle) or O (oblong). For each leg you need, use a letter to designate the end attachment.

For example, an "O3E" is a three-leg assembly with an alloy oblong (O) link as leg attachment and sewn eyes (E) as the end attachments for each of the three legs.

**3**

**CHOOSE THE LENGTH**

Choose the length you'll need, and add it at the end of the stock number.

Example: A P2SH-1-902 x 10' is what to order when you need:

- A pear-shaped (P) link for the leg attachment.
- A hook with latch (SH) on each of the two legs for the end attachment.
- A "-1-902" stock number representing a two-inch wide, one-ply sling.
- A "10-ft." designation when you need a bridle 10 feet long

# ECONYLON® WEB SLINGS







## IDEAL FOR LIGHTWEIGHT LIFTS

We've combined "economical" and "nylon" to create Econylon, a full line of light-duty nylon web slings fabricated from economical military webbing. The material is somewhat softer and more flexible than our Red-Guard® nylon, but without the red warning yarn.

They feature the same standards of quality and workmanship as found in our other synthetic web products. Econylon is ideal for your lighter lifts in nonabrasive conditions or many single-lift applications. If you plan to use one of these slings in abrasive situations, we recommend you add one of the wear pads seen on page 7.







### ECONYLON® EYE & EYE - FLAT EEF – Type 3

### ECONYLON® EYE & EYE - TWIST EET – Type 4

Stock No.	Width (inches)	Ply	Rated Capacities in Pounds						Width W (inches)	Length L (inches)
			Vertical 	Choker 	Basket Hitch					
						60° 	45° 	30° 		
*-1-181	1	1	1,120	900	2,200	1,940	1,600	1,120	1	9
*-2-181	1	2	2,200	1,800	4,500	3,900	3,200	2,200	1	9
*-1-192	1-3/4	1	1,840	1,500	3,700	3,200	2,600	1,840	1-3/4	9
*-2-192	1-3/4	2	3,700	2,900	7,400	6,400	5,200	3,700	1-3/4	9
*-3-192	1-3/4	3	5,500	4,400	11,000	9,600	7,800	5,500	1-3/4	12
*-4-192	1-3/4	4	7,400	5,900	14,700	12,800	10,400	7,400	1-3/4	12
*-1-262	1-3/4	1	2,600	2,100	5,300	4,600	3,700	2,600	1-3/4	9
*-2-262	1-3/4	2	5,300	4,200	10,600	9,200	7,500	5,300	1-3/4	9
*-3-262	1-3/4	3	7,300	5,900	14,700	12,700	10,300	7,300	1-3/4	12
*-4-262	1-3/4	4	9,800	7,800	19,500	16,900	13,800	9,800	1-3/4	12

\* Insert EEF prefix to indicate Type 3 and EET prefix to indicate Type 4.  
**Warning:** Horizontal sling angles less than 30° shall not be used.

### ECONYLON® ENDLESS EN – Type 5

Stock No.	Width (inches)	Ply	Rated Capacities in Pounds					
			Vertical 	Choker 	Basket Hitch			
						60° 	45° 	30° 
EN-1-181	1	1	2,200	1,800	4,500	3,900	3,200	2,200
EN-2-181	1	2	4,500	3,600	9,000	7,800	6,300	4,500
EN-3-181	1	3	6,700	5,400	13,400	11,700	9,500	6,700
EN-4-181	1	4	9,000	7,200	17,900	15,500	12,700	9,000
EN-1-192	1-3/4	1	3,700	2,900	7,400	6,400	5,200	3,700
EN-2-192	1-3/4	2	7,400	5,900	14,700	12,800	10,400	7,400
EN-3-192	1-3/4	3	11,000	8,800	22,100	19,100	15,600	11,000
EN-4-192	1-3/4	4	14,700	12,800	29,400	25,500	20,800	14,700
EN-1-262	1-3/4	1	5,300	4,200	10,600	9,200	7,500	5,300
EN-2-262	1-3/4	2	10,600	8,400	21,100	18,300	14,900	10,600
EN-3-262	1-3/4	3	14,700	11,700	29,300	25,400	20,700	14,700
EN-4-262	1-3/4	4	19,500	15,600	39,100	33,900	27,600	19,500



ECONYLON® REVERSED EYE RE – Type 7

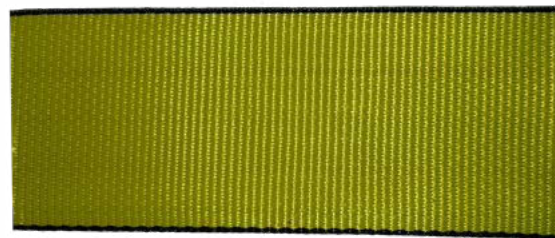
ECONYLON® FLAT EYE FE – Type 7

Stock No.	Width (inches)	Ply	Rated Capacities in Pounds						Width W (inches)	Length L (inches)
			Vertical	Choker	Basket Hitch					
					U	60°	45°	30°		
*-1-181	2	1	2,200	1,800	4,500	3,900	3,200	2,200	1	9
*-2-181	2	2	4,500	3,600	9,000	7,800	6,300	4,500	1	9
*-1-192	3-1/2	1	3,700	2,900	7,400	6,400	5,200	3,700	1-3/4	9
*-2-192	3-1/2	2	7,400	5,900	14,700	12,800	10,400	7,400	1-3/4	9
*-3-192	3-1/2	3	11,000	8,800	22,100	19,100	15,600	11,000	1-3/4	12
*-4-192	3-1/2	4	14,700	11,800	29,400	25,500	20,800	14,700	1-3/4	12
*-1-262	3-1/2	1	5,300	4,200	10,600	9,200	7,500	5,300	1-3/4	9
*-2-262	3-1/2	2	10,600	8,400	21,100	18,300	14,900	10,600	1-3/4	9
*-3-262	3-1/2	3	14,700	11,700	29,300	25,400	20,700	14,700	1-3/4	12
*-4-262	3-1/2	4	19,500	15,600	39,100	33,900	27,600	19,500	1-3/4	12

\* Insert RE prefix to indicate Type 6 and FE prefix to indicate Type 7.

Warning: Horizontal sling angles less than 30° shall not be used.

SCUFF-EDGE® Edge Abrasion Resistant Webbing



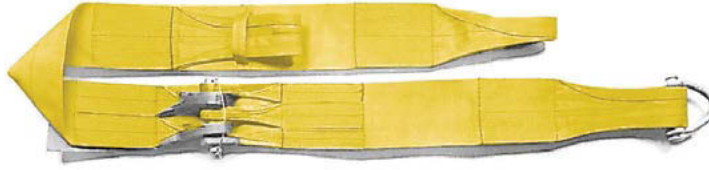
REDUCE EDGE CUTTING BY OVER 60% WITH OPTIONAL SCUFF-EDGE® WEBBING

The first place you normally see damage to a web sling is along its edges. Once a cut starts, it quickly spreads across the face of the webbing and shortens its useful life. With Scuff-Edge webbing, you can increase the resistance to edge cutting over 60% compared to standard sling webbing, according to independent research.

Scuff-Edge webbing has a patented polymer-coated web edge woven into slings that reduces edge abrasion as well as edge cutting to help make the most of your sling's useful life.

Slings with Scuff-Edge webbing are available only in the 900 series and have the same rated capacities as the regular 900 series slings.





## HIGH-CAPACITY LABOR-SAVING SLINGS

You can lift virtually any size boat with our Boat Lifting Slings, engineered to offer labor-saving convenience with all types of overhead lifting devices. Choose from one or two-ply construction in webbing widths from 2" to 12" to give you rated capacities ranging from 4,800 lbs. to 53,000 lbs. per sling. When rigged in basket hitches, pairs of standard slings can lift up to 53 tons per pair. If you need even more capability than that, you may rig additional slings or pairs in your lift.

Stock No.	Width (inches)	Ply	Basket Hitch (lbs.)
BLS-1-902P	2	1	6,200
BLS-2-902P	2	2	12,400
BLS-1-903P	3	1	9,400
BLS-2-903P	3	2	17,600
BLS-1-904P	4	1	12,400
BLS-2-904P	4	2	22,000
BLS-1-906P	6	1	18,600
BLS-2-906P	6	2	33,000
BLS-1-908P	8	1	23,600
BLS-2-908P	8	2	45,400
BLS-1-910P	10	1	29,400
BLS-2-910P	10	2	56,800
BLS-1-912P	12	1	35,200
BLS-2-912P	12	2	68,200

## FITTINGS & ACCESSORIES FOR BOAT SLINGS

**Loose pin hardware** allows in-field removal for use on other slings or on additional eyes for different sized boats.



**Reusable alloy steel triangle** is a permanent end fitting that slides easily onto the lifting hook.



**Extra sewn eyes** allow lifting of different sized boats with one set of slings. Single ply capacity only.



**Edge guard wear pads** can protect sling's edges and extend its useful life. Can be sewn on any portion of sling.



**Sliding chine and keel pads** permit positioning padding at any point to prevent rubbing on hull and protects sling from sharp corners.



**Lead weights** help keep sling from twisting and also serve as anchor for sling in water. Can be sewn into keel pad. Fixed or sliding options.



**Disconnect** lets you remove sling from beneath the boat without removing sling eye from hook. Protective flap standard.



*NOTE: For loose-pin hardware (shackles) on 2-ply slings made with 8", 10" or 12" webbing, please check with your distributor, distribution center or factory.*

*\* Polyester Webbing standard, unless otherwise requested*

## ADVANTAGES OF BOAT LIFTING SLINGS

- Non-abrasive material to help protect boat's hull and finish.
- Lightweight for ease in handling and rigging.
- Excellent resistance to rot, mildew, oil and seawater. Neither fiber supports bacterial or fungal growth, or is adversely affected by water immersion.
- Long life: All loose pin hardware is plated for corrosion resistance.
- Flexible design adapts to hull's configuration to cradle load.
- Custom designs available for specific application and unusual rigging configurations.
- Wide choice of accessories and fittings.
- Low stretch: Approximately 3% for polyester, 6% for nylon at rated capacity with the ability to return to original length when relaxed.



# HOW TO INSPECT WEB SLINGS

All of our synthetic web products are designed for long life under punishing conditions, but they will eventually wear out after extended use. The key is knowing when to replace them, and that's why it's very important to inspect your slings on a regular basis.

We've developed an inspection program based on the procedure outlined in ASME B30.9 Slings Standard that will make the most of your investment. It's based on four sound beliefs:

- The importance of following regular and uniform inspections.
- A respect for the capabilities and limitations of synthetic web slings.
- The need to keep complete, permanent records.
- Perhaps most importantly, a lot of common sense.

## HOW OFTEN TO INSPECT SLINGS

The frequency of inspection depends on three important factors:

1. *Sling usage – the more you use a sling, the more you need to inspect it.*
2. *The working environment – the harsher the conditions, the more often you need to inspect.*
3. *Sling service life – based on your experience in using slings.*

It's a good idea for the person handling the slings to visually inspect all slings before each lift. Additional inspections should be performed at least annually by a qualified designated person and permanent records kept.

OSHA specifies, "Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant." In other words, you should visually inspect your sling before each lift.

## WHEN TO REPLACE SLINGS

Remove all slings, including Flexi-Grip® round slings, from service if you see damage such as the following, and return to service only when approved by a designated person. These are removal criteria established by ASME B30.9 Slings Standard:

1. *Acid or caustic burns.*
2. *Melting or charring of any part of the sling.*
3. *Holes, tears, cuts or snags.*
4. *Broken or worn stitching in load-bearing splices.*
5. *Excessive abrasive wear.*
6. *Knots in any part of the sling.*
7. *Excessive pitting or corrosion, or cracked, distorted or broken fittings.*

8. *Other visible damage that causes doubt as to the strength of the sling.*

9. *Missing or illegible sling identification.*

In addition, we recommend three other important reasons to remove slings from service:

1. *Anytime you see our Red-Guard® warning yarns.*
2. *Distortion of the sling.*
3. *Anytime a sling is loaded beyond its rated capacity for whatever reason.*

While most of these standards are very specific regarding reasons for removal, others require your good judgment. The critical areas to watch are wear to the sling body, the selvage edge of webbing and the condition of the sling eyes.

## OUR SYNTHETIC WEB PRODUCTS MEASURE UP.

Our synthetic web products don't merely meet our own strict standards for workmanship and performance. They also meet or exceed these military and federal specifications:

1. MIL-W-4088 – military specification for textile webbing — woven nylon.
2. MIL-W-23223B – military specification for slotted nylon webbing.
3. Fed. Spec. VT-285F – federal specification for polyester thread.
4. Fed. Spec. VT-295E – federal specification for nylon thread.

In addition, all work conforms to standards established by the following national safety institutions and their respective regulations:

- ASME B30.9 Slings - American Society of Mechanical Engineers
- OSHA 1910.184 Standard for Slings
- OSHA 1926.251 Rigging Equipment for Material Handling
- WSTDA-RS-1 Roundslings Standard
- WSTDA-WS-1 Web Slings Standard
- WSTDA-T-1 Tie-Downs Standard



# IDENTIFYING WEAR AND ABUSE.

These are some of the most common types of web sling damage caused by abuse and misuse. When you see any of these problems during your regular inspection, stop. Replace the sling immediately because the damage is done. Never attempt to mend the sling yourself and, more so, never attempt to lift with these slings.

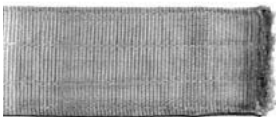
Whether a sling is damaged from improper use or normal wear, the same rule applies in all cases: Always cut the sling eyes and discard the sling right away when you see damage. Only with properly working slings can you take a load off your mind.

## TENSILE BREAK



The distinguishing sign of a tensile break is a frayed appearance close to the point of failure or damage. This usually happens when a sling is loaded beyond its existing strength. The photo shows an example of a sling pulled to destruction on a testing machine. You can avoid tensile breaks by never overloading your sling.

## CUT



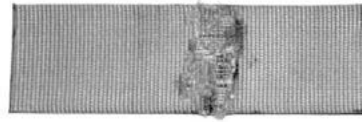
You can easily see a cut in your sling when you see a clean break in the webbing structure or fibers. This can result when a sling contacts a load edge, protrusions and corners, abrasive surfaces or unprotected edge of a load. This can happen anywhere on the sling body or eyes. Many slings feature Red-Guard warning yarns to alert you of serious cuts. One way you can avoid cuts from contacting sharp corners is to use wear pads on the sling to protect the fabric.

## CUT AND TENSILE DAMAGE



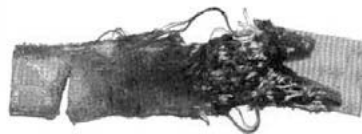
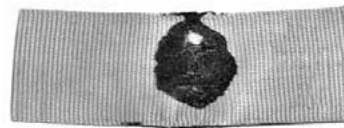
A good example is the photo shown here. It shows what can happen when you use a sling that's already been cut by an object along one edge of the sling body. The cut sling should be removed from service, continued use will ultimately lead to sling failure. The solution, obviously, is to never use a sling after it's been cut.

## ABRASION DAMAGE



Anytime you see frayed fibers on the surface exposing the "picks," or cross fibers, of the webbing that hold the load-bearing (lengthwise) fibers in place, it's abrasion damage. The most common abrasion damage occurs either when the sling slips while in contact with a load during a lift or when the sling is pulled from under a load. When you see the Red-Guard warning yarns exposed, it's your signal that serious damage — and loss of lifting capacity — has occurred. We recommend that slings with any damage to load-bearing fibers be discarded. Wear pads are one way to avoid this damage.

## ACID DAMAGE












It's true nylon and polyester webbing are stable when exposed to many common chemicals, but they should never be exposed to any strong acids or corrosive liquids whenever possible. The same is true for metal fittings on slings.

*Example 1 (top photo).* This is what happens when sulfuric acid, like car battery acid, is heated to the boiling point and dropped on nylon webbing. The charring on the surface fibers deteriorates the sling and will continue to get worse, severely affecting the webbing strength.

*Example 2 (bottom photo).* This is what happens when nylon webbing is immersed in sulfuric acid at room temperature for three weeks, resulting in major damage. Note the fibers are softened and swollen, and the entire fabric is grossly distorted, virtually destroying the webbing. You can help prevent this damage by never storing slings in areas where they may be exposed to acid or acid fumes, which are as destructive as liquid.

**When inspecting a web or round sling, it shall be taken out of service immediately and returned for repair or replacement when any of the defects on the right are present.**

**⚠ WEB SLING WARNINGS**

<p>Missing or illegible sling identification (tag)</p> 	<p>Acid or caustic burn</p> 	<p>Melting or charring of any part of the sling</p> 
<p>Holes, tears, cuts, abrasive wear, or snags that expose core yarns</p> 	<p>Broken or worn stitching in load bearing splices</p> 	<p>Excessive abrasive wear</p> 
<p>Knots in any part of the sling</p> 	<p>Discoloration and brittle or stiff areas on any part of the sling, which may mean chemical or ultraviolet/sunlight damage</p> 	<p>Damaged rigging hardware per ASME B30.26</p> 
<p>Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken</p> 	<p>Damaged hooks per ASME B30.10</p> 	

**and... Any condition that causes doubt about the continued use of the sling**



# TUFFY FLEXI-GRIP® ROUND SLINGS

We've combined "flexible" and "grip" to give you Flexi-Grip®, the round sling that lifts many loads most other types of slings can't. The Flexi-Grip® wraps easily around just about any shape and size and grips the load with ease, hugs it tight (especially in a choker hitch) and lifts with security and flexibility like no other.

Flexi-Grip® roundslings are made in accordance with ASME B30.9 Sling Standard section 9.6.

## ALL-POLYESTER CONSTRUCTION

The all-polyester construction of Tuffy Flexi-Grip's virtually eliminates moisture absorption, rot and mildew for long service life. They feature a relatively low stretch (3% maximum at its rated capacity) and returns to original length.

Polyester also offers good resistance to common industrial acids (except concentrated sulfuric acid) and hot bleaching solutions. You can use Flexi-Grip slings in the presence of many common chemicals such as alcohol, dry cleaning solvent, hydrocarbons, halogenated hydrocarbons, ketones, crude oil, lubricating oils, soaps, detergents, seawater and weak alkalis. Never use or allow exposure to temperatures above 194° F (90° C) or below -40° F (-40° C).

## COLOR-CODED BY CAPACITY

Every Flexi-Grip® sling is encased in a color-coded double-layer polyester jacket which protects the internal load-bearing fibers from abrasion and wear while protecting against ultraviolet degradation.

## INSPECT YOUR SLINGS REGULARLY

Before each lift (as you would do with any sling), visually inspect your Flexi-Grip® for any damage. Remove sling from service if you see:

- Missing or illegible identification tag.
- Melting, charring, weld spatter, acid or alkali burns.
- Holes, tears, cuts, embedded particles, abrasive wear or snags that expose the sling's core yarns.
- Fittings that are damaged, stretched, cracked, pitted or distorted in any way.
- Any visual damage causing doubt as to the sling's strength.
- Sling being loaded beyond its rated capacity.
- Round slings are not designed for turning or shifting loads.

Failure to follow proper care, use and inspection criteria may result in personal injury. **Do not exceed rated capacities.**



Color Code	Model #	Approx. Body Diameter (inches)	Approx. Body Weight/Ft. (lbs.)	Rated Capacity in Lbs.			Minimum Hardware Diameter (inches)	Minimum Contact Width (inches)	
				Vertical	Choker	Basket			
Purple	TFG01	FG0600	0.60	0.30	2,600	2,100	5,200	0.50	1.00
Green	TFG02	FG0800	0.80	0.40	5,300	4,200	10,600	0.62	1.25
Yellow	TFG03	FG1000	1.00	0.50	8,400	6,700	16,800	0.75	1.62
Tan	TFG04	FG1200	1.20	0.60	10,600	8,500	21,200	0.88	1.75
Red	TFG05	FG1300	1.30	0.80	13,200	10,600	26,400	1.00	2.00
White	TFG06	FG1400	1.40	0.90	16,800	13,400	33,600	1.12	2.12
Blue	TFG07	FG1550	1.55	1.20	21,200	17,000	42,400	1.25	2.62
Orange	TFG08	FG1750	1.75	1.50	25,000	20,000	50,000	1.25	2.88
Grey	TFG09	FG1950	1.95	2.00	31,000	24,800	62,000	1.50	3.12
Orange	TFG10	FG2350	2.35	2.80	40,000	32,000	80,000	1.62	3.50
Brown	TFG11	FG3150	3.15	3.60	53,000	42,400	106,000	1.88	4.00
Olive	TFG12	FG3950	3.95	4.60	66,000	52,800	132,000	2.12	4.50
Black	TFG13	FG4800	4.80	5.80	90,000	72,000	180,000	2.50	5.12
Black	TFG14	FG5000	6.1	6.50	103,200	82,650	206,400	2.50	5.12



# HIGH PERFORMANCE Round Sling

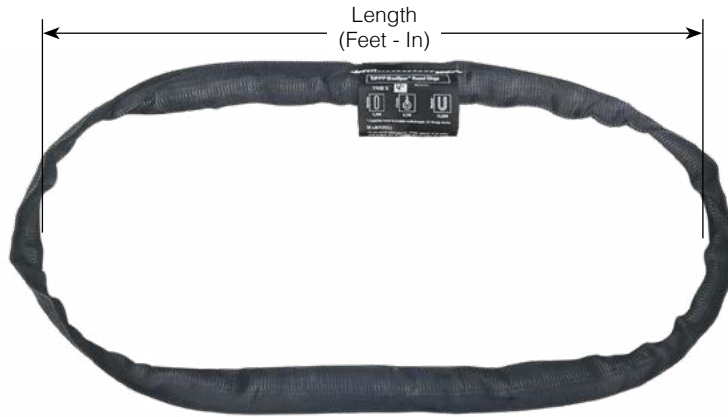
for your *toughest* loads



TUFFY HIGH PERFORMANCE CAPACITIES			
TUFFY HP	Vertical	Choker	Basket
THP10	10,000	8,000	20,000
THP15	15,000	12,000	30,000
THP20	20,000	16,000	40,000
THP30	30,000	24,000	60,000
THP40	40,000	32,000	80,000
THP50	50,000	40,000	100,000
THP60	60,000	48,000	120,000
THP70	70,000	56,000	140,000
THP90	90,000	72,000	180,000
THP100	100,000	80,000	200,000
THP120	120,000	96,000	240,000
THP150	150,000	120,000	300,000
THP175	175,000	140,000	350,000
THP200	200,000	160,000	400,000
THP250	250,000	200,000	500,000

- 40 times stronger than Aramid
- High Strength-to-Weight Ratio
- Enhance Efficiency in Rigging Setups
- Minimal Elongation Under Load
- Exceptional Abrasion Resistance
- Capacities up to 250,000 lbs vertical.
- Maintains Shape for Ultimate Load Stability
- Ideal for Heavy Lifting and Rigging Operations
- Long Lifespan for Repetitive Industrial Use
- Chemical Resistance for Diverse Applications
- UV Resistance for Outdoor Durability
- Maneuver with Ease in Complex Configurations
- 15 times stronger than steel on a weight for weight basis
- Floats on Water - Ideal for Maritime and Offshore Operations
- Non-Corrosive Material - Resistant to Rust and Corrosion
- Suitable for Moisture-Exposed Environments

# TUFFY STEELSPAN™ ROUND SLINGS



Tuffy SteelSpan™ Roundslings are used in entertainment and recreational industries for suspending lighting arrays, flying speakers, or stage set components in venues that require backup of every synthetic fiber sling in a system. SteelSpans™ are similar in performance, appearance, and flexibility to Polyester Roundslings, but have GAC Steel Cables inside that make up the load carrying strands. SteelSpan™ Roundslings are the best of both worlds providing a strong, soft, and pliable sling that's easily rigged around truss cords, shackles, hoists, and other small diameter attachments.



**Features:**

- GAC inner core steel cables for heat resistance
- Black, non-reflective, outer tubing
- Black vinyl tag with White text, model, serial number, and warnings.
- Double polyester tubing for better abrasion resistance, and easier inspection
- Vinyl tag sewn with clearly legible size, model, capacity, and serial number
- Design factor of 5 to 1
- Made in USA

**WARNING**  
See page 47  
for warnings and inspection criteria

**How to order:**

- Provide Part Number: (TSS2X06)

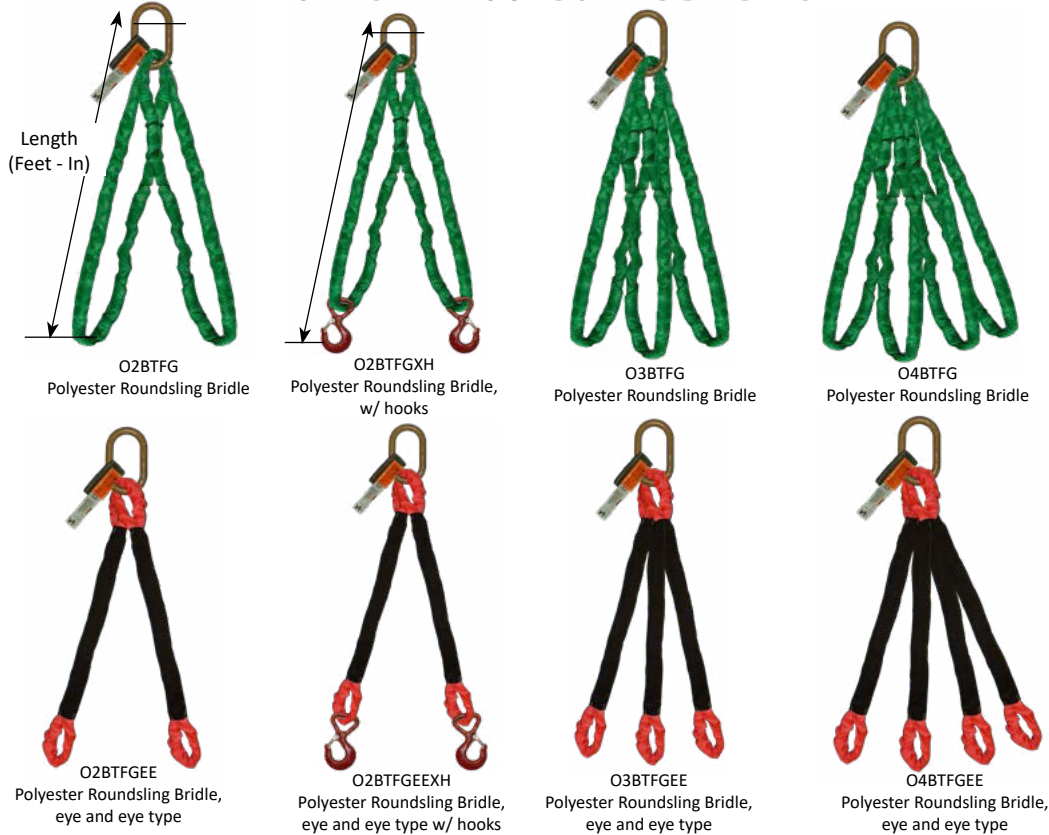
Part Number	Length	Model #	Color	Approx Dia. Inch	Weight lbs.	Capacities in Lbs.		
						Vertical Hitch	Choke Hitch	Vertical Basket Hitch
TSS1X18	18"	TSS1	Black	.60	.64	3,000	2,250	6,000
TSS1X02	2'	TSS1	Black	.60	.77	3,000	2,250	6,000
TSS1X03	3'	TSS1	Black	.60	1.0	3,000	2,250	6,000
TSS1X04	4'	TSS1	Black	.60	1.5	3,000	2,250	6,000
TSS1X06	6'	TSS1	Black	.60	2.0	3,000	2,250	6,000
TSS1X09	9'	TSS1	Black	.60	3.2	3,000	2,250	6,000
TSS1X12	12'	TSS1	Black	.60	4.3	3,000	2,250	6,000
TSS2X18	18"	TSS2	Black	.80	1.0	5,300	4,200	10,600
TSS2X02	2'	TSS2	Black	.80	1.2	5,300	4,200	10,600
TSS2X03	3'	TSS2	Black	.80	1.7	5,300	4,200	10,600
TSS2X04	4'	TSS2	Black	.80	2.3	5,300	4,200	10,600
TSS2X06	6'	TSS2	Black	.80	3.2	5,300	4,200	10,600
TSS2X09	9'	TSS2	Black	.80	5.0	5,300	4,200	10,600
TSS2X12	12'	TSS2	Black	.80	6.8	5,300	4,200	10,600

**Note:**

- Custom lengths available upon request.



## POLYESTER ROUNDSLING BRIDLES



### Features:

- Double polyester tubing for better abrasion resistance, and easier inspection
- Vinyl tag with clear vinyl cover to protect data
- Made in USA

**How to order:** Combine model, length in feet, and type, specify if eye & eye type or hooks required. Replace the \* in the part number to specify end fittings:










- FG- Bridle no end attachments
- FGSH - bridle with sling hooks
- EEFG - bridle made in eye and eye type. Sleeve used will be black or grey color.
- EEFGSH - bridle made in eye and eye type with sling hooks. Sleeve used will be black or grey color

BTFG #	FG #	Color	No. Legs	Master link or Sub Assembly	Alloy Hook Size	Rated Capacity in lbs.		
						60 °	45 °	30 °
O2BTFG01	O2FG0600	Purple	2	3/4"	2 ton	4,500	3,675	2,600
O3BTFG01	O3FG0600	Purple	3	1"	2 ton	6,750	5,500	3,900
O4BTFG01	O4FG0600	Purple	4	1"	2 ton	9,000	7,300	5,200
O2BTFG02	O2FG0800	Green	2	3/4"	5 ton	9,100	7,450	5,300
O3BTFG02	O3FG0800	Green	3	1"	5 ton	13,700	12,200	7,900
O4BTFG02	O4FG0800	Green	4	1-1/4"	5 ton	18,300	14,900	10,600
O2BTFG03	O2FG1000	Yellow	2	1"	7 ton	14,500	11,800	8,400
O3BTFG03	O3FG1000	Yellow	3	1-1/4"	7 ton	21,800	17,800	12,600
O4BTFG03	O4FG1000	Yellow	4	1-1/2"	7 ton	29,000	23,700	16,800
O2BTFG04	O2FG1200	Tan	2	1-1/4"	7 ton	18,300	14,900	10,600
O3BTFG04	O3FG1200	Tan	3	1-1/2"	7 ton	27,500	22,400	15,900
O4BTFG04	O4FG1200	Tan	4	1-3/4"	7 ton	36,700	29,900	21,200
O2BTFG05	O2FG1300	Red	2	1-1/4"	11 ton	22,800	18,600	13,200
O3BTFG05	O3FG1300	Red	3	1-3/4"	11 ton	43,600	27,900	19,800
O4BTFG05	O4FG1300	Red	4	2"	11 ton	45,700	37,300	26,400
O2BTFG06	O2FG1400	White	2	1-1/2"	11 ton	29,000	23,700	16,800
O3BTFG06	O3FG1400	White	3	1-3/4"	11 ton	43,600	35,600	25,200
O4BTFG06	O4FG1400	White	4	2"	11 ton	58,100	47,500	33,600
O2BTFG07	O2FG1550	Blue	2	1-3/4"	15 ton	36,700	29,900	21,200
O3BTFG07	O3FG1550	Blue	3	2"	15 ton	55,000	44,900	31,800
O4BTFG07	O4FG1550	Blue	4	2-1/2"	15 ton	73,400	59,900	42,400

**Note:** WS-320 Sling Saver Hooks available for TFG01 through TFG04 bridles



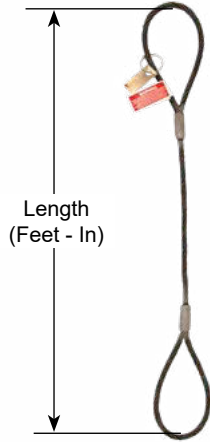
# ⚠️ ROUND SLING WARNINGS

<p>Missing or illegible sling identification (tag)</p> 	<p>Acid or caustic burns</p> 	<p>Evidence of heat damage</p> 
<p>Holes, tears, cuts, abrasive wear, or snags that expose core yarns</p> 	<p>Weld splatter that exposes core yarns</p> 	<p>Knots in any part of the sling</p> 
<p>Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken</p> 	<p>Broken or damaged core yarns</p> 	<p>Damaged rigging hardware per ASME B30.26</p> 

**and... Any condition that causes doubt about the continued use of the sling**



**SINGLE LEG TUF-100/TUF-101 / TUF-102**



Length  
(Feet - In)

**TUF-100**

Single leg sling with standard eyes each end



**TUF-101**

Single leg sling with standard eye one end and thimble eye other end



**TUF-102**

Single leg sling with thimble eye each end

**Features:**

- Flemished eye splice, not a Texas tucked or turn back eye splice
- Heavy gauge stainless steel tag in accordance with ASME B30.9 and API RP2D
- Quality controlled swaging process with paint verification
- 6x19 class IWRC EIP bright wire rope supplied standard on 1/4" – 1-1/8"
- 6x37 class IWRC EIP bright wire rope supplied standard on 1-1/4" and larger
- Proof testing available upon request

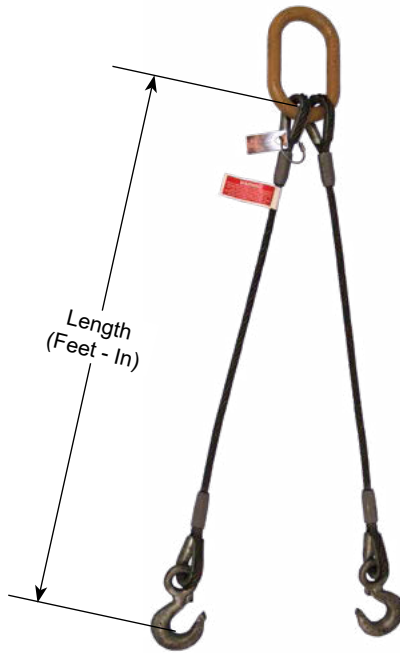
**How to order:**

Specify part number and length in feet when ordering

Dia. of Rope In.	Part Numbers			Min. Length ft'-in"	Standard Eye Dimensions		Rated Capacities in Short Tons		
	TUF-100	TUF-101	TUF-102		W"	L"	Choker	Vertical	Vertical Basket
1/4"	WRSEE014	WRSET014	WRSTT014	1-6	2	4	.48	.65	1.3
3/8"	WRSEE038	WRSET038	WRSTT038	2	3	6	1.1	1.4	2.8
1/2"	WRSEE012	WRSET012	WRSTT012	2-6	4	8	1.9	2.5	5.1
5/8"	WRSEE058	WRSET058	WRSTT058	3	5	10	2.9	3.9	7.8
3/4"	WRSEE034	WRSET034	WRSTT034	3-6	6	12	4.1	5.6	11.2
7/8"	WRSEE078	WRSET078	WRSTT078	4	7	14	5.6	7.6	15.2
1"	WRSEE100	WRSET100	WRSTT100	4-6	8	16	7.2	9.8	19.6
1-1/8"	WRSEE118	WRSET118	WRSTT118	5	9	18	9.1	12	24
1-1/4"	WRSEE114	WRSET114	WRSTT114	5-6	10	20	11	15	30
1-3/8"	WRSEE138	WRSET138	WRSTT138	6	11	22	13	18	36
1-1/2"	WRSEE112	WRSET112	WRSTT112	7	12	24	16	21	42
1-3/4"	WRSEE134	WRSET134	WRSTT134	8	14	28	21	28	56
2"	WRSEE200	WRSET200	WRSTT200	9	16	32	28	37	74
2-1/4"	WRSEE214	WRSET214	WRSTT214	10	18	36	35	44	88
2-1/2"	WRSEE212	WRSET212	WRSTT212	11-6	20	40	42	54	108
2-3/4"	WRSEE234	-	-	12	22	44	51	65	130
3"	WRSEE300	-	-	13	24	48	60	77	154
3-1/2"	WRSEE312	-	-	16-6	32	64	79	102	204
3-3/4"	WRSEE334	-	-	18	36	72	90	115	230
4"	WRSEE400	-	-	20	40	80	101	130	260
4-1/2"	WRSEE412	-	-	24	50	100	124	160	320

Note: Specify wire rope construction, grade, and finish if other than standard

## TWO LEG BRIDLE TUF-200/ TUF-201



**TUF-200**

Two leg bridle sling with alloy master link and thimbles on top, with thimbles and eye hooks on bottom



**TUF-201**

Two leg bridle sling with alloy master link and thimbles on top, with thimbles only on bottom

**Features:**

- Flemished eye splice, not a Texas tucked or turn back eye splice
- Heavy gauge stainless steel tag in accordance with ASME B30.9 and API RP2D
- Quality controlled swaging process with paint verification
- 6x19 class IWRC EIP bright wire rope supplied standard on 1/4" – 1-1/8"
- 6x37 class IWRC EIP bright wire rope supplied standard on 1-1/4" and larger
- Proof testing available upon request

**How to order:**

Specify part number and length in feet when ordering

Wire Rope Dia.	Part Number		Min. Length Ft - In	Capacities in Short Tons			Standard Hardware	
	TUF-200	TUF-201		Capacities from the Horizontal			Alloy Master Link	Eye Hooks
				60°	45°	30°		
1/4"	WRDOTH014	WRDOTT014	1-3	1.1	.92	.65	1/2"	3/4 ton S-320N-C
3/8"	WRDOTH038	WRDOTT038	1-8	2.5	2.0	1.4	3/4"	1.5 ton S-320N-C
1/2"	WRDOTH012	WRDOTT012	2-0	4.4	3.6	2.5	1"	3 ton S-320N-C
5/8"	WRDOTH058	WRDOTT058	2-4	6.8	5.5	3.9	1-1/4"	5 ton S-320N-C
3/4"	WRDOTH034	WRDOTT034	2-9	9.7	7.9	5.6	1-1/4"	7 ton S-320N-A
7/8"	WRDOTH078	WRDOTT078	3-3	13	11	7.6	1-1/4"	7.5 ton S-320N-C
1"	WRDOTH100	WRDOTT100	3-6	17	14	9.8	1-1/2"	10 ton S-320N-C
1-1/8"	WRDOTH118	WRDOTT118	4-0	21	17	12	1-3/4"	15 ton S-320N-A
1-1/4"	WRDOTH114	WRDOTT114	4-6	26	21	15	1-3/4"	15 ton S-320N-A
1-3/8"	WRDOTH138	WRDOTT138	5-0	31	25	18	2"	20 ton S-320-C
1-1/2"	WRDOTH112	WRDOTT112	5-6	37	30	21	2"	22 ton S-320N-A
1-3/4"	WRDOTH134	WRDOTT134	6-6	49	40	28	2-1/2"	30 ton S-320-A
2"	WRDOTH200	WRDOTT200	8-0	63	52	37	2-3/4"	37 ton S-320-A

**Note:** Hooks supplied standard without latches. Specify if hooks require latches  
Specify wire rope construction, grade, and finish if other than standard  
Specify master link and hooks size if other than standard



## THREE LEG BRIDLE TUF-300/TUF-301



**TUF-300**

Three leg bridle with alloy master link and thimbles on top, with thimbles and eye hooks on bottom



**TUF-301**

Three leg bridle with alloy master link and thimbles on top, with thimbles only on bottom

**Features:**

- Flemished eye splice, not a Texas tucked or turn back eye splice
- Heavy gauge stainless steel tag in accordance with ASME B30.9 and API RP2D
- Quality controlled swaging process with paint verification
- 6x19 class IWRC EIP bright wire rope supplied standard on 1/4" – 1-1/8"
- 6x37 class IWRC EIP bright wire rope supplied standard on 1-1/4" and larger
- Proof testing available upon request

**How to order:**

Specify part number and length in feet when ordering

Wire Rope Dia.	Part Numbers		Min. Length Ft - In	Capacities in Short Tons			Standard Hardware	
	TUF-300	TUF-301		Capacities from the Horizontal			Alloy Master Link	Eye Hooks
				60°	45°	30°		
1/4"	WRTTOTH014	WRTTOTT014	1-3	1.7	1.4	.97	5/8"	3/4 ton -S-320N-C
3/8"	WRTOTH038	WRTOTT038	1-8	3.7	3.0	2.2	7/8"	1.5 ton S-320N-C
1/2"	WRTOTH012	WRTOTT012	2-0	6.6	5.4	3.8	1-1/4"	3 ton S-320N-C
5/8"	WRTOTH058	WRTOTT058	2-4	10	8.3	5.9	1-1/4"	5 ton S-320N-C
3/4"	WRTOTH034	WRTOTT034	2-9	15	12	8.4	1-1/2"	7 ton S-320N-A
7/8"	WRTOTH078	WRTOTT078	3-3	20	16	11	1-1/2"	7.5 ton S-320N-C
1"	WRTOTH100	WRTOTT100	3-6	26	21	15	1-3/4"	10 ton S-320N-C
1-1/8"	WRTOTH118	WRTOTT118	4-0	31	26	18	2"	15 ton S-320N-A
1-1/4"	WRTOTH114	WRTOTT114	4-6	38	31	22	2"	15 ton S-320N-A
1-3/8"	WRTOTH138	WRTOTT138	5-0	46	38	27	2-1/4"	20 ton S-320-C
1-1/2"	WRTOTH112	WRTOTT112	5-6	55	45	32	2-1/2"	22 ton S-320N-A
1-3/4"	WRTOTH134	WRTOTT134	6-6	74	60	42	--	30 ton S-320-A
2"	WRTOTH200	WRTOTT200	8-0	95	78	55	--	37 ton S-320-A

**Note:** Hooks supplied standard without latches. Specify if hooks require latches

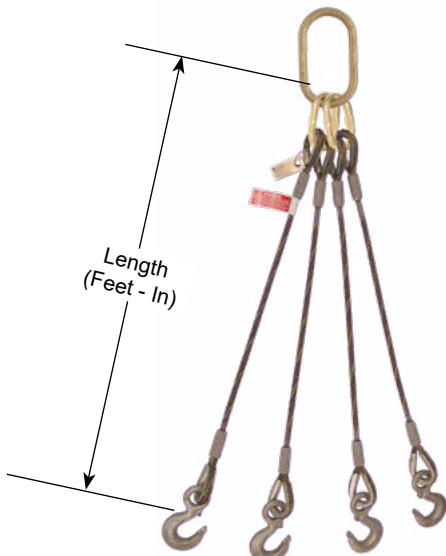
Specify master link size if specific dimensions are required

Specify wire rope construction, grade, and finish if other than standard

Specify master link and hook size if other than standard

Rated capacity based on all three legs carrying the load equally

## FOUR LEG BRIDLE TUF-400/ TUF-401



TUF-400

Four leg bridle slings with alloy master link and thimbles on top, with thimbles and eye hooks on bottom



TUF-401

Four leg bridle slings with alloy master link and thimbles on top, with thimbles only on bottom

**Features:**

- Flemished eye splice, not a Texas tucked or turn back eye splice
- Heavy gauge stainless steel tag in accordance with ASME B30.9 and API RP2D
- Quality controlled swaging process with paint verification
- 6x19 class IWRC EIP bright wire rope supplied standard on 1/4" – 1-1/8"
- 6x37 class IWRC EIP bright wire rope supplied standard on 1-1/4" and larger
- Proof testing available upon request

**How to order:**

Specify part number and length in feet when ordering

Wire Rope Dia.	Part Number		Min. Length Ft - In	Capacities in Short Tons			Standard Hardware	
	TUF-400	TUF-401		Capacities from the Horizontal			Alloy Master Link	Eye Hooks
				60°	45°	30°		
1/4"	WRQOTH014	WRQOTT014	1-3	2.2	1.8	1.3	3/4"	3/4 ton -S-320N-C
3/8"	WRQOTH038	WRQOTT038	1-8	5.0	4.1	2.9	1"	1.5 ton S-320N-C
1/2"	WRQOTH012	WRQOTT012	2-0	8.8	7.1	5.1	1-1/4"	3 ton S-320N-C
5/8"	WRQOTH058	WRQOTT058	2-4	14	11	7.8	1-1/4"	5 ton S-320N-C
3/4"	WRQOTH034	WRQOTT034	2-9	19	16	11	1-1/2"	7 ton S-320N-A
7/8"	WRQOTH078	WRQOTT078	3-3	26	21	15	1-3/4"	7.5 ton S-320N-C
1"	WRQOTH100	WRQOTT100	3-6	34	28	20	2"	10 ton S-320N-C
1-1/8"	WRQOTH118	WRQOTT118	4-0	42	34	24	2-1/4"	15 ton S-320N-A
1-1/4"	WRQOTH114	WRQOTT114	4-6	51	42	30	2" **	15 ton S-320N-A
1-3/8"	WRQOTH138	WRQOTT138	5-0	62	50	36	2-1/2" **	20 ton S-320-C
1-1/2"	WRQOTH112	WRQOTT112	5-6	73	60	42	2-3/4" **	22 ton S-320N-A
1-3/4"	WRQOTH134	WRQOTT134	6-6	98	80	57	2-3/4" **	30 ton S-320-A
2"	WRQOTH200	WRQOTT200	8-0	127	104	73	4" **	37 ton S-320-A

\*\* Alloy, sub-assembly used

**Note:** Hooks supplied standard without latches. Specify if hooks require latches

Specify master link size if specific dimensions are required

Specify wire rope construction, grade, and finish if other than standard

Specify master link and hook size if other than standard

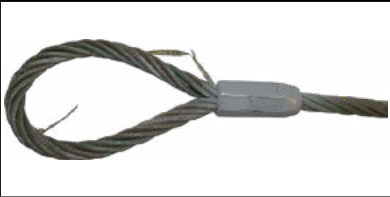

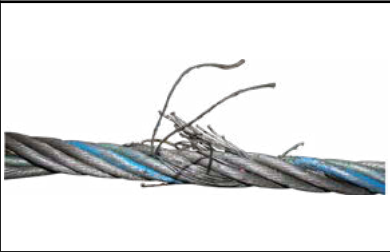









Notify MTX at time of purchase if used on a personnel lifting basket

Rated capacity based on all four legs carrying the load equally



## ⚠️ WIRE ROPE SLING WARNINGS

When you inspect a wire rope sling, it shall be taken out of service immediately and returned for repair or replacement when any of the below defects are present.

Missing or illegible sling identification (tag)		Kinking, crushing, birdcaging, or any other damage to the rope structure	
For single part slings, 10 randomly distributed broken wires in one lay length or 5 broken wires in on one strand in one rope lay		Evidence of heat damage	
For cable-laid slings, 20 broken wires per braid		End attachments that are cracked, deformed, or worn	
For 6-part braided slings, 20 broken wires per braid		Severe corrosion of the rope, end attachments, or fittings	
For 8-part braided slings, 40 broken wires per braid		Damaged hooks per ASME B30.10	
Severe localized abrasion or scraping		Damaged rigging hardware per ASME B30.26	











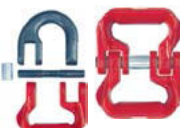

**and... Any condition that causes doubt about the continued use of the sling**



# HARDWARE SELECTIONS



WITH CROSBY'S NEW SLING SAVER LINE OF HARDWARE, YOU WILL GET THE FULL RATED STRENGTH OF THE SLING AND EXTEND ITS LIFE.

Recommended Application Chart		
Application	Use	Comments
Web Slings, connect to Pad Eye, Eye Bolt, or Lifting Lug.	S-281 Sling Saver Web Sling Shackle 	<p><b>Always ensure rated Working Load Limits are greater than the load placed on the fitting.</b></p>
Web Slings or Roundslings, connecting to Pad Eye, Eye Bolt, or Lifting Lug.	S-253 or S-252 Sling Saver Shackle 	
Connect two S-252 or S-253 Sling Saver shackles together.	S-256 Link Plate 	
To keep the load centered on the Pin, thus keeping the sling positioned correctly in the shackle bow.	S-255 Spool 	
Web Slings or Roundslings connecting to Master Links, Rings, or Crosby 320N Eye Hooks.	S-280 Sling Saver Web Connector with spool 	
Web Slings or Roundslings connecting to Grade 8 Chain.	S-282 Sling Saver Chain Connector with spool 	
High Strength, High Capacity Web or Roundslings.	WS-320A Web Sling Hook 	
Choking with Web Slings or Roundslings.	S-287 Sliding Choker Hook 	
Master Links or Master Link Assembly to be sewn into eye of Web Sling or attached utilizing web connector.	Welded Master Link A-344 and Master Link Assembly A-347 	
Web Sling being used to lift die blocks, or other equipment where standard Hoist Rings are used.	HR-125W 	
Connecting High Performance slings to master links or eye hooks and to other High Performance slings.	S-237 or S-238 High Performance Connectors 	
Wide Body Shackles greatly improve wearability of wire rope slings.	S/G-2160 "Wide Body" bolt type Shackles S/G-2169 "Wide Body" Screw Pin Shackles 	
<p>Crosby Sling Saver hardware meets the requirements for minimum stock diameter or thickness and effective contact width shown in the recommended standard specification for synthetic Polyester Round Slings by the Web Sling and Tie Down Association. WSTDA-RS1 (revised 2010).</p>		



## SCREW PIN ANCHOR SHACKLE MODEL: G-209



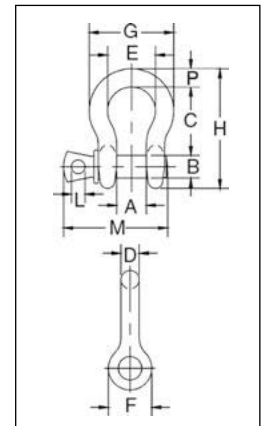
### FEATURES:

- Capacities 1/3 thru 55 metric tons, grade 6.
- Forged - Quenched and Tempered, with alloy pins.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Hot Dip galvanized or Self Colored.
- Fatigue rated.hackles 25t and larger are RFID EQUIPPED.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- 2t through 25t bow and screw pin are Certified to meet charpy impact testing of 42 joules (31 ft.-lbs.) min. ave. at -20 degree C (-4 degree F).
- All shackles are Quenched and Tempered and can meet DNV impact requirements of 42 joules (31 ft. lbs.) at -20 degree C (-4 degree F).
- Meets or exceeds all requirements of ASME B30.26.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- Crosby 2t through 25t G209 anchor shackles are type approved to DNV Certification Notes 2.7-1 -Offshore Containers. These Crosby shackles are statistical proof and impact tested. The tests are conducted by Crosby and 3.1 test certification is available upon request.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



**G-209/S-209**

G-209 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-2.7-1F Type IVA, Grade A, Class 2, except for those provisions required of the contractor.



Nominal Size (in.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (in.)												Tolerance +/-	
		G-209	S-209		A	B	C	D	E	F	G	H	L	M	P	C	A	
3/16	1/3	1018357	-	.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.14	.19	.06	.06	
1/4	1/2	1018375	1018384	.10	.47	.31	1.13	.25	.78	.61	1.28	1.84	.19	1.43	.25	.06	.06	
5/16	3/4	1018393	1018400	.18	.53	.38	1.22	.31	.84	.75	1.47	2.09	.22	1.71	.31	.06	.06	
3/8	1	1018419	1018428	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.02	.38	.13	.06	
7/16	1-1/2	1018437	1018446	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.37	.44	.13	.06	
1/2	2	1018455	1018464	.72	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06	
5/8	3-1/4	1018473	1018482	1.37	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06	
3/4	4-3/4	1018491	1018507	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06	
7/8	6-1/2	1018516	1018525	3.62	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	.50	4.50	.97	.25	.06	
1	8-1/2	1018534	1018543	5.03	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	.56	5.13	1.06	.25	.06	
1-1/8	9-1/2	1018552	1018561	7.41	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	.63	5.71	1.25	.25	.06	
1-1/4	12	1018570	1018589	9.50	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	.69	6.25	1.38	.25	.06	
1-3/8	13-1/2	1018598	1018605	13.53	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	.75	6.83	1.50	.25	.13	
1-1/2	17	1018614	1018623	17.20	2.38	1.63	5.75	1.54	3.88	3.63	6.88	10.00	.81	7.33	1.62	.25	.13	
1-3/4	25	1018632	1018641	27.78	2.88	2.00	7.00	1.84	5.00	4.19	8.86	12.34	1.00	9.06	2.25	.25	.13	
2	35	1018650	1018669	45.00	3.25	2.25	7.75	2.08	5.75	4.81	9.97	13.68	1.22	10.35	2.40	.25	.13	
2-1/2	55	1018678	1018687	85.75	4.13	2.75	10.50	2.71	7.25	5.69	12.87	17.84	1.38	13.00	3.13	.25	.25	

\* NOTE: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see the Crosby General Catalog.

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# BOLT TYPE ANCHOR SHACKLE MODEL: G-2130



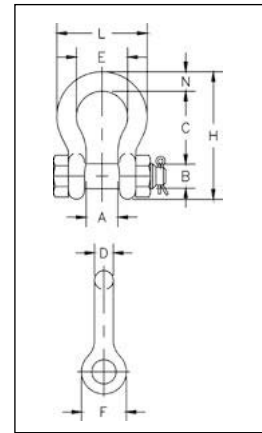
## FEATURES:

- Capacities 1/3 thru 150 metric tons, grade 6.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Forged – Quenched and Tempered, with alloy pins.
- Hot Dip galvanized or Self Colored. (85, 120, and 150 metric ton shackles are all hot dip galvanized bows and the bolts are Dimetcoated<sup>®</sup> and painted red)
- Fatigue rated (1/3t - 55t).
- Shackles 25t and larger are RFID EQUIPPED.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- Meets or exceeds all requirements of ASME B30.26.
- Shackles 85 metric tons and larger are individually proof tested to 2.0 times the working load limit.
- Shackles 120 metric tons and larger are proof tested, Magnetic Particle Inspected and provided with Serialized Pin and Bow.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- 3.1 Certification as standard available for charpy and statistical proof test for pg 73 only up to 25 tons to DNV2.7-1 and EN13889.
- Crosby 2t through 25t G2130 anchor shackles are type approved to DNV Certification Notes 2.7-1- Offshore Containers. These Crosby shackles are statistical proof and impact tested to 42 joules (31 ft-lbs.) min. ave. at -20 degree C (-4 degree F). The tests are conducted by Crosby and 3.1 test certification is available upon request. Refer to Crosby Catalogs for Crosby COLD TUFF<sup>®</sup> shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- All other 2130 and all 2150 shackles can meet charpy requirements of 42 joules (31 ft-lbs) avg at -20 degree C (-4 degree F) upon special request.
- Look for the Red Pin<sup>®</sup> . . . the mark of genuine Crosby quality.



**G-2130 / S-2130**

G-2130 Bolt Type Anchor shackles with thin head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-2.7-1F Type IVA, Grade A, Class 3, except for those provisions required of the contractor.



Nominal Size (in.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions(in.)									Tolerance + / -	
		G-2130	S-2130		A	B	C	D	E	F	H	L	N	C	A
3/16	1/3 ±	1019464	–	.06	.38	.25	.88	.19	.60	.56	1.47	.98	.19	.06	.06
1/4	1/2	1019466	–	.11	.47	.31	1.13	.25	.78	.61	1.84	1.28	.25	.06	.06
5/16	3/4	1019468	–	.22	.53	.38	1.22	.31	.84	.75	2.09	1.47	.31	.06	.06
3/8	1	1019470	–	.33	.66	.44	1.44	.38	1.03	.91	2.49	1.78	.38	.13	.06
7/16	1-1/2	1019471	–	.49	.75	.50	1.69	.44	1.16	1.06	2.91	2.03	.44	.13	.06
1/2	2	1019472	1019481	.79	.81	.64	1.88	.50	1.31	1.19	3.28	2.31	.50	.13	.06
5/8	3-1/4	1019490	1019506	1.68	1.06	.77	2.38	.63	1.69	1.50	4.19	2.94	.69	.13	.06
3/4	4-3/4	1019515	1019524	2.72	1.25	.89	2.81	.75	2.00	1.81	4.97	3.50	.81	.25	.06
7/8	6-1/2	1019533	1019542	3.95	1.44	1.02	3.31	.88	2.28	2.09	5.83	4.03	.97	.25	.06
1	8-1/2	1019551	1019560	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	1.06	.25	.06
1-1/8	9-1/2	1019579	1019588	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	1.25	.25	.06
1-1/4	12	1019597	1019604	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	1.38	.25	.06
1-3/8	13-1/2	1019613	1019622	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	1.50	.25	.13
1-1/2	17	1019631	1019640	19.00	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	1.62	.25	.13
1-3/4	25	1019659	1019668	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	2.25	.25	.13
2	35	1019677	1019686	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	2.40	.25	.13
2-1/2	55	1019695	1019702	98.25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	3.13	.25	.25
3	85†	1019711	–	154.00	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	3.62	.25	.25
3-1/2	120‡	1019739	–	265.00	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	4.38	.25	.25
4	150‡	1019757	–	338.00	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	4.56	.25	.25

\* NOTE: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit.

For Working Load Limit reduction due to side loading applications, see the Crosby General Catalog.

† Individually Proof Tested with certification.

‡ Furnished in Anchor style only and furnished with Round Head Bolts with welded handles.

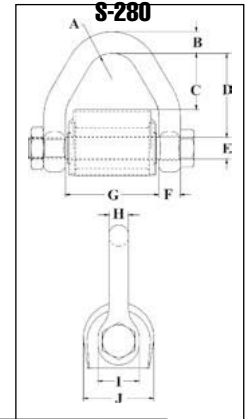


# SLING SAVER WEB CONNECTOR MODEL: S-280 SLING SAVER WEB SLING SHACKLE MODEL: S-281



### S-280 Web Connector FEATURES:

- All Alloy construction.
- Durable vinyl cover that:
  - Protects sling at eye
  - Keeps sling positioned correctly on spool.
- Design Factor of 5 to 1.
- Connects Synthetic Web and Synthetic Round Slings to conventional Crosby hardware including:
  - 320N Eye Hook
  - Additional Crosby Grade 8 Fittings
  - Master Links
  - Rings
  - Shackles
- Makes a field assembled bridle quick and easy.
- No cotter pin to snag sling material.
- Increased radius of spool gives wider sling bearing surface resulting in an increased area for load distribution, thus:
  - Increasing Synthetic Sling efficiency as compared to standard anchor and chain shackle bows and conventional eye hooks. This allows 100% of the slings rated Working Load Limit to be achieved.
  - Allowing better load distribution on internal fibers.
- Replacement kit for spool and web cover available.
- Designed for use with Type III (Eye & Eye), Class 7, 2 ply webbing & Synthetic Round Slings. Also accommodates single ply and endless slings.



Round Sling Size (No.)	Web Slings*			Working Load Limit (Tons)†	S-280 Stock No.	Weight Each (lbs.)	Dimensions (in.)									
	Webbing Width (in.)	Eye Width (in.)	Ply				A	B	C	D	E	F	G	H	I	J
1 & 2	2	2	2	3-1/4	1021681	1.5	.75	.62	1.63	2.44	.63	.62	2.69	.56	1.19	2.02
3	3	1.5	2	4-1/2	1021690	1.9	.75	.69	1.10	2.01	.75	.69	2.19	.60	1.38	2.34
4	4	2	2	6-1/4	1021700	2.9	.75	.81	1.66	2.56	.88	.75	2.69	.69	1.62	2.46
5 & 6	6	3	2	8-1/2	1021709	5.1	1.00	.94	2.47	3.50	1.00	.88	3.69	.88	1.88	2.84

\* Designed for use with Type III, (Eye & Eye), Class 7, 2 Ply web slings. For 3" and larger webbing width, tapered eye is required.

† Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate strength is 5 times the Working Load Limit.

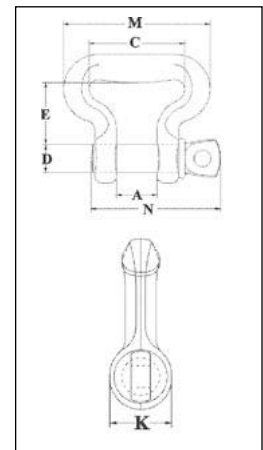
Crosby Sling Saver hardware meets the requirements for minimum stock diameter or thickness, and effective contact width shown in the Recommended Standards Specification for Synthetic Polyester Round Slings by the Web Sling & Tie Down Association. WSTDA-RS1 (revised 2010)

### S-281 Web Sling Shackle FEATURES:

- All Alloy Construction.
- Design Factor of 5 to 1.
- Each shackle has a Product Identification Code (PIC) for material traceability along with a Working Load Limit and the name Crosby forged into it.
- Incorporates same ear spread and pin dimensions as conventional Crosby Shackles. Allows easy connection to pad eyes, eye bolts, and lifting lugs.
- Increased radius of bow gives wider sling bearing surface resulting in an increased area for load distribution, thus:
  - Increasing Synthetic Sling efficiency as compared to standard anchor and chain shackle bows and conventional eye hooks. This allows 100% of the slings rated Working Load Limit to be achieved.
  - Allowing better load distribution on internal fibers.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Look for the Red Pin® ... The mark of genuine Crosby Quality.



**S-281**  
Web Sling Shackle is designed to connect Synthetic Web Slings and Synthetic Round Slings to eyebolts, pad eyes, and lifting lugs.



Round Sling Size (No.)	Web Slings*			Working Load Limit (Tons)†	S-281 Stock No.	Weight Each (lbs.)	Dimensions (in.)						
	Webbing Width (in.)	Eye Width (in.)	Ply				A	C	D	E	K	M	N
1 & 2	2	2	2	3-1/4	1021048	1.2	1.06	2.50	.75	1.62	1.22	3.84	3.34
3	3	1.5	2	4-1/2	1021057	1.5	1.25	2.00	.88	1.50	1.41	3.38	3.97
4	4	2	2	6-1/4	1021066	2.5	1.44	2.50	1.00	2.00	1.62	4.22	4.50
5 & 6	6	3	2	8-1/2	1021075	4.3	1.69	3.62	1.13	2.75	1.84	5.64	5.13

\* NOTE: Designed for use with Type III, (Eye & Eye), Class 7, 2 Ply web slings. For 3" and larger webbing width, tapered eye is

required.

† Maximum Proof Load is 2-1/2 times the Working Load Limit. Minimum Ultimate strength is 5 times the Working Load Limit.

Crosby Sling Saver hardware meets the requirements for minimum stock diameter or thickness, and effective contact width shown in the Recommended Standards Specification for Synthetic Polyester Round Slings by the Web Sling & Tie Down Association. WSTDA-RS1 (revised 2010)

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**SLING SAVER BOLT TYPE SLING SHACKLE MODEL: S-252**  
**SLING SAVER SCREW PIN SLING SHACKLE MODEL: S-253**



**FEATURES:**

- Shackles available in size 3-1/4 to 50 metric tons.
- All Alloy construction.
- Design factor of 5 to 1.
- Each shackle has a Product Identification Code (PIC) for material traceability along with a Working Load Limit and the name Crosby forged into it.
- Increased radius of bow gives wider sling bearing surface resulting in an increased area for load distribution, thus:
  - Increasing Synthetic Sling efficiency as compared to standard anchor and chain shackle bows and conventional hooks. This allows 100% of the slings rated Working Load Limit to be achieved.
  - Allows better load distribution on internal fibers.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Shackles available in both a Screw Pin and Bolt, Nut and cotter pin configuration.
- Bolt (Pin) has a larger diameter that provides better load distribution.
- Look for the Red Pin ... the mark of Genuine Crosby quality.

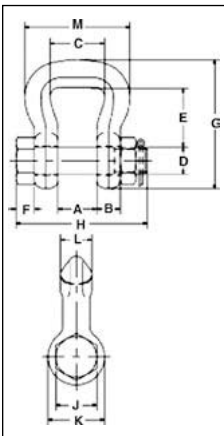


**S-252  
BOLT TYPE  
SLING SHACKLE**



**S-253  
SCREW PIN  
SLING SHACKLE**

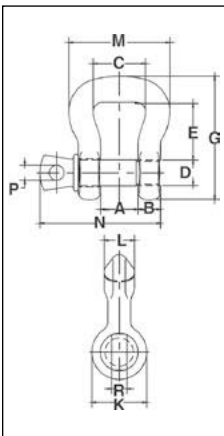
**S-252 Bolt Type Sling Shackle**



Web Sling Eye Width (in.)	Round Sling Size (No.)	Working Load Limit (t)*	S-252 Stock No.	Weight Each (lbs.)	Dimensions (in.)											
					A	B	C	D	E	F	G	H	J	K	L	M
1	1 & 2	3-1/4	1020485	1.4	1.06	.58	1.38	.75	1.50	.44	3.38	3.68	1.12	1.50	.75	2.69
1.5	3 & 4	6-1/2	1020496	2.4	1.25	.75	1.75	.88	1.88	.50	4.15	4.25	1.31	1.81	1.00	3.38
2	5 & 6	8-3/4	1020507	4.1	1.38	.88	2.25	1.00	2.81	.56	5.50	4.72	1.50	2.09	1.12	4.19
3	7 & 8	12-1/2	1020518	8.0	1.62	1.12	3.25	1.25	3.06	.75	6.34	5.88	1.88	2.62	1.38	5.62
4	9 & 10	20-1/2	1020529	16.9	2.12	1.38	4.50	1.50	5.25	.88	9.45	7.19	2.25	3.12	1.75	7.50
5	11 & 12	35	1020540	35.0	2.50	1.75	5.50	2.00	6.34	1.12	11.50	9.31	3.00	4.19	2.25	9.19
6	13	50	1020551	57.5	3.00	2.12	6.50	2.25	7.70	1.25	13.75	10.38	3.38	4.75	2.75	11.00

\* Maximum Proof Load is 2.5 times the Working Load Limit. Minimum Ultimate strength is 5 times the Working Load Limit.

**S-253 Screw Pin Sling Shackle**



Web Sling Eye Width (in.)	Round Sling Size (No.)	Working Load Limit (t)*	S-253 Stock No.	Weight Each (lbs.)	Dimensions (in.)											
					A	B	C	D	E	G	K	L	M	N	P	R
1	1 & 2	3-1/4	1020575	1.4	.88	.62	1.38	.75	1.50	3.38	1.50	.75	2.69	3.22	.44	1.00
1.5	3 & 4	6-1/2	1020584	2.2	1.25	.75	1.75	.88	1.88	4.15	1.81	1.00	3.38	4.03	.50	1.19
2	5 & 6	8-3/4	1020593	3.8	1.38	.88	2.25	1.00	2.81	5.50	2.09	1.12	4.19	4.50	.50	1.44
3	7 & 8	12-1/2	1020602	7.3	1.62	1.12	3.25	1.25	3.06	6.34	2.62	1.38	5.62	5.59	.62	1.81
4	9 & 10	20-1/2	1020611	15.2	2.12	1.38	4.50	1.50	5.25	9.45	3.12	1.75	7.50	6.88	.75	2.13
5	11 & 12	35	1020620	30.8	2.50	1.75	5.50	2.00	6.34	11.50	4.19	2.25	9.19	8.66	1.00	2.88
6	13	50	1020629	52.0	3.00	2.12	6.50	2.25	7.70	13.75	4.75	2.75	11.00	10.22	1.22	3.19

\* Maximum Proof Load is 2.5 times the Working Load Limit. Minimum Ultimate strength is 5 times the Working Load Limit. Crosby Sling Saver hardware meets the requirements for minimum stock diameter or thickness, and effective contact width shown in the Recommended Standards Specification for Synthetic Polyester Round Slings by the Web Sling & Tie Down Association. WSTDA-RS1 (revised 2010)

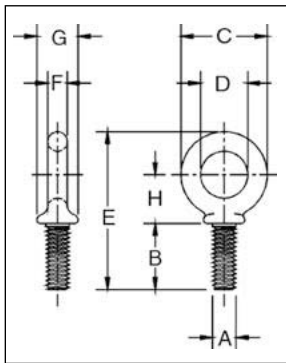
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S-279 / M-279



# SHOULDER TYPE MACHINERY EYE BOLTS

## MODEL: S-279 UNC / M-279 METRIC

### FEATURES:

- Forged Steel - Quenched & Tempered.
- Working Load Limits shown are for in-line pull.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these bolts meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Recommended for in-line pull.
- S-279 threaded UNC.
- M-279 metric threaded.

### S-279 UNC

Size	S-279 Stock No.	Working Load Limit (lbs.)*	Weight Per 100 (lbs.)	Dimensions (in.)							
				A** Thread	B	C	D	E	F	G	H
1/4 x 1	9900182	650	5.00	1/4 - 20	1.02	1.13	.75	2.29	.19	.53	.77
5/16 x 1-1/8	9900191	1200	9.00	5/16 - 18	1.15	1.38	.88	2.74	.25	.59	.95
3/8 x 1-1/4	9900208	1550	15.00	3/8 - 16	1.27	1.62	1.00	3.07	.31	.69	1.05
1/2 x 1-1/2	9900217	2600	28.00	1/2 - 13	1.53	1.95	1.19	3.70	.38	.91	1.27
5/8 x 1-3/4	9900226	5200	55.00	5/8 - 11	1.79	2.38	1.38	4.45	.50	1.13	1.53
3/4 x 2	9900235	7200	96.00	3/4 - 10	2.05	2.76	1.50	5.07	.63	1.38	1.71
7/8 x 2-1/4	9900244	10600	154.00	7/8 - 9	2.31	3.25	1.75	5.87	.75	1.56	2.00
1 x 2-1/2	9900253	13300	238.00	1 - 8	2.57	3.76	2.00	6.66	.88	1.81	2.30
1-1/8 x 2-3/4	9900257	15000	320.00	1-1/8 - 7	2.75	4.19	2.25	7.20	.97	2.06	2.35
1-1/4 x 3	9900262	21000	399.00	1-1/4 - 7	3.09	4.50	2.50	7.95	1.00	2.28	2.73
1-1/2 x 3-1/2	9900271	24000	720.00	1-1/2 - 6	3.60	5.50	3.00	9.49	1.25	2.75	3.28
1-3/4 x 3-3/4	9900280	34000	1040.00	1-3/4 - 5	3.75	6.26	3.50	10.48	1.38	3.00	3.60
2 x 4	9900289	42000	1880.00	2 - 4-1/2	4.00	7.62	4.00	12.31	1.81	3.38	4.50
2-1/2 x 5	9900298	65000	3250.00	2-1/2 - 4	5.00	8.76	4.50	14.88	2.12	4.25	5.50

\*Ultimate Load is 5 times the Working Load Limit. Maximum Proof Load is 2 times the Working Load Limit.  
\*\* All bolts threaded UNC.

### M-279 Metric

Size	M-279 Stock No.	Working Load Limit (kg)*	Weight Each (kg)	Dimensions (mm)							
				A** Thread	B	C	D	E	F	G	H
M6 x 13	1045753	200	.03	M6 x 1.0	13.0	28.7	19.1	47.0	4.9	13.5	19.6
M8 x 13	1045789	400	.05	M8 x 1.25	13.0	35.1	22.4	54.6	6.4	15.0	24.1
M10 x 17	1045833	640	.07	M10 x 1.5	17.0	41.1	25.4	64.3	7.9	17.5	26.5
M12 x 20.5	1045869	1000	.11	M12 x 1.75	20.5	49.5	30.2	77.7	9.7	23.1	32.8
M16 x 27	1045913	1800	.25	M16 x 2.0	27.0	60.5	35.1	96.0	12.7	28.7	38.9
M20 x 30	1045995	2500	.42	M20 x 2.5	30.0	70.0	38.1	108	16.0	35.1	43.4
M24 x 36	1046029	4000	1.05	M24 x 3.0	36.0	95.5	51.0	142	22.4	46.0	58.4
M27 x 69.8	1046038	5000	1.42	M27 x 3.0	69.8	107	57.1	183	24.6	52.3	59.7
M30 x 45	1046075	6000	1.77	M30 x 3.5	45.0	114	63.5	171	25.4	58.0	69.3
M36 x 54	1046109	8500	3.12	M36 x 4.0	54.0	140	76.0	207	31.8	70.0	83.3
M42 x 95.2	1046118	14000	4.58	M42 x 4.5	95.2	159	88.9	266	35.0	76.2	91.4
M48 x 102	1046127	17300	8.71	M48 x 5.0	102	194	101	313	46.0	85.9	114
M64 x 127	1046136	29500	14.74	M64 x 6.0	127	223	114	378	53.8	108	140

\*Ultimate Load is 5 times the Working Load Limit. Maximum Proof Load is 2 times the Working Load Limit.  
\*\* On Request: Special threading or as forged bolts for customer conversion.

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**EYE NUT MODEL: G-400**

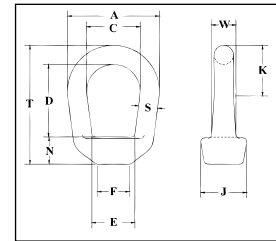


**FEATURES:**

- Forged Steel - Quenched and Tempered.
- Hot Dip galvanized.
- Tapped with standard UNC class 2 threads after galvanizing.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Also available in blank (as forged) item (S-4028) or on request with metric threading ( M-400).
- Recommended for In-Line pull.



**G-400**



**G-400 Eye Nuts**

Size No.	"S" Stock Size (in.)	G-400 Stock No	Std. Tap Size	Working Load Limit (lbs.)*	Weight Per 100 (lbs.)	Dimensions (in.)									
						A	C	D	E	F	J	K	N	T	W
1	.25	1090438	1/4	520	.09	1.25	.75	1.00	.75	.50	.69	.63	.38	1.72	.31
2	.31	1090474	3/8	1250	.17	1.62	1.00	1.20	.83	.56	.81	.89	.50	2.09	.41
3A	.38	1090517	1/2	2250	.28	2.00	1.25	1.44	1.08	.81	1.00	1.09	.62	2.55	.50
4	.50	1090535	5/8	3600	.60	2.50	1.50	1.92	1.35	1.00	1.31	1.31	.69	3.25	.69
5	.63	1090553	3/4	5200	1.00	3.00	1.75	2.38	1.59	1.12	1.50	1.57	.88	3.89	.84
6	.75	1090571	7/8	7200	1.65	3.50	2.00	2.63	1.96	1.38	1.88	1.77	.94	4.32	1.00
7	.88	1090599	1	10000	2.69	4.00	2.25	3.06	2.21	1.56	2.13	2.02	1.07	5.01	1.19
8	1.00	1090633	1-1/4	15500	4.38	4.50	2.50	3.50	2.46	1.88	2.38	2.27	1.25	5.78	1.38
9	1.13	1090651	1-3/8	18500	5.00	5.00	2.75	4.00	2.69	2.00	2.56	2.53	1.38	6.51	1.50
10	1.25	1090679	1-1/2	22500	6.78	5.62	3.12	4.31	3.09	2.25	3.00	2.82	1.50	7.06	1.66
11	1.50	1090697	2	40000	14.60	7.12	4.10	6.20	4.09	3.13	3.75	3.68	2.06	9.91	1.94

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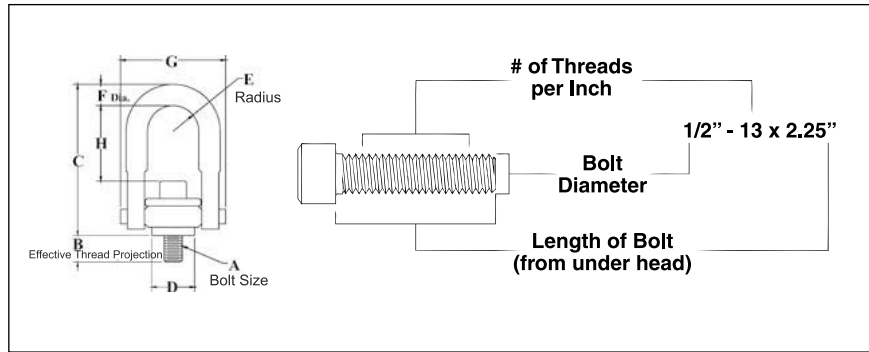
## SWIVEL HOIST RING MODEL: HR-125 UNC THREADS



**HR-125**

**FEATURES:**

- Top washer has the following features:
- The Working Load Limit and Recommended Torque value are permanently stamped into each washer.
- Washer is color coded for easy identification: Red - UNC thread.
- Individually Proof Tested to 2-1/2 times Working Load Limit.
- Bolt specification is an Alloy socket head cap screw to ASTM A 574. All threads listed are UNC.
- **BOLT SIZE IDENTIFICATION:** The size of the bolt will be stated as in the drawing below. Illustration shows meaning of each dimension given.
- Frame 2 and larger are RFID EQUIPPED.



**HR-125 UNC Threads**

Frame Size No.	HR-125 Stock No.	Working Load Limit (lbs.)*	Torque in Ft. Lbs.	Dimensions (in.)								Weight Each (lbs.)
				Bolt Size A ‡	Effective Thread Projection Length B	C	D	Radius E	Diameter F	G	H	
1†	1016887	800	7	5/16 - 18 x 1.50	.58	2.72	.97	.46	.34	1.87	1.12	.37
1†	1016898	1000	12	3/8 - 16 x 1.50	.58	2.72	.97	.46	.34	1.87	1.05	.39
2	1016909	2500	28	1/2 - 13 x 2.00	.70	4.85	1.96	.87	.75	3.35	2.29	2.33
2†	1016912	2500	28	1/2 - 13 x 2.50	1.20	4.85	1.96	.87	.75	3.35	2.29	2.36
2	1016920	4000	60	5/8 - 11 x 2.00	.70	4.85	1.96	.87	.75	3.35	2.16	2.41
2†	1016924	4000	60	5/8 - 11 x 2.75	1.45	4.85	1.96	.87	.75	3.35	2.16	2.47
2	1016931	5000	100	3/4 - 10 x 2.25	.95	4.85	1.96	.87	.75	3.35	2.04	2.52
2†	1016935	5000	100	3/4 - 10 x 2.75	1.45	4.85	1.96	.87	.75	3.35	2.04	2.59
3	1016942	7000**	100	3/4 - 10 x 2.75	.89	6.57	2.96	1.36	.94	4.87	2.97	6.72
3†	1016946	7000**	100	3/4 - 10 x 3.50	1.64	6.57	2.96	1.36	.94	4.87	2.97	6.81
3	1016953	8000	160	7/8 - 9 x 2.75	.89	6.57	2.96	1.36	.94	4.87	2.84	6.84
3†	1016957	8000	160	7/8 - 9 x 3.50	1.64	6.57	2.96	1.36	.94	4.87	2.84	6.96
3	1016964	10000	230	1 - 8 x 3.00	1.14	6.57	2.96	1.36	.94	4.87	2.72	7.09
3†	1016969	10000	230	1 - 8 x 4.00	2.14	6.57	2.96	1.36	.94	4.87	2.72	7.31
4	1016975	15000	470	1-1/4 - 7 x 4.50	2.21	8.72	3.71	1.75	1.19	6.18	3.93	14.51
5	1016986	24000	800	1-1/2 - 6 x 6.75	2.97	12.55	4.71	2.39	1.75	8.48	5.52	37.73
5	1016997	30000	1100	2 - 4-1/2 x 6.75	2.97	12.55	4.71	2.39	1.75	8.48	5.02	40.69
6	1017001	50000	2100	2-1/2 - 4 x 8.0	4.00	16.88	5.75	3.00	2.25	11.00	8.03	88.00
7	1017005	75000	4300	3 - 4 x 10.5	5.00	19.50	7.25	3.75	2.75	14.16	8.50	166.00
8	1017009	100000	5100	3-1/2 - 4 x 13.0 #	7.00	22.09	7.75	4.00	3.25	15.91	9.28	265.00

\*Ultimate Load is 5 times the Working Load Limit.

\*\* Ultimate Load is 4.5 times the Working Load Limit for 7000# Hoist Ring when tested in 90 degree orientation.

† Long Bolts are designed to be used with soft metal (i.e., aluminum) work piece. While the long bolts may also be used with ferrous metal (i.e., steel & iron) work piece, short bolts are designed for ferrous work pieces only.

‡ Bolt specification is an Alloy socket head cap screw to ASTM A 574.

# Hex head bolt used on Frame 8 (100,000lb.) Hoist Ring.

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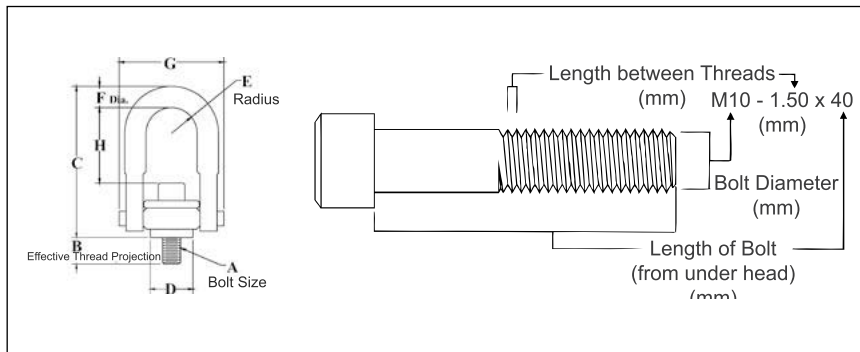
## SWIVEL HOIST RING MODEL: HR-125M METRIC THREADS



**HR-125m**

**FEATURES:**

- Top washer has the following features:
  - The Working Load Limit and Recommended Torque value are permanently stamped into each washer.
  - Washer is color coded for easy identification: Silver - Metric thread.
  - Individually Proof Tested to 2-1/2 times Working Load Limit.
  - Bolt specification is a Grade 12.9 Alloy socket head cap screw to Din 912. All threads listed are metric (ASME/ANSI B18.3.1m).
- Designed to be used with ferrous work piece only.
- **BOLT SIZE IDENTIFICATION:** The size of the bolt will be stated as in the drawing below. Illustration shows meaning of each dimension given.
- Frame 2 and larger RFID EQUIPPED.



**HR-125M Metric Threads**

Frame Size No.	HR-125M Stock No.	Working Load Limit (kg)*		Torque in Nm*	Dimensions (mm)								Weight Each (kg)
		At a 5:1 Design Factor†	At a 4:1 Design Factor†		(A) Bolt Size‡	(B) Effective Thread Projection Length	C	D	Radius E	Diameter F	G	H	
1	1016602	400	500	10	M8X1.25X40	16.7	69.2	24.6	11.7	8.5	47.5	28.2	.17
1	1016613	450	550	16	M10X1.50X40	16.7	69.2	24.6	11.7	8.5	47.5	26.2	.18
2	1016624	1050	1300	38	M12X1.75X50	16.9	123	49.8	22.1	17.5	85.1	58.9	1.05
2	1016635	1900	2400	81	M16X2.00X60	26.9	123	49.8	22.1	17.5	85.1	54.9	1.11
2	1016644	2150	2700	136	M20X2.50X65	31.9	123	49.8	22.1	17.5	85.1	50.9	1.17
3	1016657	3000	3750	136	M20X2.50X75	27.8	167	75.2	34.5	25.4	124	74.4	3.09
3	1016668	4200	5250	312	M24X3.00X80	32.8	167	75.2	34.5	25.4	124	70.4	3.21
4	1016679	7000	8750	637	M30X3.50X120	61.7	222	94.2	44.5	30.5	157	101	6.53
5	1016690	11000	13750	1005	M36X4.00X150	60.3	316	120	60.7	44.5	215	145	16.8
5	1016701	12500	15600	1005	M42X4.50X160	70.3	316	120	60.7	44.5	215	139	17.4
5	1016712	13500	16900	1350	M48X5.00X160	70.3	316	120	60.7	44.5	215	133	18.0

\*The tightening torque values shown are based upon threads being clean, dry and free of lubrication.  
 † Individually proof loaded to 2-1/2 times the Working Load Limit based on the 4:1 design factor.  
 ‡ Bolt specification is a Grade 12.9 Alloy socket head cap screw to Din 912. All threads are metric (ASME/ANSI B18.3.1m).



## SWIVEL HOIST RING TO WEB MODEL: HR-125W

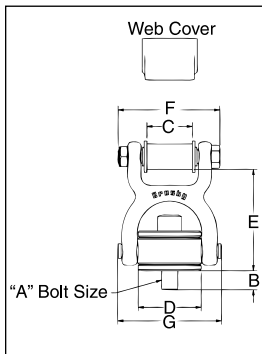


**HR-125W**

U.S. Patent No.  
5,927,780

**FEATURES:**

- Available in capacities from 6,200 to 12,400 lbs.
- Fits webbing sizes 2" to 4".
- Forged Alloy Steel
- Durable plastic cover protects the sling at the eye as well as keeps the sling positioned correctly on the spool.
- Bolt specification is a Grade 8 Alloy socket head cap screw to ASTM A574. All threads are UNC.
- Design Factor of 5 to 1.
- Individually Proof Tested to 2-1/2 times the Working Load Limit.
- Designed for use with Type III (Eye & Eye), class 7, 2 ply webbing & synthetic round slings. Also accommodates single ply endless slings.
- All sizes are RFID EQUIPPED.



HR-125W Stock No.	Round Sling Size (No.)	Web Width (in.)	Eye Width (in.)	Working Load Limit (lbs.)*	Torque in Ft.-lbs.	Eff. Thread Proj. Length (in.)	Spool bolt & nut Torque in Ft.-Lbs.	Dimensions (in.)							Weight Each (lbs.)
								A ‡	B	C	D	E	F	G	
1067610	1 & 2	2	2	6200	100	.90	90	3/4-10x2.75	.89	2.13	2.96	4.75	4.77	4.87	6.2
1067615	1 & 2	2	2	6200	100	1.65	90	3/4-10x3.5	1.64	2.13	2.96	4.75	4.77	4.87	6.3
1067629	3	3	1.5	8900	230	1.15	110	1-8x3.0	1.14	1.63	2.96	4.77	4.54	4.87	7.1
1067634	3	3	1.5	8900	230	2.15	110	1-8x4.0	2.14	1.63	2.96	4.77	4.54	4.87	7.3
1067638	4	4	2	12400	470	2.22	130	1-1/4-7x4.5	2.21	2.13	3.71	6.24	4.31	6.18	13.7

\*Ultimate load is 5 times the Working Load Limit. Individually tested to 2-1/2 times the Working Load Limit.

‡ Long Bolts are designed to be used with soft metal (i.e., aluminum) work piece. While the long bolts may also be used with ferrous metal (i.e., steel & iron) work piece, short bolts are designed for ferrous work pieces only.





CUSTOM PRODUCTS

HOW TO ORDER CUSTOM PRODUCTS

Tuffy Products has a great deal of experience helping customers with custom synthetic slings and lifting equipment. We have worked with customers in all types of industries and applications to help them develop solutions to their individual lifting needs. Synthetics allow for a great deal of customization during manufacturing from using different materials to sewing the equipment in different configurations such as nets. The eyes on web slings are available in a wide array of options to help with attachment and positioning during a lift. There are also other modifications that can be made such as adding coatings or sleeves to the sling to protect them during use. If you have an application where you feel a custom synthetic sling or lifting equipment is necessary please give us a call at 877-889-8833 or email us at tuffysales@tuffyweb.com and our team will be happy to start working on solutions for you.

NETS



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- Buoys
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  - Vehicles
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ADJUSTABLE MATRIX SLINGS



Adjustable Load Rated Lifting Slings – Single Leg or Adjustable Bridles.

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A must for all sawmills. These slings are made with 4" polyester webbing that's specially treated for abrasion resistance and a steel triangle sewn into one end. Choose a length that fits your application.

INDUSTRIAL CORDAGE SLINGS Custom spliced, single or double braided



high-modulus performance rope. Perfect for:

- Winch Lines
- Pulling & Stringing Lines
- Utility Lines
- Hand Lines/Block Lines
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- Specialty configurations
- Transformer Slings

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Ideal for handling polished granite, marble blocks and concrete panels. Slings are made with white, untreated nylon webbing that won't rub off on stone. The webbing features a special facing of soft, abrasion resistant fabric woven on one side. Also available with Neoprene coating for extra abrasion resistance, giving the sling more grip when handling wet stone.



# TRUCK TIE-DOWN ASSEMBLIES

## SECURE CARGO ON TRUCKS AND TRAILERS

With a soft, pliable and non-abrasive polyester webbing, our Truck Tie-down Assemblies are ideal straps for securing cargo on flatbed trucks and trailers. They're lighter and easier to handle than chain load binders, and stronger and more durable than elastic tension bands. They also adjust easily in length to fit the size of load you're hauling.

The polyester webbing offers many advantages:

- Fabricated to meet your specific order.
- Fits standard 3" and 4" winches.
- Low-stretch design (approximately 3% at Working Load Limit) for improved handling.
- High-strength design isn't affected by moisture.
- All cut ends are heat-sealed to prevent fraying.
- Corner protectors and sliding sleeves also available.

### OTHER OPTIONS

1. Sliding winches designed to slide along the winch track are available. Please specify manufacturer of winch track when ordering.
2. Other winches and winch tracks are also available. For more information, please call your distributor, distribution center or the factory.
3. You may also order sliding sleeve-type wear pads and metal corner protectors (see page 10-11 for details).

### CHOICE OF FOUR END TREATMENTS, EACH WITH TWO WORKING LOAD LIMITS

\*\* Type G Grab Hook end fitting is the same as C without the chain section. Other end fittings are available on request.

\* **CAUTION:** Do not subject these assemblies to loads greater than the Working Load Limits because permanent loss of strength may result. These cargo straps have a design factor of 3 calculated into the Working Load Limit.



**Flat Hook**

F1803: 4,000 lbs. WLL;  
12,000 lbs. nominal strength\*  
F1804: 5,000 lbs. WLL;  
15,000 lbs. nominal strength\*

**D-Ring**

D1803: 4,000 lbs. WLL;  
12,000 lbs. nominal strength\*  
D1804: 5,000 lbs. WLL;  
15,000 lbs. nominal strength\*

**Sewn Eye**

E1803: 4,000 lbs. WLL;  
12,000 lbs. nominal strength\*  
E1804: 5,000 lbs. WLL;  
15,000 lbs. nominal strength\*

**Chain Anchor Assembly\*\***

C1803: 4,000 lbs. WLL;  
12,000 lbs. nominal strength\*  
C1804: 5,000 lbs. WLL;  
15,000 lbs. nominal strength\*

### RATCHET ASSEMBLIES



Width (in.)	Length (ft.)	Part Number	End Fitting	Rated Capacity (lbs.)
1"	16'	RSSS1801-16	S Hooks	3,000
1"	16'	RSUU1801-16K	Wire Hooks	3,000
2"	30'	RSUU1802-30	Wire Hooks	3,333
2"	30'	RSFF1802-30	Flat Hooks	3,333
2"	30'	RSCC1802-30	Chain Extension	3,333
3"	30'	RSUU1803-30	Wire Hooks	5,400
3"	30'	RSFF1803-30	Flat Hooks	5,400
4"	30'	RSUU1804-30	Wire Hooks	5,400
4"	30'	RSFF1804-30	Flat Hooks	5,400

## WINCH STRAPS



**Flat Hooks**

**Wire Hooks**

**Chain Extension**

Width (in.)	Length (ft.)	Part Number	End Fitting	Rated Capacity (lbs.)
2"	30'	F1802-30	Flat Hook	3,333
2"	30'	U1802-30	Wire Hook	3,333
2"	30'	C1802-30	Chain Extension	3,333
3"	30'	F1803-30	Flat Hook	5,400
3"	30'	C1803-30	Chain Extension	5,400
4"	30'	F1084-30	Flat Hook	5,400
4"	50'	F1804-50	Flat Hook	5,400
4"	30'	C1804-30	Chain Extension	5,400



## WINCH BARS



**Combo Painted Winch Bar - W-CP1000**



**Standard Painted Winch Bar - W-SP1000**



**Combo Painted Tube Winch Bar - W-CTP1000**



**Combo Chrome Winch Bar - W-CC1000**



**Standard Chrome Winch Bar - W-SC1000**



**Combo Chrome Tube Winch Bar - W-CT1000**

## WINCHES

Part No.	Description
W-10	Low Profile Weld-On Winch, holds 10' of 4"
W-20	Standard Weld-On Winch, holds 20' of 4"
W-30	Storable Weld-On Winch, holds 30' of 4"
W-10P2	Low Profile Portable Winch, 2 set screws, 10' of 4"
W-20P	Standard Portable Winch, 2 set screws, 20' of 4"
W-30P	Storable Portable Winch, 2 set screws, 30' of 4"
W-20N	Standard Notched Winch, holds 20' of 4"
W-30N	Storable Notched Winch, holds 30' of 4"



**Weld-On**



**Portable**



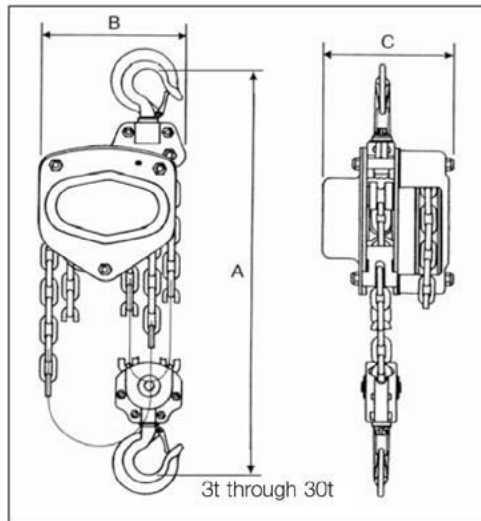
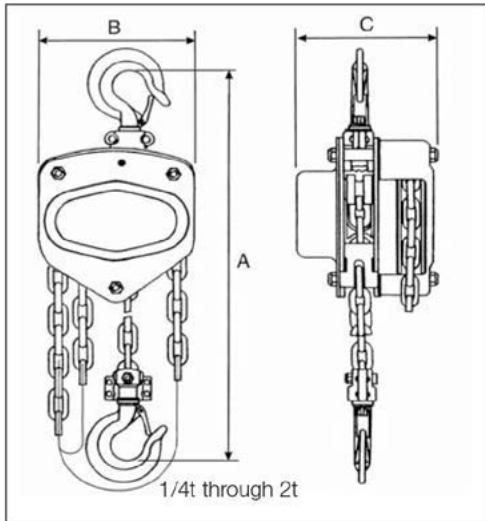
**Notched**



## HAND CHAIN HOISTS MODEL: CF

### FEATURES:

- Overload clutch standard feature on chain hoists
- Modern small body, compact, stamped steel construction
- Fully machined steel load sheaves
- Cast steel hook latches instead of stamped steel
- Fully enclosed gear train and caged internal bearings
- All exposed parts plated or powder coated for corrosion protection
- Bottom hooks of chain hoists equipped with roller thrust bearings
- Top & bottom hook tips with cast self-locking latches, for increased safety
- Double pawl Weston style load brake
- Conforms to ASME B30.16 - Chain Hoists and Standard B30.21 - Lever Hoists



Model	Working Load Limit	Standard Lift	Chain Size	Falls of Chain	Effort to Lift Rated Load (lbs.)	Net Weight with 10 ft of Lift (lbs.)	Dimensions (inches)			
							A	B	C	Hook Openings
TUF-CF05	0.5t	10 ft	6	1	51	22	10.64	5.00	5.16	.99
TUF-CF10	1t	10 ft	8	1	66	26	12.49	6.23	5.52	.99
TUF-CF1.5	1.5t	10 ft	8	1	70	30	15.7	7.36	6.34	1.42
TUF-CF20	2t	10 ft	8	1	77	49	16.31	7.37	6.34	1.32
TUF-CF30	3t	10 ft	8	2	60	71	18.32	8.27	6.34	1.58
TUF-CF50	5t	10 ft	10	2	90	102	25.06	9.97	6.34	1.97
TUF-CF7.5	7.5t	10 ft	10	3	90	140	30.24	14.8	7.24	1.97
TUF-CF100	10t	10 ft	10	4	90	183	31.42	14.1	8.15	2.52
TUF-CF150	15t	10 ft	10	8	90 x 2	374	35	25.6	8.46	3.35
TUF-CF200	20t	10 ft	10	8	*Call for dimensions on larger sizes*					
TUF-CF300	30t	10 ft	10	12						
TUF-CF500	50t	10 ft	10	20						

**NOTE:** Please specify chain length required when ordering, by adding a -5, -10, -15, -20 to the end of model number. Standard is 10 ft.

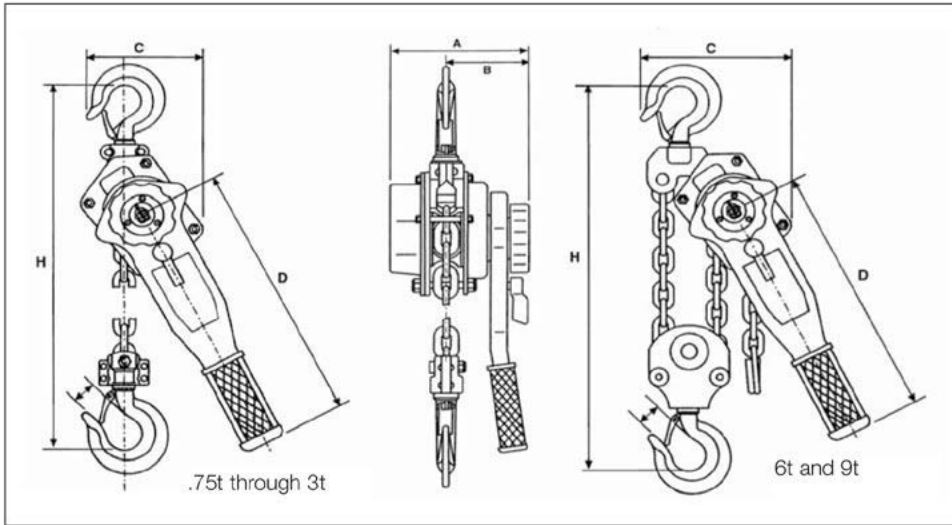




# LEVER CHAIN HOIST **MODEL: LH**

## FEATURES:

- Standard overload clutch
- Double pawl Weston style load brake
- Fully machined steel load sheaves
- Top & bottom hook tips with cast self-locking latches, for increased safety
- Fully enclosed gear train and caged internal bearings
- All exposed parts plated or powder coated for corrosion protection
- Double pawl Weston style load brake
- Conforms to ASME B30.16 - Chain Hoists and Standard B30.21 - Lever Hoists



Model	Working Load Limit	Effort to Lift Rated Load (lbs.)	Net Weight with 10 ft Lift (lbs.)	Chain Size	Falls of Chain	Dimensions (inches)					Hook Openings
						A	B	C	D	H	
TUF-LH075	.75 t	30.86	16	6	1	5.83	3.55	5.36	11.03	12.8	0.87
TUF-LH100	1 t	32.6	17	6	1	5.83	3.55	5.36	11.03	13	0.95
TUF-LH150	1.5 t	48.49	25	8	1	6.78	3.86	6.3	16.15	14.97	1.26
TUF-LH200	2 t	51.8	26	8	1	6.78	3.86	6.3	16.15	15.1	1.4
TUF-LH300	3 t	70.53	47	10	1	7.88	4.53	7.09	16.15	18.91	1.46
TUF-LH600	6 t	74.94	69	10	2	7.88	4.53	9.26	16.15	24.43	1.77
TUF-LH900	9 t	79.2	103.4	10	3	7.88	4.53	12.44	16.15	27.56	2.36

**NOTE:** Please specify chain length required when ordering, by adding a -5, -10, -15, -20 to the end of model number.





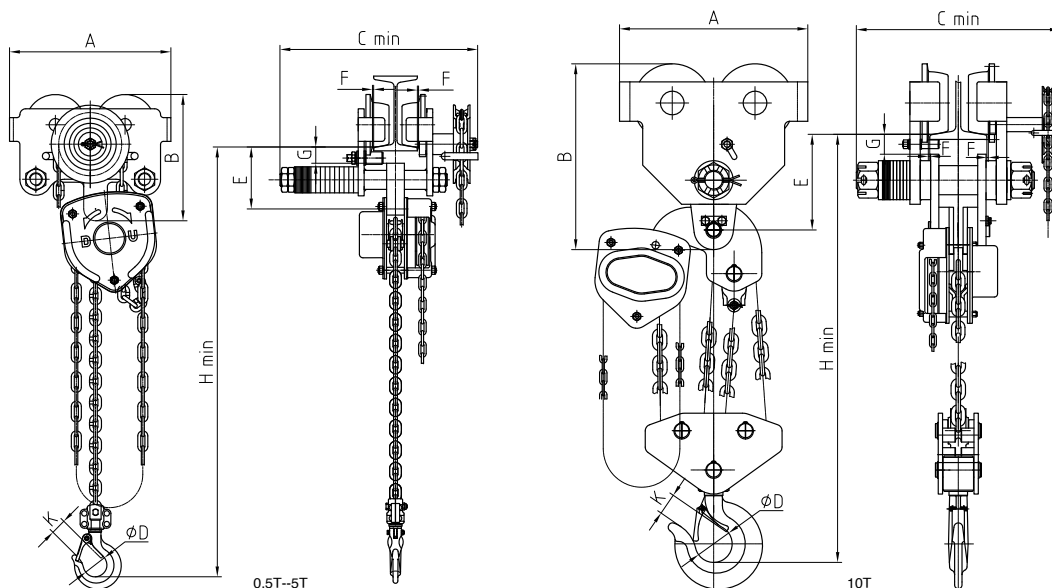
## CLOSED COUPLED CHAIN HOIST MODEL: CCCH

### FEATURES:

- Hoist and trolley integrated offers minimum headroom.
- Robust all steel construction.
- Minimum effort to raise load
- High strength alloy steel load chain
- Stainless steel name plates.
- Paint is baked enamel finish and all exposed parts of hoist are plated or powder coated for corrosion protection.
- Weather protected, double pawl Weston style load brake
- Cast steel safety latches.
- Load hooks equipped with thrust bearings.
- Spare parts always available.
- Equipped with overload protection as standard.
- Complies with ASME/ANSI B30 standards where applicable
- Easily adjusted to any beam width within offered ranges.
- Trolleys fitted with extended range suspension pins for wider flange widths upon request.
- Optional chain containers upon request.



Model	Capacity	I-Beam Range (inches)	Dimensions (inches)									Min. Radius Curve (ft.)	Weight w/ out Chain (lbs.)	Chain Size & Strands	Chain Weight /ft lift (lbs.)	Ex-Extended Range Avail. (in.)
			A	B	C	D	E	F	G	H	K					
CCCH05	0.5t	2-7	9.37	6.65	13.23	1.38	3.39	0.12	0.98	10.35	1.10	3	47	6mm x 1	0.54	7.09-12
CCCH10	1t	2.75-7	10.75	6.69	13.17	1.40	4.11	0.12	1.08	13.46	1.02	4	57	8mm x 1	0.92	7.09-12
CCCH20	2t	3-7	11.93	7.13	14.65	1.67	4.53	0.12	0.98	15.71	1.26	4	95	8mm x 1	0.92	7.09-12
CCCH30	3t	3-7	14.29	9.06	15.00	1.97	4.92	0.12	1.14	18.50	1.46	5	159	8mm x 2	1.84	7.09-12
CCCH50	5t	3.8-7	17.17	10.24	15.51	2.52	5.75	0.12	1.30	22.99	1.81	7	215	10mm x 2	2.96	7.09-12
CCCH100	10t	5.75-8	17.91	17.64	19.41	3.35	9.09	0.16	1.89	31.81	1.97	10	381	10mm x 4	5.92	7.87-12.99



# SUBSEA LEVER HOIST MODEL: STING RAY

## FEATURES:

- Designed & constructed for use in extreme marine environments and subsea operations
- Unique hand wheel and free wheel knob design.
- Hook tips with cast self-locking latches.
- Patented bonded brake, no brake discs required.
- Caged roller bearings on the load sprocket.
- Dacromet finish on all brake components.
- Integrated safety overload clutch.
- Weston brake with twin pawls.
- Stainless steel name plates.
- Minimum handle effort required to raise loads.
- Load chain includes adjustable End Stop.
- Nickel plated G100 alloy load chain.
- All steel construction & internal surfaces are treated with special anti-corrosive finish.
- Powder coated exterior paint finish.
- Does not require pre-load for lifting function.
- Operating temperature range from -40° to +140°.
- Meets: OSHA, ASME B30.21 and ASME HST-3
- Meets: IMCA D028 Standard (UK subsea lever hoist)

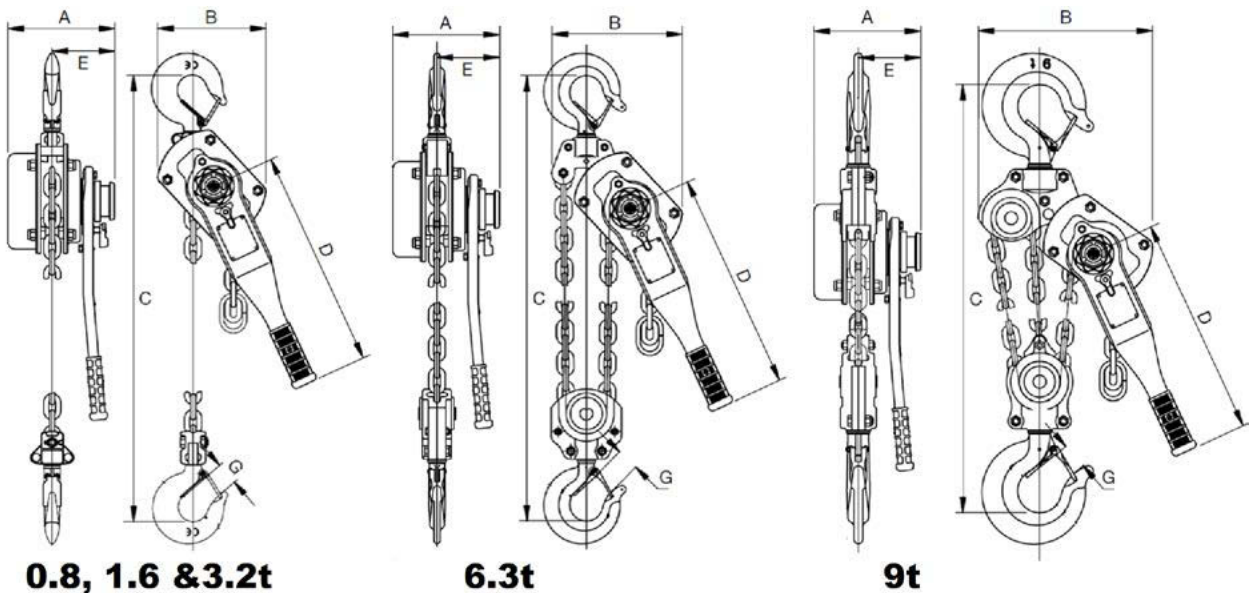


This lever hoist meets or exceeds the following governing standards:

**CE** AS 1418.2  
ASME B30.21  
IMCA D028

Model	Capacity	Pull to Lift Rated Load (lbs.)	Load Chain Size	Chain Strands	Weight w/o Chain - lbs.	Dimensions (inches)							
						A	B	C	D	E	G	S	T
TUF-SRLH8	08t	60	5.6 x 15.7 mm	1	14.5	6.3	5.2	12.6	9.4	3.9	1.1	1.5	0.6
TUF-SRLH16	1.6t	71	7.1 x 19.9 mm	1	25	7.2	6.2	14.4	10.4	4.3	1.4	1.9	0.8
TUF-SRLH32	3.2t	77	10 x 28 mm	1	45	8.2	8.3	18.3	16.5	4.8	1.7	2.3	1.0
TUF-SRLH63	6.3t	80	10 x 28 mm	2	69	8.2	10.0	23.0	16.5	4.8	1.7	2.6	1.1
TUF-SRLH9	9t	86	10 x 28 mm	3	102	8.2	13.3	27.2	16.5	4.8	2.1	3.3	1.6

Final assembly, factory acceptance testing & proof load testing of imported components carried out in USA.



## PLAIN TROLLEYS MODEL: PT

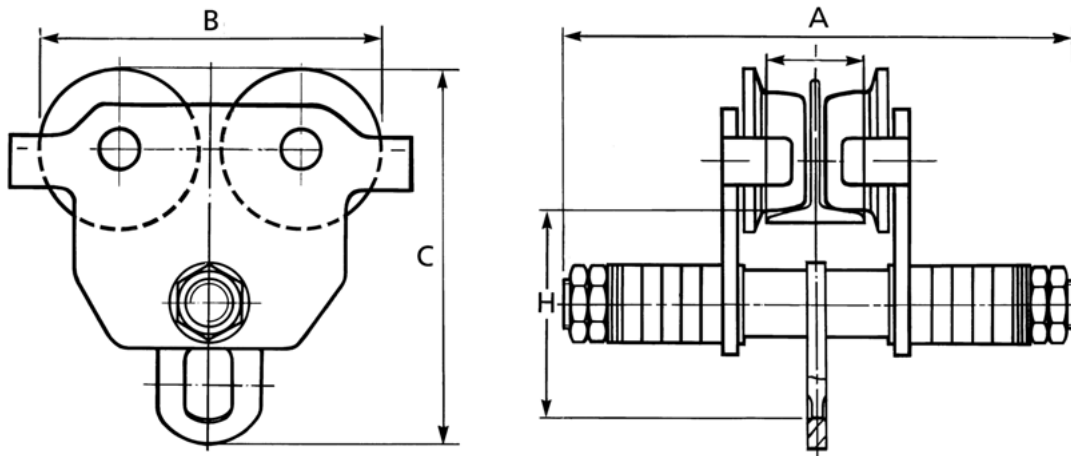
These trolleys are designed to suit a wide range of monorails and fabricated beams. They have many applications in the mining, oil & gas, heavy construction and marine industries.

- Strong rugged construction.
- Easily adjusted to any beam width within range.
- Powder coated paint finish.
- Precision ball bearing trolley wheels with machined tread for smooth operation.
- Conforms to ASME/ANSI B30 standards where applicable.



Model	Capacity	Adjustable Beam Width (inches)*	Dimensions (inches)				Minimum Radius Curve (ft)	Weight (lbs.)
			A	B	C	H		
TUF-PT.5	0.5 ton		* Call for specifications*					
TUF-PT10	1 ton	2.52 - 8.27	12.52	10.24	9.41	5.31	3.28	31
TUF-PT20	2 ton	3.46 - 8.27	13.19	11.81	11.26	6.34	3.61	46
TUF-PT30	3 ton	4.02 - 8.27	14.31	13.58	13.23	7.4	4.26	88
TUF-PT50	5 ton	4.49 - 8.27	15.07	15.55	15.47	8.66	4.59	113
TUF-PT100	10 ton	6.5 - 8.27	16.13	17.91	19.69	11.02	5.58	198
TUF-PT200	20 ton	6.5 - 8.27	19.5	25.48	24.5	12.4	15	502

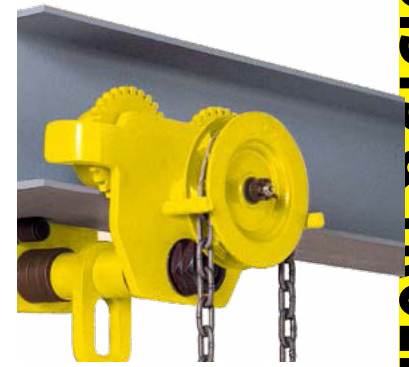
\* Trolleys fitted with extended range suspension pins for adjusting to beams with wider flange widths are available upon special request.



## GEAR TROLLEYS MODEL: GT

These trolleys are designed to suit a wide range of monorails and fabricated beams. They have many applications in the mining, oil & gas, heavy construction and marine industries.

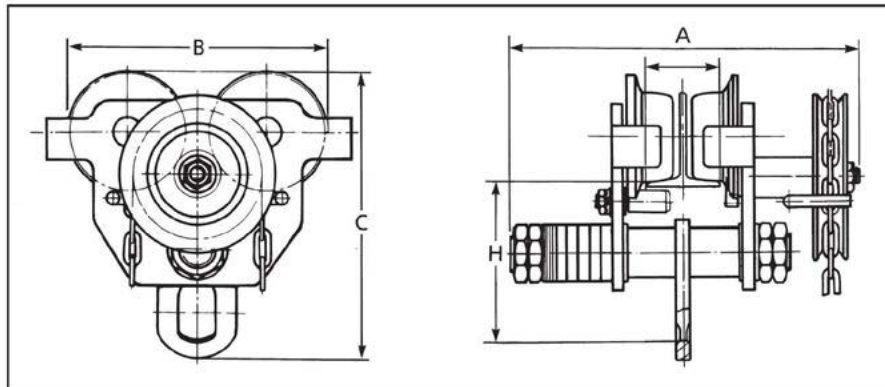
- Strong rugged construction
- Easily adjusted to any beam width within range
- Powder coated paint finish
- Precision ball bearing trolley wheels with machined tread for smooth operation
- Conforms to ASME/ANSI B30 standards where applicable



Item Number	Capacity	Adjustable Beam Width (Inches)*	Clearance Dimensions (inches)				Minimum Radius Curve (feet)	Weight (lbs.)
			A	B	C	H		
TUF-GT10	1 ton	2.52 - 8.27	14.96	10.24	9.41	5.31	3.28	39.6
TUF-GT20	2 ton	3.46 - 8.27	15.35	11.81	11.26	6.34	3.61	59.4
TUF-GT30	3 ton	4.02 - 8.27	17.69	13.58	13.23	7.4	4.26	94.6
TUF-GT50	5 ton	4.49 - 8.27	18.25	15.55	15.47	8.66	4.59	132
TUF-GT100	10 ton	4.92 - 8.27	18.75	18.5	19.69	11.02	5.58	231
TUF-GT200	20 ton	4.92 - 8.27	18.43	25	19.69	13	15	502

**NOTE:** Please specify hand drop chain length when ordering.

\* Trolleys fitted with extended range suspension pins for adjusting to beams with wider flange widths are available upon special request.



## UNIVERSAL TROLLEY MODEL: V2

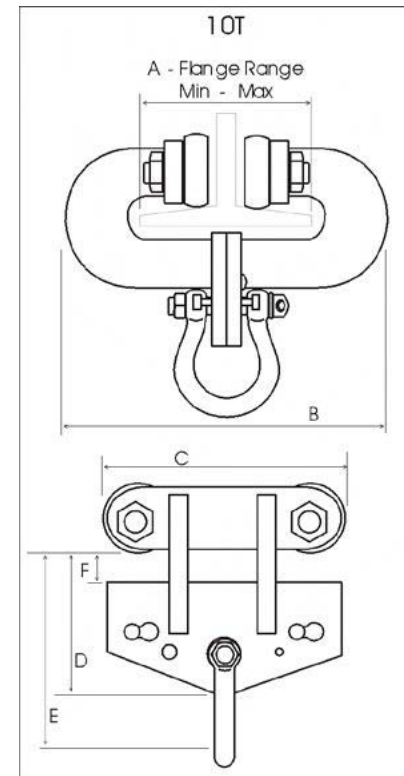
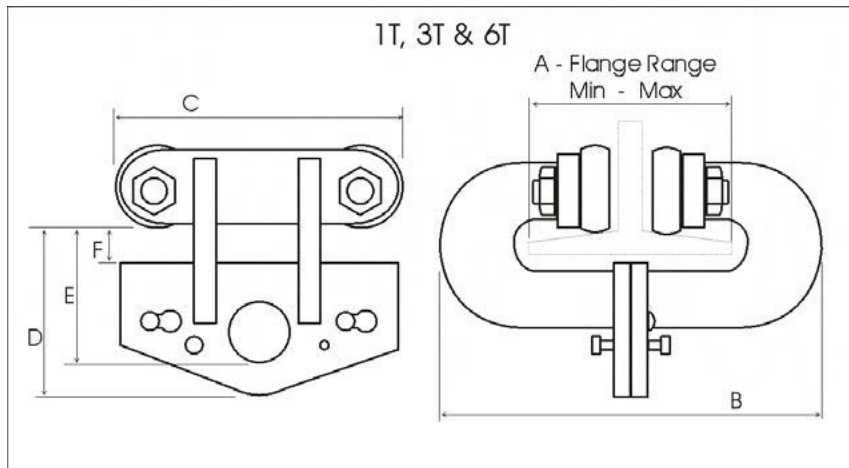


adjustment

### FEATURES:

- Quick and easy installation on beam -- No special tools required. No required. No spacers or nuts required.
- Lightweight and portable
- Fits "S" or "W" beams
- Low headroom design
- Tuffy Universal Trolleys are built to ASME B30.16 standards as applicable.

Model	Capacity	Dimensions (inches)							Weight (lbs)
		A		B	C	D	E	F	
		Min	Max						
TUF-T101-V2	1 ton	3	8.5	13.1	8.3	4.6	3.9	1.2	19.8
TUF-T301-V2	3 ton	4	8	13.3	10	6	5.1	1	44
TUF-T601-V2	6 ton	4	10	17.6	12.6	7.5	6.3	1.2	101.2
TUF-T1001-V2	10 ton	4	11	21	13	8.2	12.5	2.1	180.4





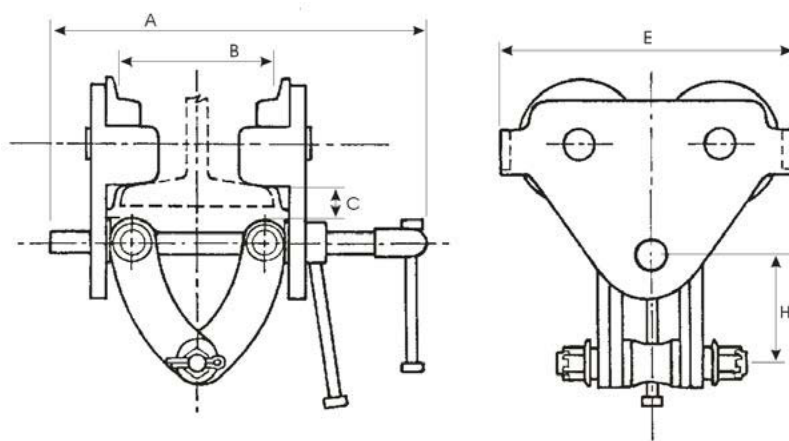
## SCREWLOCK ADJUSTABLE TROLLEY MODEL: AT

### FEATURES:

- Hand push/pull beam trolley, easy to use, with ball bearing wheels
- Developed for moving from beam to beam in industrial applications with varying flange widths
- Adjusts to beam width by turning left and right hand adjusting bar fitted with T-Handle
- Fitted with width adjustment locking mechanism
- Wheel guards and anti-drop, anti-climb features
- Flange width adjustment accomplished with no special tools



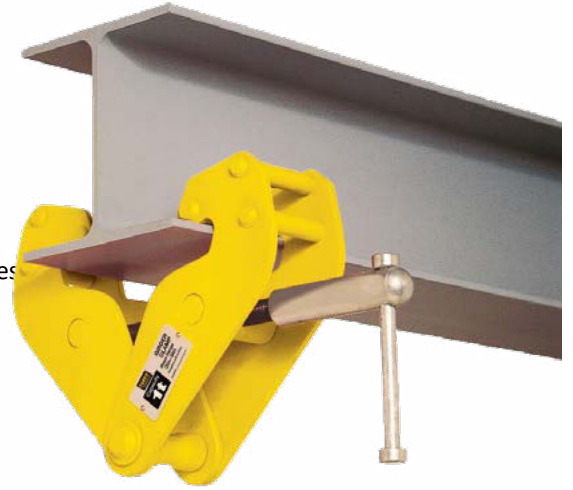
Model	Capacity	Dimensions (inches)							Weight (lbs.)
		A	B		C	E	H		
			Min	Max			Min	Max	
TUF-AT1	1 ton	13.58	2.48	8.27	1.18	9.37	2.56	4.88	23.10
TUF-AT2	2 ton	13.58	2.99	8.27	1.54	10.87	2.56	4.88	27.50
TUF-AT3	3 ton	17.72	2.99	8.27	1.85	12.76	2.76	4.84	49.50
TUF-AT5	5 ton	18.11	3.94	12.01	2.24	13.78	2.91	6.30	92.50
TUF-AT10	10 ton	22.50	6.00	13.50	2.50	18.00	4.50	7.00	215.00



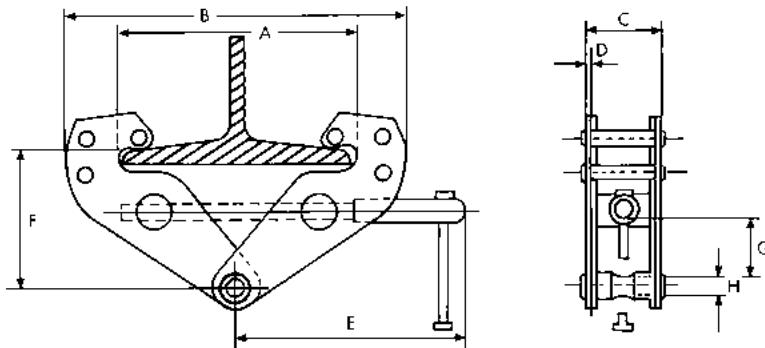
## BEAM CLAMPS MODEL: GC

### FEATURES:

- All steel construction
- Special design reduces flange stress
- Adjustable clamp ensures a secure fit for a range of beam and girder sizes
- Low headroom design



Model	Capacity	Adjustable Beam Width (inches)	Dimensions (inches)										Max Flange Thickness	Weight (lbs.)
			A	B		C	D	E	F		G	H		
				Min	Max				Min	Max				
TUF-GC1	1 ton	2.95 - 8.66	10.23	7.08	14.17	2.51	.19	8.46	4.01	6.10	.98	.86	0.75	10
TUF-GC2	2 ton	2.95 - 8.66	10.23	7.08	14.17	2.91	.23	8.46	4.01	6.10	.98	.86	0.75	11
TUF-GC3	3 ton	3.15 - 12.59	13.93	9.25	19.29	4.05	.31	10.23	5.5	8.85	1.77	.94	1	21
TUF-GC5	5 ton	3.15 - 12.59	13.93	9.25	19.29	4.33	.39	10.23	5.5	8.85	1.77	1.10	1.25	24.25
TUF-GC10	10 ton	3.15 - 12.59	14.37	12.59	19.88	4.72	.47	11.02	6.69	9.25	1.96	1.57	1.25	35.25
TUF-GC20	20 ton	9.84 - 17.32	20.48	19.68	27.68	9.45	0.63	16.97	15.59	13.78	4.02	2.76	2.48	132
TUF-GC30	30 ton	9.84 - 17.32	20.99	20.79	28.66	10.55	0.79	17.01	16.06	14.41	4.72	2.83	2.99	174







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