Below the Hook ★ Behind the Product ★ Above the Standard

MID-AMERICA RIGGING

PRODUCT CATALOG

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Vol. 2

MID-AMERICA RIGGING

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ACTEK Manufacturing & Engineering
J.C. RENFROE & SONS
Caldwell LIFTING SOLUTIONS
CM COLUMBUS McKINNON
FIRST
WireCo WorldGroup
GUNNEBO JOHNSON
Crosby

Mid-America Rigging

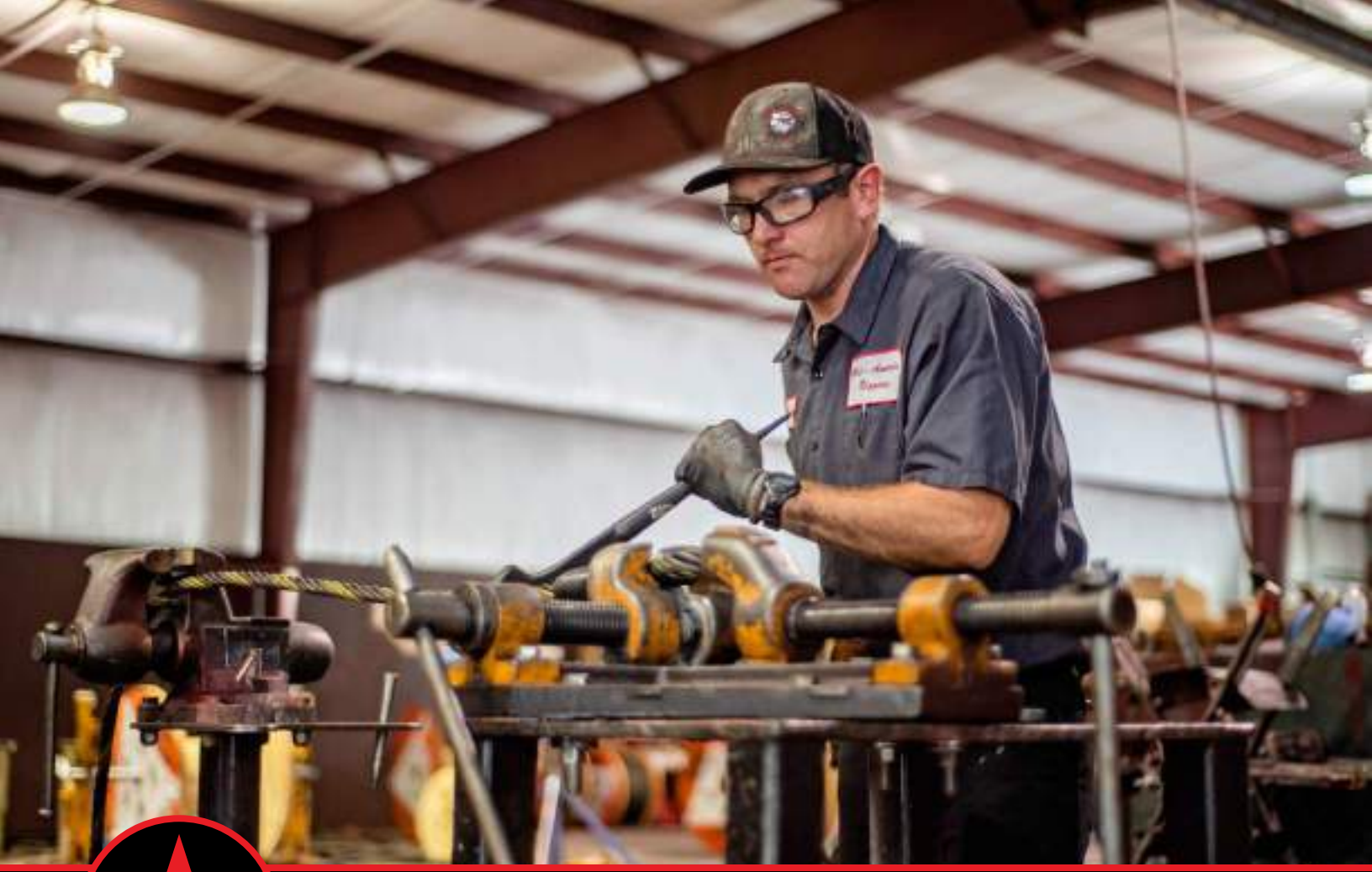
Mid-America Rigging's dedication to quality and service is the foundation and future of their success. Since the first generation arrived in Oklahoma, they have been engineering state-of-the-art rigging gear for the oil & gas, crane & construction, manufacturing, and power generation industries.

Mid-America Rigging was founded in 1997. Their team of second and third generation industry professionals share a common vision that their company is an integral source of quality American lifting products, aiming to become the region's preferred supplier of premium rigging gear. The same ethics and values their predecessors instilled in them are hard at work today as they continue to supply some of the most prominent names in the industry. The success of the company may be evident by their lifelong dedication, their loyal customer base or their new ever-expanding facility; yet, it is best defined by the lasting relationships with their customers sustained through an exceptional level of commitment and the extraordinary pride they have in the products and services they provide to them.

Products & Services

Certified Rigging Inspections
Training Seminars
Non-destructive Testing
RFID Traceability
Wire Rope
Wire Rope Slings
Pendant Lines
Hand Splicing
Chain
Chain Slings
Synthetic Slings
Hooks
Raising Lines
Winch Lines
Casing Slings
Pumping Unit Bridles
Drillines
Socketing
Snublines
Loadbinders
Shackles
Turnbuckles
Tailchains
Blocks

405.235.0882



Slings

Mid-America Rigging is home for all your rigging and heavy lift needs. Whether it's our Grade 80 or Grade 100 alloy chain slings, wire rope slings, pendant lines, or synthetic flat web or round slings, we have you covered with our extensive inventory, custom sling fabrication capabilities, and a wide variety of rigging hardware available.

Mid-America Rigging has an online asset tracking system for your slings. This is a great way to manage your slings by being able to remotely access proof testing certificates, inspection results, certificates of compliance, as well as easy reordering. Please ask one of our product advisors about using RFID technology on your lifting products.

Wire Rope Slings

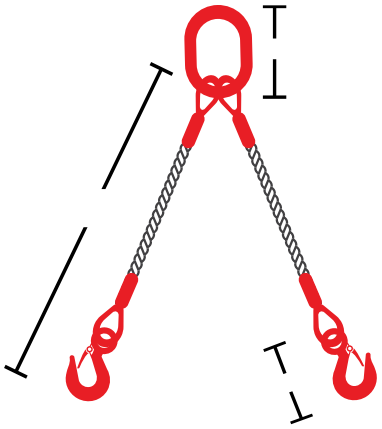
All of our wire rope slings are crafted right here in the heartland using only the highest-quality, American-made rope. We've matched the science of design with skillful and experienced execution to bring you some of the most well-crafted wire rope slings around.

Engineering wire rope slings for your application is a highly specialized field – with exacting standards – that we have been dedicated to for three generations. Mid-America's slings meet or exceed industry standards and your most exacting specifications. We apply thorough design and production controls. Our traceability process tracks every component through completion of the assembly and into the field.

A wire rope sling is constructed when eyes are formed using the flemish eye splice. Ends are then secured by pressing a carbon steel sleeve over the strands of the splice. The pull is directly along the centerline of the rope and eye. Committed to serving the oil & gas and crane & rigging industries, we also offer a full line of specialty wire rope gear.

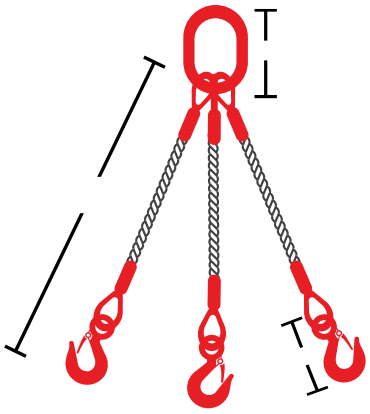
Rope Dia. (in.)	Rated Capacity - Tons*					
			Basket Hitch			
	Vert.	Choker Hitch		60°	45°	30°
6 x 19, 6 x 36						
1/4	0.65	0.48	1.3	1.1	0.91	0.65
5/16	1	0.74	2	1.7	1.4	1
3/8	1.4	1.1	2.9	2.5	2	1.4
7/16	1.9	1.4	3.9	3.4	2.7	1.9
1/2	2.5	1.9	5.1	4.4	3.6	2.5
9/16	3.2	2.4	6.4	5.5	4.5	3.2
5/8	3.9	2.9	7.8	6.8	5.5	3.9
3/4	5.6	4.1	11	9.7	7.9	5.6
7/8	7.6	5.6	15	13	11	7.6
1	9.8	7.2	20	17	14	9.8
1-1/8	12	9.1	24	21	17	12
1-1/4	15	11	30	26	21	15
1-3/8	18	13	36	31	25	18
1-1/2	21	16	42	37	30	21
1-5/8	24	18	49	42	35	24
1-3/4	28	21	57	49	40	28
2	37	28	73	63	52	37
2-1/4	44	35	89	77	63	44
2-1/2	54	42	109	94	77	54
2-3/4	65	51	120	113	92	65
3	77	60	153	133	108	77
3-1/2	102	79	203	176	144	102
4	130	101	260	224	183	130

All capacities in tons of 2,000 lbs. All eye and fitting dimensions in inches.
*Rated Capacities Basket Hitch based on D/d Ratio of 25.
Rated Capacities based on pin diameter no larger than natural eye width or less than the nominal sling diameter.
Rated Capacities based on design factor of 5.
Horizontal sling angles of less than 30° shall not be used.



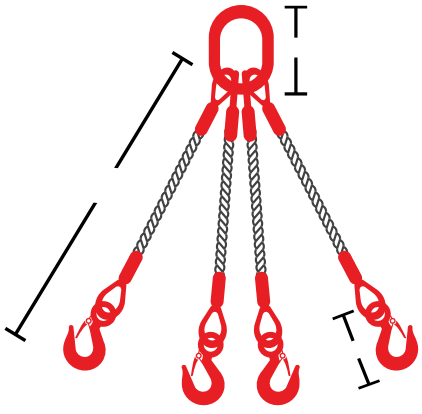
Multi 2-Legged Bridle

Rope Dia. (in.)	Rated Capacity - Tons*		
	60°	45°	30°
6 x 19, 6 x 36			
1/4	1.1	0.91	0.65
5/16	1.7	1.4	1
3/8	2.5	2	1.4
7/16	3.4	2.7	1.9
1/2	4.4	3.6	2.5
9/16	5.5	4.5	3.2
5/8	6.8	5.5	3.9
3/4	9.7	7.9	5.6
7/8	13	11	7.6
1	17	14	9.8
1-1/8	21	17	12
1-1/4	26	21	15
1-3/8	31	25	18
1-1/2	37	30	21
1-5/8	42	35	24
1-3/4	49	40	28
2	63	52	37



Multi 3-Legged Bridle

Rope Dia. (in.)	Rated Capacity - Tons*		
	60°	45°	30°
6 x 19, 6 x 36			
1/4	1.7	1.37	0.97
5/16	2.6	2.1	1.5
3/8	3.7	3	22
7/16	5	4.1	2.9
1/2	6.6	5.4	3.8
9/16	8.3	6.8	4.8
5/8	10.2	8.3	5.9
3/4	14.5	11.8	8.4
7/8	20	16	11.3
1	26	21	14.7
1-1/8	31	26	18
1-1/4	38	31	22
1-3/8	46	38	27
1-1/2	55	45	32
1-5/8	63	52	37
1-3/4	74	60	42



Multi 4-Legged Bridle

Rope Dia. (in.)	Rated Capacity - Tons*		
	60°	45°	30°
6 x 19, 6 x 36			
1/4	2.2	1.83	1.29
5/16	3.5	2.8	2
3/8	5	4.1	2.9
7/16	6.7	5.5	3.9
1/2	8.8	7.1	5.1
9/16	11	9	6.4
5/8	14	11	7.8
3/4	19	16	11
7/8	26	21	15
1	34	28	20
1-1/8	42	34	24
1-1/4	51	42	30
1-3/8	62	50	36
1-1/2	73	60	42

All capacities in tons of 2000 lbs. All eye and fitting dimensions in inches.
* Rated Capacities Basket Hitch based on D/d Ratio of 25.
Rated Capacities based on pin diameter no larger than natural eye width or less than the nominal sling diameter.
Rated Capacities base on design factor of 5.
Horizontal sling angles of less than 30° shall not be used.
** Working Load Limit, based on standard carbon fittings unless noted otherwise.

Eight-Part Body

- **High flexibility and snug around loads**
- **Helically laid ropes for even stress distribution**
- **Design improves friction to grip loads**
- **Round**

Eight-part braided slings are flexible and can snug up tightly around the load in choker hitches. They also offer outstanding handling characteristics, particularly in the larger rated capacities. When loaded, stress distributes to all rope parts in the sling body due to the helical manner in which ropes are laid together.

Braided slings are formed by continuously plaiting, or braiding, several ropes together to form the sling body and both eyes in a single fabrication operation. Ends of the individual ropes are usually hand-tucked or mechanically spliced into the component ropes of the body. The eyes are wrapped and given a rubberized coating. Braided slings are often selected when loads must either be turned or maneuvered since the sling design creates friction to grip loads.

High flexibility is achieved by braiding, or plaiting, one or more wire ropes to form a fabric for the sling body. Component ropes run continuously through the body and eyes with ends handtucked into sling body or secured with pressed sleeves. The eight-part sling is round.

Rope Dia. (in.)	Sling Dia.	Rated Capacity - Tons*		
		Vert.	Choker Hitch**	Basket Hitch
#3/32	7/16	0.56	0.49	1.1
#1/8	9/16	1.1	0.98	2.2
3/16	13/16	2.2	1.9	4.3
1/4	1-1/8	3.8	3.3	7.6
5/16	1-3/8	5.9	5.2	12
3/8	1-11/16	8.5	7.4	17
7/16	2	11	10	23
1/2	2-1/4	15	13	30
9/16	2-1/2	19	16	38
5/8	2-13/16	23	20	46
3/4	3-3/8	33	29	66
7/8	4	45	39	89
1	4-1/2	58	51	116

* Rated Capacities Basket Hitch based on D/d Ratio of 25 times the component rope diameter.
Made with 6x9, 6x36 EIPS component rope.
** See manufacturer for Choker Hitch Rated Capacity adjustment.
Rated Capacities based on pin diameter no larger than natural eye width or less than the nominal sling diameter.
Rated Capacities base on design factor of 5.
Horizontal sling angles of less than 30° shall not be used.
All capacities in tons of 2000 lbs. All eye and fitting dimensions in inches.

Grommets

- **Forms a continuous loop sling**
- **Available in 6 strand wire rope**
- **Mechanical or handspliced connections**
- **Rope-laid grommets also available**

A grommet is a special type of sling which forms a continuous loop. Grommets have a wire rope body made up of six strands which are laid helically around a strand core. Either a handsplice or a mechanical splice then forms an endless sling body. The minimum circumference of the sling is 96 times the grommet's body diameter.

Strand Laid Mechanical Splice Grommets

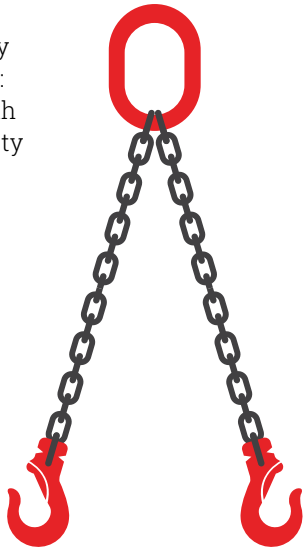
Sling Body Dia.	Vert.	Choker	Rated Capacity - Tons* Basket Hitch and 2-leg Bridle Vert.	60°	45°	30°
1/4	1.1	0.74	2.1	1.8	1.5	1.1
5/16	1.6	1.2	3.3	2.8	2.3	1.6
3/8	2.4	1.6	4.7	4.1	3.3	2.4
7/16	3.2	2.2	6.4	5.5	4.5	3.2
1/2	4.1	2.9	8.3	7.2	5.9	4.1
9/16	5.2	3.7	10	9.1	7.4	5.2
5/8	6.4	4.5	13	11	9.1	6.4
3/4	9.2	6.4	18	16	13	9.2
7/8	12	8.7	25	22	18	12
1	16	11	32	28	23	16
1-1/8	20	14	41	35	29	20
1-1/4	25	17	50	43	35	25
1-3/8	30	21	60	52	42	30
1-1/2	36	25	71	63	50	36
1-5/8	41	29	82	71	58	41
1-3/4	48	33	95	83	68	48
1-7/8	54	38	109	94	77	54
2	62	43	124	107	87	62
2-1/8	69	48	128	119	98	69
2-1/4	77	54	154	133	109	77
2-3/8	85	60	171	148	121	85
2-1/2	94	66	188	163	133	94
2-3/4	113	79	225	195	159	113
3	133	93	265	230	188	133

Strand Laid Hand Splice Grommets

Sling Body Dia.	Vert.	Choker	Rated Capacity - Tons* Basket Hitch and 2-leg Bridle Vert.	60°	45°	30°
1/4	0.94	0.66	1.9	1.6	1.3	0.94
5/16	1.5	1	2.9	2.5	2.1	1.5
3/8	2.1	1.5	4.2	3.6	3	2.1
7/16	2.8	2	5.7	4.9	4	2.8
1/2	3.7	2.6	7.3	6.4	5.2	3.7
9/16	4.6	3.2	9.3	8	6.6	4.6
5/8	5.7	4	11	9.9	8.1	5.7
3/4	8.2	5.7	16	14	12	8.2
7/8	11	7..7	22	19	16	11
1	14	10	29	25	20	14
1-1/8	18	12	35	31	25	18
1-1/4	21	15	43	37	30	21
1-3/8	25	18	51	44	36	25
1-1/2	30	21	60	52	42	30
1-5/8	34	24	69	60	49	34
1-3/4	40	28	79	69	56	40
1-7/8	45	31	89	77	63	45
2	50	35	101	87	71	50
2-1/8	56	39	112	97	79	56
2-1/4	62	43	124	107	88	62
2-3/8	68	48	137	118	97	68
2-1/2	75	52	149	129	106	75
2-3/4	89	62	177	154	125	89
3	104	73	207	180	147	104

Chain Slings

Chain slings are made from high-strength alloy steel made specifically for the lifting industry. They have numerous configurations and end fittings. Standard slings are available in two grades of steel: Grade 80 and Grade 100. Chain slings are the most rugged slings available. They are resistant to both abrasion and cutting and may be used at temperatures up to 400°F (204°C) without reducing capacity rating. Grade 100 slings are 25% stronger per chain diameter than Grade 80. All chain slings are manufactured to the customer's specifications and in accordance with industry standards.



G80 Alloy Steel Chain Sling Working Load Limits (LBS)

G80 Chain Size		Single Leg	Double Leg			Triple & Quad Leg		
IN	MM	90°	90°-60°	90°-45°	90°-30°	90°-60°	90°-45°	90°-30°
7/32	6	2,100	3,600	3,000	2,100	5,450	4,450	3,150
9/32	7	3,500	6,100	4,900	3,500	9,100	7,400	5,200
5/16	8	4,500	7,800	6,400	4,500	11,700	9,500	6,800
3/8	10	7,100	12,300	10,000	7,100	18,400	15,100	10,600
1/2	13	12,00	20,800	17,000	12,000	31,200	25,500	18,000
5/8	16	18,100	31,300	25,600	18,100	47,000	38,400	27,100
3/4	19	25,500	44,100	36,000	25,500	66,200	54,000	38,200
3/4	20	28,300	49,000	40,000	28,300	73,500	60,000	42,400
7/8	22	34,200	59,200	48,200	34,200	88,900	72,500	51,300
1	26	47,700	82,600	67,400	47,700	123,900	101,200	71,500
1-1/4	32	72,300	125,200	102,200	72,300	187,800	153,400	108,400

G100 Alloy Steel Chain Sling Working Load Limits (LBS)

G100 Chain Size		Single Leg	Double Leg			Triple & Quad Leg		
IN	MM	90°	90°-60°	90°-45°	90°-30°	90°-60°	90°-45°	90°-30°
7/32	5.5	2,700	4,700	3,800	2,700	7,000	5,700	4,000
9/32	7	4,300	7,400	6,100	4,300	11,200	9,100	6,400
5/16	8	5,700	9,900	8,100	5,700	14,800	12,100	8,500
3/8	10	8,800	15,200	12,400	8,800	22,900	18,700	13,200
1/2	13	15,000	26,000	21,200	15,000	39,000	31,800	22,500
5/8	16	22,600	39,100	32,000	22,600	58,700	47,900	33,900
3/4	20	35,300	61,100	49,900	35,300	91,700	74,900	53,000
7/8	22	42,700	74,000	60,400	42,700	110,900	90,600	64,000
1	25	59,700	103,400	84,400	59,700	155,100	126,600	89,500

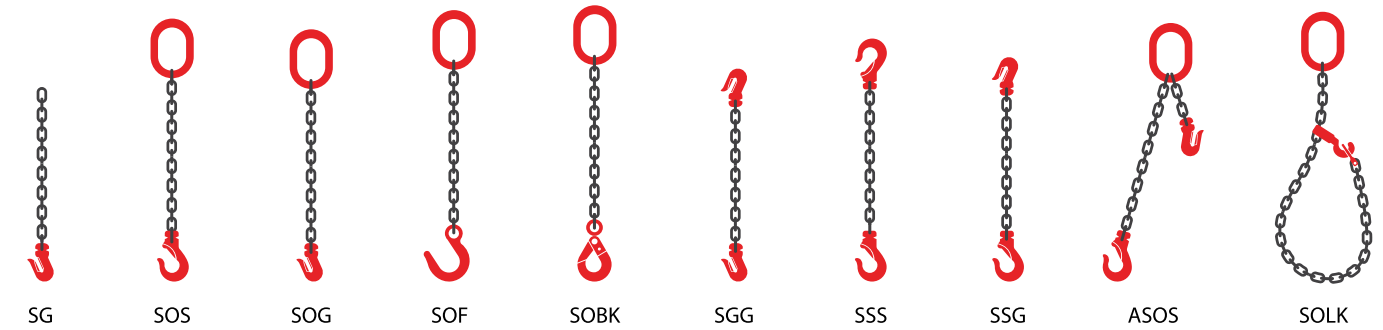
Chain Sling Type Naming Code

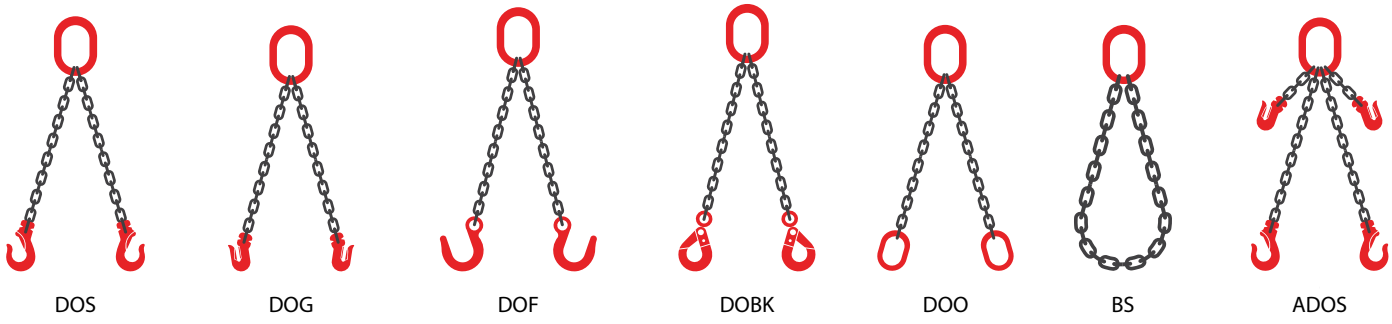
Basic chain sling configurations are often described using a code. Naming conventions have many exceptions and may vary among manufactures.

1. First letter often designates the number of legs or branches:
   - **S** Single leg with one branch
   - **D** Double leg with two branches
   - **T** Triple leg with three branches
   - **Q** Quadruple leg sling with four branches
2. Second letter normally designates the fitting at the top of the sling:
   - **O** Oblong-shaped master link
   - **S** Sling hook
   - **G** Grab hook
   - **B** Basket with oblong master sling
3. Third letter or group of letters normally designates the fitting at the bottom of each branch. A few of the many possibilities are listed below:
   - **S** Sling hook
   - **G** Grab hook
   - **LK** Sliding choker
   - **BK** Self Locking
   - **F** Foundry hook

If A precedes the group of letters, then a device to adjust the length has been added. Adjusters can be either of two styles, Type A or Type B. Both are pictured.

Example: **ADOS** describes an **A**djustable, **D**ouble Leg Sling with **O**blong master link on top and a **S**ling hook at the bottom of each leg or branch.



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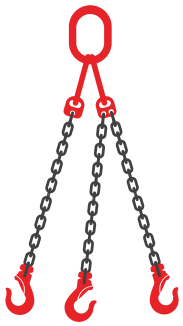
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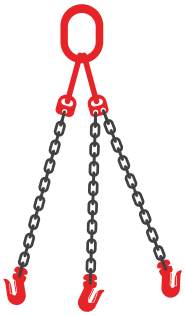
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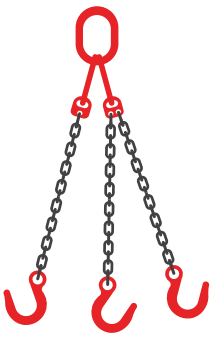
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TOBK


ATOS


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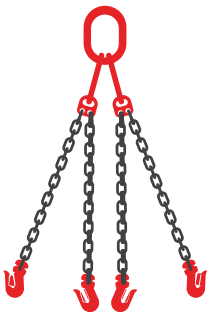
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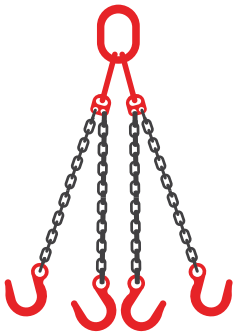
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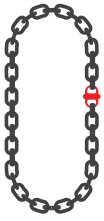
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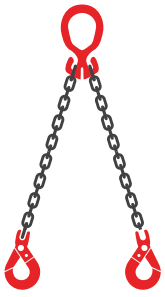
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TG4-BKG


ADJUSTER

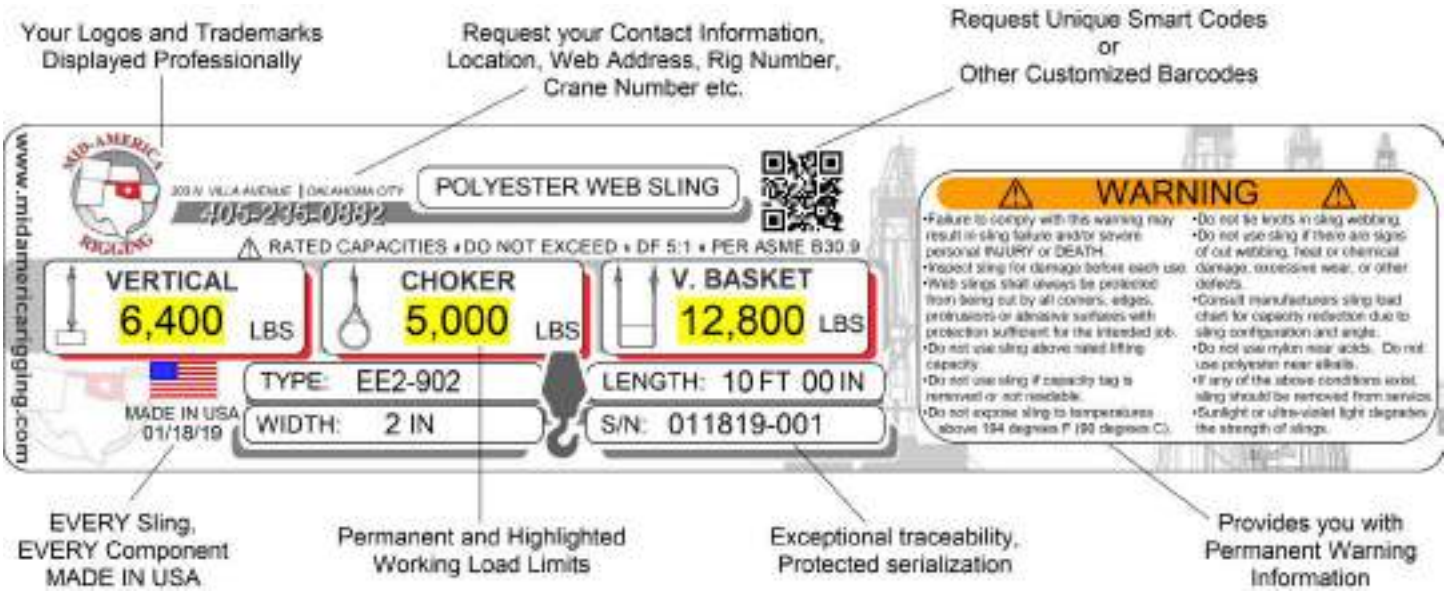
Flat Web Slings

To meet growing demands, the start of 2012 marked the opening of Mid-America's new Synthetics Center. The fully operational division is dedicated to the design, manufacturing, research and testing of nylon and polyester web slings, synthetic ropes and polyester and high-performance roundslings.

Mid-America is dedicated to providing you the highest-quality synthetic slings available. Synthetic slings have become increasingly popular in large part due to their ease of handling and light weight, given their incredible strength. The light weight of synthetic slings requires minimal effort when making adjustments, transporting and storing your rigging gear. Under heavy load, synthetic slings will absorb shock and return to their original shape after release. Nylon slings stretch about 6-8% at working load while polyester stretches approximately 3% at working load. This combination of stretch and strength is beneficial for repeated lifting situations and tie-downs.

We're proud of our products, and the quality of every component is a reflection of that. That is why we are giving you the **FIRST® Sling ID** - the high-performance sling identification that is simply unequaled. The best part: it comes standard on EVERY nylon and polyester flat web sling we make.

- **Topgrade construction, heavy-duty 9800 lb webbing only, made in USA**
- **Most durable & professional sling identification available, fully customizable**
- **Superior quality - exceeding WSTDA and ASME B30.9 standards**



Type I
Triangle Choker (TC)

Designed for use in choker, basket or vertical hitch. Available in forged Aluminum Alloy (TCA) or flame cut Alloy Steel (TCS)

Type II
Triangle Triangle (TT)

Application is limited to basket or vertical hitch only. Triangle fittings cannot be used in choke hitch since they will not pass through one another. Available in forged Aluminum Alloy (TTA) or flame cut Alloy Steel (TTS)

Type III
Eye & Eye Flat (EEF)

The eye is formed by folding the webbing back and sewing it flat against the sling body. Available in single or multiple thickness. Can be used in any hitch.

Type IV
Eye & Eye Twist (EET)

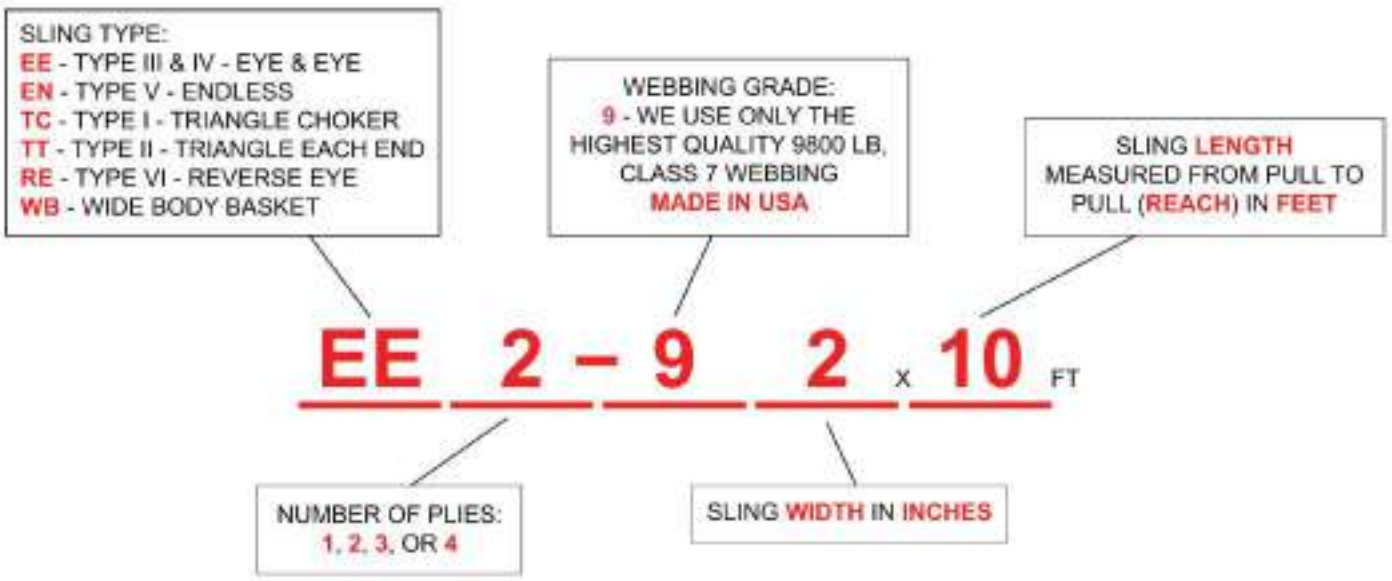
The eye is formed by turning the fabric 180° before sewing to form an eye which lays 90° to the sling body. It gives a superior choker hitch and allows for a better fit on a crane hook in a basket hitch.

Type V
Endless (EN)

Material is overlapped and sewn to form an endless grommet. The most versatile of all slings. It can be used in any hitch. It is the easiest to use and lasts longer because there are no eyes to determine wearing points.

Type VI
Reverse Eye Twist

Reversed Eye "RE" (return eye) slings are formed by using multiple widths of webbing held edge to edge. A wear pad is attached on both sides of the web sling body, and on both sides of the loop, eyes to form a loop eye at each end, which is at a right angle to the plane of the web sling body.



Type I
Triangle Choker Flat Web Sling

Part No.	Width (in)	RATED CAPACITIES (LBS)		
		Vertical	Choker	Vert. Basket
TC1-92	2	3,200	2,500	6,400
TC1-93	3	4,800	3,800	9,600
TC1-94	4	6,400	5,000	12,800
TC1-95	5	8,000	6,400	16,000
TC1-96	6	9,600	7,700	19,200
TC2-92	2	6,400	5,000	12,800
TC2-93	3	8,600	6,900	17,200
TC2-94	4	11,500	9,200	23,000
TC2-95	5	14,000	11,200	28,000
TC2-96	6	16,800	13,400	33,600

Type II
Triangle Triangle Flat Web Sling

Part No.	Width (in)	RATED CAPACITIES (LBS)		
		Vertical	Choker	Vert. Basket
TT1-92	2	3,200	-	6,400
TT1-93	3	4,800	-	9,600
TT1-94	4	6,400	-	12,800
TT1-95	5	8,000	-	16,000
TT1-96	6	9,600	-	19,200
TT1-98	8	12,800	-	25,600
TT1-910	10	16,000	-	32,000
TT1-912	12	19,200	-	38,400
TT1-916	16	25,500	-	51,000
TT1-918	18	28,700	-	57,400
TT1-920	20	32,000	-	64,000
TT1-924	24	38,400	-	76,800
TT2-92	2	6,400	-	12,800
TT2-93	3	8,600	-	17,200
TT2-94	4	11,500	-	23,000
TT2-95	5	14,000	-	28,000
TT2-96	6	16,800	-	33,600
TT2-98	8	22,400	-	44,800
TT2-910	10	28,000	-	56,000
TT2-912	12	33,600	-	67,200
TT2-916	16	44,800	-	89,600
TT2-918	18	50,400	-	100,800
TT2-920	20	56,000	-	112,000
TT2-924	24	67,200	-	134,400

Type III & IV
Eye & Eye Flat Web Sling

Part No.	Width (in)	RATED CAPACITIES (LBS)		
		Vertical	Choker	Vert. Basket
EE1-91	1	1,600	1,250	3,200
EE1-92	2	3,200	2,500	6,400
EE1-93	3	3,800	3,800	9,600
EE1-94	4	6,400	5,000	12,800
EE1-95	5	8,000	6,400	16,000
EE1-96	6	9,600	7,700	19,200
EE1-98	8	12,800	10,200	25,600
EE1-910	10	16,000	12,800	32,000
EE1-912	12	19,200	15,400	38,400
EE2-91	1	3,200	2,500	6,400
EE2-92	2	6,400	5,000	12,800
EE2-93	3	8,600	6,900	17,200
EE2-94	4	11,500	9,200	23,000
EE2-95	5	13,600	10,900	27,200
EE2-96	6	16,300	13,000	32,600
EE2-98	8	19,200	15,400	38,400
EE2-910	10	22,400	17,900	44,800
EE2-912	12	26,900	21,500	53,800
EE3-91	1	4,100	3,300	8,200
EE3-92	2	8,300	6,600	16,600
EE3-93	3	12,500	10,000	25,000
EE3-94	4	16,000	12,800	32,000
EE3-95	5	19,200	15,400	38,400
EE3-96	6	23,000	18,400	46,000
EE3-98	8	30,700	24,500	61,400
EE3-910	10	36,800	29,400	73,600
EE3-912	12	44,000	35,200	88,000
EE4-91	1	5,000	4,000	10,000
EE4-92	2	10,000	8,000	20,000
EE4-93	3	14,900	11,900	29,800
EE4-94	4	19,800	15,800	39,600
EE4-95	5	24,800	19,800	49,600
EE4-96	6	29,800	23,800	59,600
EE4-98	8	39,700	31,700	79,400
EE4-910	10	49,600	39,600	99,200
EE4-912	12	59,500	47,600	119,000

Type V
Endless Flat Web Sling

Part No.	Width (in)	RATED CAPACITIES (LBS)		
		Vertical	Choker	Vert. Basket
EN1-91	1	3,200	2,500	6,400
EN1-92	2	6,400	5,000	12,800
EN1-93	3	8,600	6,900	17,200
EN1-94	4	11,500	9,200	23,000
EN1-95	5	13,600	10,900	27,200
EN1-96	6	16,300	13,000	32,600
EN1-98	8	19,200	15,400	38,400
EN1-910	10	22,400	17,900	44,800
EN1-912	12	26,900	21,500	53,800
EN2-91	1	6,200	4,900	12,400
EN2-92	2	12,200	9,800	24,400
EN2-93	3	16,300	13,000	32,600
EN2-94	4	20,700	16,500	41,400
EN2-95	5	24,500	19,600	49,000
EN2-96	6	28,600	23,000	57,200
EN2-98	8	30,700	24,500	61,400
EN2-910	10	33,600	26,800	67,200
EN2-912	12	37,600	30,000	75,200
EN3-91	1	8,000	6,400	16,000
EN3-92	2	16,000	12,800	32,000
EN3-93	3	21,500	17,200	43,000
EN3-94	4	28,700	23,000	57,400
EN3-95	5	34,000	27,200	68,000
EE3-96	6	40,700	32,500	81,400
EN3-98	8	46,000	36,800	92,000
EN3-910	10	51,500	41,200	103,000
EN3-912	12	59,200	47,300	118,400
EN4-91	1	10,000	8,000	20,000
EN4-92	2	19,800	15,800	39,600
EN4-93	3	26,700	21,300	53,400
EN4-94	4	35,600	28,400	71,200
EN4-95	5	42,200	33,700	84,400
EN4-96	6	50,500	40,400	101,000
EN4-98	8	57,600	46,000	115,200
EN4-910	10	67,200	53,700	134,400
EN4-912	12	80,700	64,500	161,400

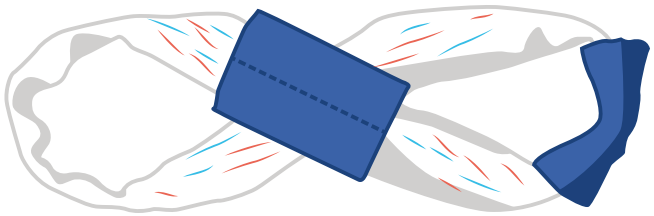
Type VI
Reversed Eye Flat Web Sling

Part No.	Width (in)	RATED CAPACITIES (LBS)		
		Vertical	Choker	Vert. Basket
RE1-92	2	4,600	3,680	9,200
RE2-92	2	7,700	6,160	15,400
RE1-93	3	6,900	5,520	13,800
RE2-93	3	11,600	9,280	23,200
RE1-94	4	8,600	6,880	17,200
RE2-94	4	14,500	11,600	29,000
RE3-94	4	20,400	16,320	40,800
RE4-94	4	23,000	18,400	46,000
RE1-96	6	12,000	9,600	24,000
RE2-96	6	17,400	13,920	34,800
RE3-96	6	26,500	21,200	53,000
RE4-96	6	34,000	27,200	68,000

Wide Body Flat Web Slings

Part No.	Body Width (in)	Eye Width (in.)	Eye Length (in.)	RATED CAPACITY (LBS) Vertical ONLY
WIDE BODY (WB)				
WB2-92	6	1 1/2	12	18,600
WB4-93	6	1 1/2	12	37,200
WB2-94	8	2	12	24,800
WB4-94	8	2	12	44,000
WB2-96	12	2	14	37,200
WB4-96	12	2	20	66,000
WB2-98	16	3	18	44,000
WB4-98	16	3	24	88,000
WB3-96	18	2	24	37,200
WB6-96	18	3	30	66,000
WB3-98	24	3	30	44,000
WB2-912	24	5	30	66,000
WB6-98	24	3	36	88,000
WB4-912	24	6	36	132,000
LOAD BALANCING (LB)				
LB1-96	6	1	6	8,000
LB1-98	8	1	6	8,000
LB1-912	12	1	12	8,000
LB1-916	16	1	12	10,000
LB1-918	18	1	12	10,000
LB1-924	24	1	18	10,000

Polyester Roundslings



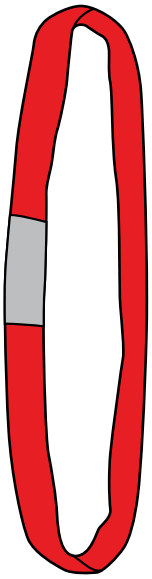
Full Inspection Roundsling

Code No.	Vertical	Choker	90° Basket	60° Basket	45° Basket	Approximate Measurements			
						Body Diameter Inches	Connection Hardware Min. Dia. Inches	Width at Load Inches	Sling Weight Per Foot Pounds
FP 30	3,000	2,400	6,000	5,100	4,200	0.75	0.50	0.62	0.25
FP 40	4,000	3,200	8,000	6,800	5,600	0.80	0.50	0.62	0.30
FP 60	6,000	4,800	12,000	10,200	8,400	0.90	0.62	0.88	0.35
FP 90	9,000	7,200	18,000	15,300	12,600	1.00	0.75	1.00	0.50
FP 120	12,000	9,600	24,000	20,400	16,800	1.25	0.88	1.25	0.65
FP 140	14,000	11,200	28,000	23,800	19,600	1.20	1.00	1.38	0.70
FP 170	17,000	13,600	34,000	28,900	23,800	1.60	1.12	1.62	0.80
FP 230	23,000	18,400	46,000	38,100	32,200	1.65	1.25	1.75	1.11
FP 260	26,000	20,800	52,000	44,200	36,400	1.75	1.38	1.88	1.20
FP 320	32,000	25,600	64,000	54,400	33,800	2.15	1.50	2.00	1.60
FP 400	40,000	32,000	80,000	68,000	56,000	2.45	1.62	2.38	1.80
FP 540	54,000	43,200	108,000	91,800	75,600	3.00	1.88	2.75	2.40
FP 680	68,000	54,400	136,000	115,600	95,200	3.25	2.12	3.00	3.00
FP 900	90,000	72,000	180,000	153,000	126,000	3.75	2.50	3.50	3.85

* The Inspectable Roundsling is manufactured with a clear cover, so you are able to visually inspect the load bearing core yarns inside of your roundsling.

Endless Polyester Roundslings

Color	Part No.	Vertical	Choker	V. Basket	Min. Length	Approx. Diameter	Approx. WT/FT
PURPLE	ENR1	2,600	2,100	5,200	2'	.625"	0.3 LBS
GREEN	ENR2	5,300	4,200	10,600	2'	.875"	0.4 LBS
YELLOW	ENR3	8,400	6,700	16,800	2'	1.125"	0.5 LBS
TAN	ENR4	10,600	8,500	21,200	2'	1.125"	0.6 LBS
RED	ENR5	13,200	10,600	26,400	2'	1.375"	0.9 LBS
WHITE	ENR6	16,800	13,400	33,600	2'	1.375"	0.9 LBS
BLUE	ENR7	21,200	17,000	42,400	2'	1.625"	1.3 LBS
ORANGE	ENR8	25,000	20,000	50,000	6'	1.750"	1.6 LBS
ORANGE	ENR9	31,000	24,800	62,000	6'	2.125"	2.0 LBS
ORANGE	ENR11	53,000	42,400	106,000	6'	3.150"	3.4 LBS
ORANGE	ENR12	66,000	52,800	132,000	6'	3.950"	4.3 LBS
ORANGE	ENR13	90,000	72,000	180,000	6'	3.800"	5.9 LBS



Synthetic Ropes

In conjunction with the inauguration of our highly anticipated Web Center, Mid-America has staffed synthetics specialists dedicated to synthetic ropes and the design, fabrication and testing of their assemblies. Some of our stock rope specifications are listed below and include 3-Strand Nylon, POLYDAC, Stable Braid, Polypropylene, Sisal, Manila and Sash Cord. Contact us for your custom synthetic rope assembly needs or inquire about our specialized manufacturing of synthetic:

- Tag Lines
- Winch Lines
- Bridle Lines

You may also view our rigging hardware for a variety of hooks, master links and other fittings and attachments. Our most popular synthetic rope attachments are the Double Locking Ladder Hooks, Double Locking Lanyard Hooks, 1.5 Ton Alloy Hooks, and Snap Hooks. These are also available in a Swivel.

Stable Braid

FEATURES:
- High wear and heat resistance
- Excellent flex-fatigue service life
- Firm flexibility
- Low working elongation
- Sizes above 5/8" have a Pro-Gard marine finish and conform to U.S. Military specification #MIL-KTL-24677

APPLICATIONS:
- Traction winch tow lines
- Constant tension winch mooring lines
- Secondary mooring lines
- Deep water anchoring or lifting lines

SPECIFICATIONS:
Specific Gravity: 1.38
Elastic Elongation Percentage:
A % of break strength
10% 1.1%
20% 1.7%
30% 2.7%

Size Diameter	Size Circum.	Weight Per 100 Ft.	SRT MBS*	Size Diameter	Weight Per 100 M	SRT MBS*	ISO/BS EN919 MBS
IN	IN	LBS	LBS	MM	KG	MT	MT
1/4	3/4	2.1	2,000	6	3.1	0.89	0.99
5/16	1	3.2	3,100	8	4.8	1.4	1.5
3/8	1-1/8	4.5	4,800	9	6.7	2.2	2.4
7/16	1-1/4	6.1	6,500	11	9.1	3.0	3.3
1/2	1-1/2	8.2	8,800	12	12.2	4.0	4.5
9/16	1-3/4	11	11,300	14	16.4	5.1	5.7
5/8	2	14	13,900	16	20.8	6.3	7.0
3/4	2-1/4	18.0	17,300	18	26.8	7.9	8.7
7/8	2-3/4	27.1	25,400	22	40.3	11.5	12.8
1	3	34.0	33,300	24	50.6	15.1	16.8
1-1/8	3-1/2	45.3	41,000	28	67.4	18.6	20.6
1-1/4	3-3/4	53.9	48,700	30	80.2	22.1	24.5
1-5/16	4	60.8	55,000	32	90.5	24.9	27.7
1-1/2	4-1/2	73.3	63,800	36	109.0	29.0	32.2
1-5/8	5	85.9	74,100	40	128.0	33.	37.4
1-3/4	5-1/2	104.0	88,400	44	155.0	40.1	44.6
2	6	124.0	105,000	48	185.0	47.8	53.1
2-1/8	6-1/2	147.0	123,000	52	219.0	55.9	62.1
2-1/4	7	173.0	141,000	56	257.0	64.0	71.1
2-1/2	7-1/2	196.0	162,000	60	292.0	73.3	81.4
2-5/8	8	225.0	180,000	64	335.0	81.7	90.8
2-3/4	8-1/2	246.0	199,000	68	366.0	90.2	100.0
3	9	300.0	236,000	72	446.0	107.0	119.0
3-1/4	10	375.0	292,000	80	558.0	132.0	147.0
3-5/8	11	450.0	346,000	88	670.0	157.0	174.0
4	12	525.0	400,000	96	781.0	181.0	201.0
4-1/4	13	589.0	453,000	104	876.0	206.0	228.0
4-5/8	14	689.0	524,000	112	1,025.0	238.0	264.0
5	15	788.0	593,000	120	1,173.0	269.0	299.0

Rope Dia.	Rope Circum.	Min. Tensile Strength	Linear Density
IN	IN	LBS	LB/100 FT
1/4	3/4	1,650	1.5
5/16	1	2,295	2.4
3/8	1-1/8	3,240	3.5
1/2	1-1/2	5,670	6.3
5/8	2	8,910	9.9
3/4	2-1/4	12,780	14.3
1	3	22,230	25.3
1-1/8	3-1/2	28,260	32.2
1-1/4	3-3/4	34,830	39.7
1-1/2	4-1/2	48,600	47.0
1-3/4	5-1/2	66,150	78.0
2	6	84,600	100.0

3-Strand Nylon

Strongest rope available, over twice as strong as manila. Plied yarn construction. Highest grade of nylon yarns used in the cordage industry. Regular lay (medium) construction means ease in splicing nylon rope. Heat set yarns minimize shrink and helps nylon rope maintain its lay. High elasticity for energy absorption, but caution must be exercised due to high recoil and breakpoint of nylon rope. Flexible high abrasion resistance, can be stored wet. Is not affected by mildew, oil, grease, gasoline, marine growth or most chemicals.

Rope Dia.	Rope Circum.	Min. Tensile Strength	Linear Density
IN	IN	LBS	LB/100 FT
3/8	1-1/8	2,919	3.3
1/2	1-1/2	4,682	5.6
5/8	2	7,996	8.7
3/4	2-1/4	10,761	12.3
7/8	2-3/4	14,710	16.4
1	3	16,490	20.2
1-1/4	3-3/4	24,899	30.9
1-1/2	4-1/2	25,677	43.5
1-5/8	5	45,276	50.9
1-3/4	5-1/2	50,714	58.3
2	6	56,152	76.1
2-1/4	7	69,145	94.9
2-5/8	8	92,728	129.9
3	9	120,890	-

POLYDAC

The best properties of two comparable fibers, polypropylene and polyester, create a very high-strength, light-weight and competitively priced rope. Polypropylene provides a high-strength, light weight core while the polyester covered yarns provide excellent resistance to abrasion and UV degradation, which extends the service life of the rope. POLYDAC ropes are not subject to deterioration by petroleum products and most chemicals. It will not rot or mildew and 2" (51mm) diameter and larger ropes will float.

Rope Dia.	Rope Circum.	Min. Tensile Strength	WLL
IN	IN	LBS	LB/100 FT
1/4	3/4	540	54
5/16	1	900	90
3/8	1-1/8	1,220	122
7/16	1-1/4	1,580	176
1/2	1-1/2	2,380	264
5/8	2	3,960	496
3/4	2-1/4	4,860	695
13/16	2-1/2	5,850	835
7/8	2-3/4	5,950	995
1	3	8,100	1,160
1-1/8	3-1/2	10,800	1,540
1-1/4	3-3/4	12,200	1,740
1-1/2	4-1/2	16,700	2,380
2	6	28,000	4,000

Manila

Manila rope is the traditional three-strand rope. Made from natural fiber, which means that it is environmentally friendly. No stretch, holds knots well, and will absorb water. Manila is subject to rot and is not recommended for use where personal safety is at risk; however, Manila rope is great for general industrial applications.

General Cordage Rope Specifications

		POLYPROPYLENE (17%*)			NYLON (11%*)		
Size Dia.	Size Circ.	Weight Per 100 Ft.	Feet Per lb.	Tensile Strength	Weight Per 100 M	Feet Per lb.	Tensile Strength
IN	IN	LBS	FT		LBS	FT	
3/16	5/8	0.7	143	720	1	100	900
1/4	3/4	1.2	83.4	1130	1.5	66.7	1,490
5/16	1	1.8	55.6	1710	2.5	40	2,300
3/8	1-1/8	2.8	35.7	2430	3.5	28.5	3,350
7/16	1-1/4	3.8	26.3	3150	5	20	4,500
1/2	1-1/2	4.7	21.3	3780	6.5	15.4	5,750
9/16	1-3/4	6.1	16.4	4590	8.3	12.3	7,200
5/8	2	7.5	13.3	5580	10.5	9.5	9,350
3/4	2-1/4	10/7	9.3	7650	14.5	6.9	12,800
13/16	2-1/2	12.7	7.9	8910	17	5.9	15,300
7/8	2-3/4	15	6.7	10400	20	5	18,000
1	3	18	5.5	12600	26	3.8	22,500
1-1/16	3-1/4	20.4	4.9	14400	29	3.4	25,900
1-1/8	3-1/2	23.7	4.2	16500	34	2.9	29,700
1-1/4	3-3/4	27	3.7	18900	40	2.5	33,750
1-5/16	4	30.5	3.3	21200	45	2.2	38,750
1-1/2	4-1/2	38.5	2.6	26700	55	1.8	47,700
1-5/8	5	47.5	2.1	32400	68	1.5	58,500
1-3/4	5-1/2	57	1.7	38700	83	1.2	70,200
2	6	69	1.4	46800	95	1.05	83,800
2-1/8	6-1/2	80	1.2	54900	109	0.92	95,500
2-1/4	7	92	1.1	62100	129	0.77	113,000
2-1/2	7-1/2	107	0.93	72000	149	0.67	126,000
2-5/8	8	120	0.83	81000	168	0.59	146,000
2-7/8	8-1/2	137	0.73	90900	189	0.53	162,000
3	9	153	0.65	103000	210	0.47	180,000
3-1/4	10	190	0.53	123000	263	0.38	225,000
3-1/2	11	232	0.43	146000	315	0.32	270,000
4	12	275	0.36	171000	379	0.26	324,000

*Recommended Working Load

General Cordage Rope Specifications

		POLYPROPYLENE (17%*)			NYLON (11%*)		
Size Dia.	Size Circ.	Weight Per 100 Ft.	Feet Per lb.	Tensile Strength	Weight Per 100 M	Feet Per lb.	Tensile Strength
IN	IN	LBS	FT		LBS	FT	
3/16	5/8	1.5	66.6	405	1.2	83.4	900
1/4	3/4	2	50	540	2	50	1,490
5/16	1	2.9	34.5	900	3.1	32.2	2,300
3/8	1-1/8	4.1	24.4	1215	4.5	22.2	3,350
7/16	1-1/4	5.3	19	1575	6.2	16.1	4,500
1/2	1-1/2	7.5	13.33	2385	8	12.5	5,750
9/16	1-3/4	10.4	9.61	3105	10.2	9.8	7,200
5/8	2	13.3	7.5	3960	13	7.7	9,000
3/4	2-1/4	16.7	6	4860	17.5	5.7	11,300
13/16	2-1/2	19.5	5.13	5850	21	4.8	14,000
7/8	2-3/4	22.5	4.45	6930	25	4	16,200
1	3	27	3.71	8100	30.5	3.3	19,800
1-1/16	3-1/4	31.3	3.2	9450	34.5	2.9	23,000
1-1/8	3-1/2	36	2.78	10800	40	2.5	26,600
1-1/4	3-3/4	41.8	2.4	12150	46.3	2.2	29,900
1-5/16	4	48	2.09	13500	52.5	1.9	33,800
1-1/2	4-1/2	60	1.67	16650	66.8	1.5	42,100
1-5/8	5	74.4	1.34	20250	82	1.2	51,300
1-3/4	5-1/2	89.5	1.12	23850	98	1.02	61,000
2	6	108	1.93	27900	118	0.85	72,000
2-1/8	6-1/2	125	0.79	32400	135	0.74	82,800
2-1/4	7	146	0.685	36900	157	0.64	96,300
2-1/2	7-1/2	167	0.59	41850	181	0.55	110,000
2-5/8	8	191	0.52	46800	205	0.49	123,000
2-7/8	8-1/2	215	0.47	52200	230	0.43	139,000
3	9	242	0.42	57600	258	0.39	157,000
3-1/4	10	299	0.33	69300	318	0.31	189,000
3-1/2	11	367	0.27	81900	384	0.26	229,000
4	12	436	0.23	94500	460	0.22	270,000

CAUTION: Working loads are tabulated for rope in good condition in non-official applications and under normal service conditions. Working loads are not applicable where the rope is subjected to dynamic loading or other excessive use. Should the rope fail, it may recoil with consederable force. Persons should be warned against standing in line with the rope.

Hardware

From clips and clamps to turnbuckles and lifting beams, Mid-America Rigging is the one-stop shop for all your lifting and rigging hardware needs.

Other Products

Shackles
Hooks
Eyebolts
Swivel Hoist Rings
Ratchet Straps
Lifting Magnets
Binder Chain
Drum Lifters
Winches
Chain Hoists
Custom Hardware
Turnbuckles

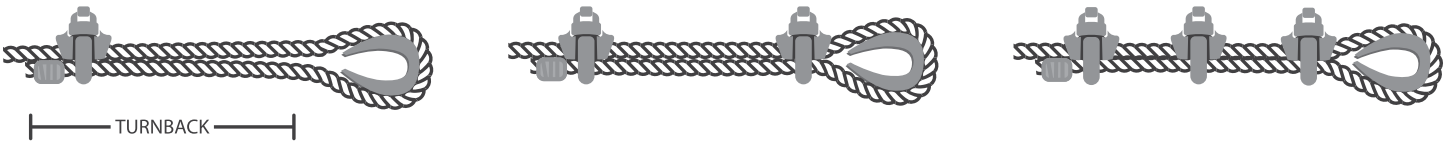
Turnbuckles

Turnbuckles are constructed with a long sleeve with internal screw threads that accept a variety of fittings used to pull anchor points closer together or push them apart by turning the turnbuckle body. Turnbuckles can be manufactured in galvanized hardware or stainless hardware. We carry the full line of turnbuckle types including Jaw & Jaw, Eye & Eye, Hook & Hook, Eye & Jaw, and Hook & Eye.

Thread Diameter	Take Up	WLL	Weight Each
IN	IN	LBS	IN
1/4	4	500	0.4
5/16	4 1/2	800	0.6
3/8	6	1,200	0.9
1/2	6	2,200	1.8
1/2	9	2,200	2.1
1/2	12	2,200	2.4
5/8	6	3,500	3
5/8	9	3,500	3.7
5/8	12	3,500	3.2
3/4	6	5,200	4.6
3/4	9	5,200	5.4
3/4	12	5,200	6
3/4	18	5,200	7.7
7/8	12	7,200	8.4
7/8	18	7,200	10.7
1	6	10,000	9.7
1	12	10,000	11.9
1	18	10,000	14.8
1	24	10,000	18.2
1-1/4	12	15,200	23.8
1-1/4	18	15,200	27.5
1-1/4	24	15,200	33.7
1-1/2	12	21,400	38.1
1-1/2	18	21,400	44.2
1-1/2	24	21,400	48.4

 G-450 U-Bolt Clip				 G-429 Fist Grip Clip			
Size (In.)	**Number Of Clips**	**Turnback Length (In.)**	**Torque FT-LBS.**	**Size (In.)**	**Number Of Clips**	**Turnback Length (In.)**	**Torque FT-LBS.**
1/8	2	3-1/4	4.5	3/16	2	4	30
3/16	2	3-3/4	7.5	1/4	2	4	30
1/4	2	4-3/4	15	5/16	2	5	30
5/16	2	5-1/4	30	3/8	2	5-1/4	45
3/8	2	6-1/2	45	7/16	2	6-1/2	65
7/16	2	7	65	1/2	3	11	65
1/2	3	11-1/2	65	9/16	3	12-3/4	130
9/16	3	12	96	5/8	3	13-1/2	130
5/8	3	12	96	3/4	3	16	225
3/4	4	18	130	1	5	37	225
1	5	26	225				

Some standards may require a minimum of 3 wire rope clips. The number of clips shown is based upon using RRL or RLL wire rope 6 x 19 or 6 x 37 class, FC or IWRC: IPS or XIP, XXIP, also applies to rotation - resistant RRL wire rope, 8 x 19 class, IPS, XIP, XXIP, sizes 1-1/2 inch and smaller. If a pulley (sheave) is used for turning back the wire rope, add one additional clip. Clips are 80% efficient under 1" and 90% 1" and above.



Blocks

The snatch block is one of today's most widely used types of blocks. As generally applied, its title refers to that group of intermittent-service blocks which quickly attaches and "snatch" or moves loads over relatively short distances. This is opposed to long lifts and continuous service for which crane and construction blocks are designed.

We offer a wide variety of multipurpose snatch blocks.
Over 235 models of single and double sheave snatch blocks are offered. Capacities range from 2 to 30 metric tons; sheave diameters, from 3 through 24 inches. Custom designs and sizes. Let our experienced team assist in your rigging gear selection today.

418 With Hook

419 With Shackle

404 Tail Board

- Forged alloy heat treated hooks.
- Forged steel swivel tees, yokes and shackles.
- Can be furnished with bronze bushing or roller bearings.
- Opening feature permits insertion of rope while block is suspended from gin-pole.
- 3" - 18" 418 and 419 blocks have exclusive bolt-retaining spring to assure no lost bolts.
- Can be furnished with S-4320 hook latch.
- Pressure lube fittings.
- 3" - 10" feature dual rated Wireline sheaves.
- Fatigue rated.
- 4-1/2" and larger are RFID EQUIPPED.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet outher critical performance requirements including fatigue life and material traceability, not addressed by ASME B30.26.

418 / 419 / 404 Snatch Blocks

Sheave Diameter (in.)	Bearing Code	Stock No.			Wire Rope Size (in.) ‡	Working Load Limit (t)*	Weight Each (lbs.)			Rep. Sheave Stock No.	Rep. Latch Stock No.
		418 with Hook	419 with Shackle	404 Tail Board			418 with Hook	419 with Shackle	404 Tail Board		
** 3	BB	-	109091	-	5/16 - 3/8	2	-	4	-	460147	-
** 3	BB	108038	109037 †	102016	5/16 - 3/8	2	5	4	3	460147	1096421
** 4-1/2	BB	108065	109064	102025	3/8 - 1/2	4	12	12	7	2000232	1096468
6	BB	108127	109126	102098	5/8 - 3/4	8	27	28	15	460815	1096562
6	RB	108154	109153	102114	5/8 - 3/4	8	27	28	15	472688	1096562
8	BB	108225	109224	102169	5/8 - 3/4	8	33	34	21	461164	1096562
8	RB	108252	109251	102187	5/8 - 3/4	8	33	34	21	473277	1096562
10	BB	108323	109322	102230	5/8 - 3/4	8	41	42	29	461805	1096562
10	RB	108350	109359	102258	5/8 - 3/4	8	41	42	29	473776	1096562
12	BB	169169	202961	178890	5/8	8	48	49	36	462270	1096562
12	RB	199911	169347	178934	5/8	8	48	49	36	474141	1096562
12	BB	108421	109420	102301	3/4	8	48	49	36	462289	1096562
12	RB	108458	109457	102329	3/4	8	48	49	36	474150	1096562
14	BB	194920	169356	-	5/8	8	55	56	-	463625	1096562
14	RB	199948	167857	-	5/8	8	55	56	-	474766	1096562
14	BB	108528	109527	-	3/4	8	55	56	-	463834	1096562
14	RB	108546	109545	-	3/4	8	55	56	-	474775	1096562
16	BB	199975	203041	-	3/4	15	130	135	-	4100056	1096609
16	RB	200008	203087	-	3/4	15	130	135	-	4200028	1096609
16	BB	108608	109607	-	7/8	15	130	135	-	4100065	1096609
16	RB	108626	109625	-	7/8	15	130	135	-	4200037	1096609
18	BB	200099	203130	-	7/8	15	150	155	-	464571	1096609
18	RB	200151	203176	-	7/8	15	150	155	-	475792	1096609
18	BB	108644	109643	-	1	15	150	155	-	4104640	1096609
18	RB	108662	109661	-	1	15	150	155	-	6000000	1096609

* Ultimate Load is 4 times the Working Load Limit. ** Available in Bronze Bushed only. 3" and 4-1/2" have self lubricating Bronze Bushing. † Fitted with 1-1/4" ID Swivel Eye. ‡ May be furnished in other rope sizes.

420 With Hook

421 With Shackle

406 Tail Board

- Hooks and side plates are forged alloy steel and heat treated.
- Shackles and yokes are forged and heat treated steel.
- All parts are forged.
- Side plates are designed to eliminate possibility of rope jamming.
- Can be furnished with bronze bushings or sealed roller bearings.
- Opening feature permits insertion of rope while block is suspended from gin-pole.
- Can be furnished with S-4320 hook latch.
- Pressure lube fittings.
- Blocks furnished with dual rated Wireline sheaves.
- Fatigue Rated.
- All sizes are RFID EQUIPPED.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life and material tracability, not addressed by ASME B30.26.

420 / 421 / 406 Snatch Blocks

Sheave Diameter (in.)	Bearing Code	Stock No.			Wireline Size (in.) †	Working Load Limit (t)*	Weight Each (lbs.)			Rep. Sheave Stock No.	Rep. Latch Stock No.
		420 with Hook	421 with Shackle	406 Tail Board			420 with Hook	421 with Shackle	406 Tail Board		
6	BB	169374	169481	167973	3/4 - 7/8	12	40	48	24	460940	1096609
6	RB	169392	204120	167982	3/4 - 7/8	12	40	48	24	473035	1096609
8	BB	169418	169515	167991	3/4 - 7/8	15	51	57	30	461360	1096609
8	RB	169445	204193	168008	3/4 - 7/8	15	51	57	30	473534	1096609
10	BB	110221	110720	103186	3/4 - 7/8	15	63	69	42	462001	1096609
10	RB	110258	110757	103202	3/4 - 7/8	15	63	69	42	474025	1096609

* Ultimate Load is 4 times the Working Load Limit. † May be furnished in other rope sizes.

430 With Hook

431 With Shackle

407 Tail Board

- Drop forged, heat treated swivel hook or swivel shackle.
- Hook and shackle assembles on 8" through 14" sizes can be interchanged.
- Can be furnished with bronze bushing or roller bearings.
- Pressure lube fittings
- 430 and 431 blocks have exclusive bolt-retaining spring to assure no lost bolts.
- Can be furnished with hook latch.
- 8" and 10" models furnished with dual rated Wireline sheaves.
- Fatigue Rated.
- All sizes are RFID EQUIPPED.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life and material tracability, not addressed by ASME B30.26.

430 / 431 / 407 Snatch Blocks

Sheave Diameter (in.)	Bearing Code	Stock No.			Wireline Size (in.) †	Working Load Limit (t)*	Weight Each (lbs.)			Rep. Sheave Stock No.	Rep. Latch Stock No.
		430 with Hook	431 with Shackle	407 Tail Board			430 with Hook	431 with Shackle	407 Tail Board		
8	BB	120023	121022	103523	1 - 1-1/8	20	75	87	42	461440	1096657
8	RB	120041	121040	103541	1 - 1-1/8	20	75	87	42	473614	1096657
10	BB	120096	121095	103603	1 - 1-1/8	20	89	101	55	462083	1096657
10	RB	120112	121095	103603	1 - 1-1/8	20	89	101	55	474105	1096657
12	BB	208536	169917	184375	1	20	103	115	70	462680	1096657
12	RB	208554	209303	184393	1	20	103	115	70	474524	1096657
12	BB	120176	121175	103685	1 - 1/8	20	103	115	70	462699	1096657
12	RB	120194	121193	103701	1 - 1/8	20	103	115	70	474533	1096657
14	BB	208572	209321	184419	1	20	123	135	90	463457	1096657
14	RB	208590	170424	184437	1	20	123	135	90	475024	1096657
14	BB	120256	121255	103765	1 - 1/8	20	123	135	90	463466	1096657
14	RB	120274	121273	102783	1 - 1/8	20	123	135	90	475033	1096657
18	BB	208689	209410	184552	1	25	240	260	165	4100298	1090143
18	RB	208732	209465	184605	1	25	240	260	165	4200331	1090143
18	BB	119482	119561	119641	1 - 1/8	25	240	260	165	4103348	1090143
18	RB	119491	119570	119650	1 - 1/8	25	240	260	165	4200322	1090143
20	BB	208750	209483	184623	1 - 1/8	30	375	400	215	4103936	1090189
20	RB	208787	169864	184650	1 - 1/8	30	375	400	215	4200769	1090189
20	BB	119507	119589	119669	1 - 1/4	30	375	400	215	4102945	1090189
20	RB	119516	119598	119678	1 - 1/4	30	375	400	215	4200778	1090189
24	BB	208812	209526	184687	1 - 1/8	30	450	475	290	4104114	1090189
24	RB	208858	209553	184721	1 - 1/8	30	450	475	290	4200983	1090189
24	BB	119525	119605	119687	1 - 1/4	30	450	475	290	4104123	1090189
24	RB	119534	119614	119696	1 - 1/4	30	450	475	290	4200992	1090189

* Ultimate Load is 4 times the Working Load Limit. † May be furnished in other rope sizes.

McKissick® Oilfield Servicing Blocks

New design provides the dependability of standard McKissick® Snatch Blocks along with features that make it perfect for the challenging needs of Tugger Hoist and Tower Erection applications.

- A wide variety of configurations
  - 4, 8, 12, 15, 25 or 30 metric ton capacity
  - 3/8", 7/16", 1/2", 9/16", 5/8", 7/8", 1", 1-1/8" and 1-1/4" Wireline sizes
  - Painted or Galvanized finish
- All sizes are furnished with dual rated Wireline sheaves.
- Forged steel swivels, toes, yokes and shackles are Quenched & Tempered.
- Sheave lubrication through center pin for easy maintenance.
- Design factor of 4 to 1.
- All blocks 14" and larger are furnished with McKissick® Roll Forged sheaves with flame hardened grooves.
- Recessed sideplate design reduces the gap between the sheave rim and the sideplate, allowing the sheave assembly to be captured in the block if loss of center pin occurs.
- Sealed tapered roller bearings extend the life of the center pin and bearings and allows for faster line speeds than recommended with standard snatch blocks.
- Shackle fitting swivels for easy positioning.
- Suitable for hoisting personnel contingent upon all employees including the winch operator, being trained to follow applicable Federal, local and industry standards.
  - Tugger/Derrick applications: API RP54
  - Tower applications: OSHA directive CPL 2-1-36
- Holes through side plates are available for secondary block securement device.
- Manufactured by an API Q1 Certified facility.
- Type approval in accordance with ABS 2005 Steel Vessell Rules.
- All sizes are RFID EQUIPPED.

M-491
Tower Hoist Block

M-491G
Derrick Hoist Block

M-491 / M-491G Tower/Derrick Hoist Blocks

Working Load Limit (t)*	Sheave Diameter (in.)	Wireline Size (in.)	M-491 Stock No. Painted	G-491 Stock No. Galvanized	Weight Each (lbs.)
4	8	3/8 - 1/2	2020161	2020170	35
8	10	3/8 - 1/2	2020806	2020815	55
8	10	1/2 - 9/16	2020824	2020833	55
12	10	1/2 - 9/16	2021118	2021127	55
12	14	1/2 - 5/8	2021136	2021145	95
12	14	5/8 - 3/4	2021154	2021163	95
15	16	3/4 - 7/8	2021172	2021181	150
15	16	7/8 - 1	2021190	2021199	150
25	18	1 - 1 1/8	2032312	2032315	260
30	20	1 1/8 - 1 1/4	2032321	2032324	675

* Ultimate Load is 4 times the Working Load Limit

Hooks

Mid-America Rigging offers a wide variety of alloy hooks for use as bottom fittings on alloy chain slings, wire rope slings, and synthetic web slings to reach and secure most any load's pick-point. Whether you need a sling hook, self-locking hook, foundry hook, or container lifting hook, Mid-America has you covered. Our most popular hooks are featured here, or you can browse the extensive interactive online catalog and search through a selection of Crosby hooks, fittings, and other accessories. Contact us and one of our industry professionals can help you find the best hook for your assembly or application.

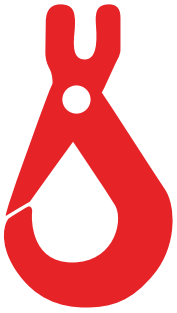
Size (in)	Grade	Working Load Limit (LBS)
7/32	100	2,700
9/32	100	4,300
5/16	100	5,700
3/8	100	8,800
1/2	100	15,000
5/8	100	22,600
3/4	100	35,300
7/8	80	34,200
1	80	47,700

Self-Locking Eye Hook

- The Original Self-Locking Hook
- Latch closes automatically under load.
- Hook will not open when under load.
- Oversized eye allows attachment to either chain or wire rope slings
- Stainless steel spring release trigger will only operate when hook is unloaded
- Full traceability
- Proof tested to 2 ½ times working load limit

Self-Locking Swivel Eye Hook

- Swivels on a bushing to position hook before loading
- Latch closes automatically under load.
- Hook will not open when under load.
- Full traceability
- Proof tested to 2 ½ times working load limit
- Stainless steel spring release trigger will only operate when hook is unloaded



Self-Locking Clevis Hook

- Clevis prevents hook to chain size mismatch
- Latch closes automatically under load.
- Hook will not open when under load.
- Full traceability
- Proof tested to 2 ½ times working load limit

Sling Hook with Latch

- Wide throat opening for easy rigging
- Hood forged in hook protect latch top
- Latch spring is stainless steel
- Heavy duty latch tip interlocks with hook body
- Replacement latch can be installed in the field
- Full traceability
- Proof tested and certified

Foundry Hook

- I-Beam construction allows thinner hook body to reach more pick-points than most other foundry hooks
- Oversize eye connection permits fabrication into chain or wire rope slings
- Full traceability
- Proof tested to 2 ½ times working load limit

Grab Hook/ Shortening Hook

- No reduction in Working Load Limit due to supporting cross bar in saddle of hook
- Deep chain pocket
- Full traceability
- Proof tested and certified

Loadbinders

If you're in a bind, let Mid-America Rigging help you out. We stock a variety of Lever Type, Claw Hook, and Ratchet Type Load Binders from the nation's top manufacturers. Below are some of our most popular Load Binders or you may contact us for additional types, sizes and availability.

Lever Type Load Binder

- All components are forged, no cast parts
- Forged binders are lighter and stronger than cast binders
- Under equal force, a forged handle will yield and bend while a cast handle may break

	SIZE						
Rated Load	G30	G43	G70	G80	Handle Take Up	WL Length	Weight
(LBS)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(LBS)
2,600	1/4	1/4	-	-	3.75	11.25	3.0
5,400	3/8	3/8	5/16	-	4.50	16.12	8.1
9,200	1/2	1/2	3/8	-	4.75	16.62	10.6
7,100	3/8	3/8	3/8	3/8	4.50	16.62	8.1

Claw Hook Load Binder

Load binder operating instructions

1. Follow D.O.T. Federal Motor Carrier Safety Regulations S 392.9, S 393.100, and S 393.102
2. Inspect before use. Replace worn and deformed binders. Lubricate pivot and swivel points for optimum performance.
3. Do not operate with anyone on load.
4. Always apply lever binder in straight line hook to hook manner without bending and such that handle goes down when sucuring load.
5. Tighten binders before moving and recheck frequently.
6. Do not use cheater bar or handle extension as their use can overload binder system and result in injury.
7. Do not use cheater bar or handle extension as their use can overload binder system and result in injury.
8. Sucure handle down with a positive retaining method.
9. Release handle/load with extreme care. Make sure everyone is clear. Lever binder handle can snap back over center. Use open palm under handle and push up.

	SIZE				
Rated Load	G43	G70	Handle Take Up	WL Length	Weight
(LBS)	(IN)	(IN)	(IN)	(IN)	(LBS)
5,400	3/8	-	4.50	16.12	0.69
9,200	-	3/8	4.75	16.62	1.00
6,600	3/8	3/8	4.50	16.62	2.02

Ratchet Type Load Binder

- Each ratchet component is forged from pure alloy steel
- Handle is designed loose using self-locking one-way bolts allowing easy removal of unwanted debris such as mud, snow or ice
- Proof tested to 50% of the minimum breaking strength
- Gears are permanently welded to the barrel

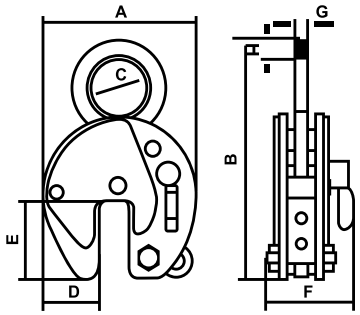
		SIZE									
End Fittings	Rated Load	G30	G43	G70	G80	G100	Take Up	Handle Length	Barrel Size O.D.	Screw Dia.	Weight
	(LBS)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(LBS)	(LBS)	(LBS)
Hook/ Hook	2,600	1/4	1/4	-	-	-	4.00	11.00	1-5/16 X 6	3/4	5.4
Eye/Eye (No Hook)	5,400	-	-	-	-	-	8.00	12.00	1-5/16 X 6	3/4	8.6
Eye/Eye (No Hook)	13,000	-	-	-	-	-	8.00	14.00	1-1/2 X 10	1	9.8
Body Only	5,400	3/8	3/8	5/16	-	-	8.00	-	1-1/2 X 10	1	11.0
Body Only	9,200	1/2	1/2	3/8	-	-	8.00	-	1-1/2 X 10	1	11.7
Handle Only	-	-	-	-	-	-	-	14.00	-	-	4.3
Hook/ Hook	5,400	3/8	3/8	5/16	-	-	8.00	12.00	1-5/16 X 6	3/4	8.6
Hook/ Hook	7,100	3/8	3/8	3/8	3/8	-	8.00	14.00	1-1/2 X 10	1	13.0
Hook/ Hook	5,400	3/8	3/8	5/16	5/16	-	8.00	14.00	1-1/2 X 10	1	12.0
Hook/ Hook	9,200	1/2	1/2	3/8	3/8	-	8.00	14.00	1-1/2 X 10	1	13.0
Hook/ Hook	13,000	3/8	3/8	1/2	1/2	-	8.00	14.00	1-1/2 X 10	1	16.0
Hook/ Hook	12,000	-	1/2	1/2	1/2	-	8.00	14.00	1-1/2 X 10	1	13.0
Hook/ Hook	8,800	-	3/8	3/8	3/8	3/8	8.00	14.00	1-1/2 X 10	1	16.0

Plate Clamps

Plate clamps are intended to assist with the lifting of steel plate or other sheet material. In the course of fabrication, plate clamps are typically utilized in pairs, particularly for oversized materials. Plate clamps encompass two key types: vertical plate clamps and horizontal plate clamps. Universal plate lifting clamps are also available, these offer a mixture of both lifting varieties. Plate clamps are available in heavy duty models, high grip models, hinged models as well as twin clamp models, all intended for particular forms of lifting. The majority of plate lifting clamps contain teeth on their jaws that bite into the material leaving marks; however, we can supply models without teeth, non-marking plate clamps. These do not leave any marks whatsoever, which may be vital in some applications

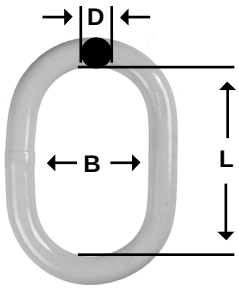
CZ Universal Plate Clamp

- Body of clamp is welded construction
- Can be used to lift plate from horizontal to vertical position and vice versa
- Clamp jaws and pads are manufactured from high tensile steel



			DIMENSIONS								
Working Load Limit (LBS)		Jaw Capacity	A	B	C	D	E	F	G	H	Weight
MIN	MAX	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(LBS)
120	1,100	0 to 5/8	3.898	7.677	1.142	1.299	1.850	1.969	0.393	0.433	3.3
350	3,300	0 to 3/4	4.961	8.858	1.969	1.929	2.756	3.228	0.472	0.472	6.6
450	4,400	0 to 1-1/4	7.559	12.283	3.150	2.953	3.790	3.937	0.787	0.787	17.6
675	6,600	0 to 1-1/4	7.559	12.283	3.150	2.953	3.790	3.937	0.787	1.181	26.5
1,100	8,800	0 to 1-1/4	7.756	14.606	3.150	2.677	3.661	5.079	0.787	1.181	26.5
1,100	8,800	1-1/8 to 2-3/8	8.976	15.354	3.150	2.677	3.661	5.079	0.787	1.181	39.7
1,600	13,200	0 to 2	11.535	19.055	3.504	3.740	5.630	5.079	0.984	1.378	46.3
2,150	17,600	0 to 2	11.535	19.370	3.504	3.740	5.630	5.079	0.984	1.654	57.3
2,150	17,600	2 to 4	14.252	20.630	3.504	4.488	5.630	5.079	0.984	1.654	70.5
3,350	22,000	0 to 2	11,535	21.457	4.331	3.740	5.630	5.472	0.984	1.772	66.1
3,350	22,000	2 to 4	14.252	21.457	4.331	4.488	5.630	5.472	0.984	1.772	81.6
6,650	33,000	0 to 2	14.173	24.134	5.118	4.921	6.378	8.031	1.772	2.165	165.3
6,650	33,000	2 to 4	18.110	26.693	5.118	6.890	6.378	8.031	1.772	2.165	194.0
8,850	44,000	0 to 2-1/2	18.188	29.724	5.118	6.496	8.268	9.252	1.772	2.559	271.2
8,850	44,000	2-1/2 to 5	22.047	31.683	5.118	7.677	8.268	9.252	1.772	2.559	299.8
13,250	66,000	0 to 2-1/2	18.189	28.819	2.362	6.496	3.268	11.614	2.559	-	429.9

Master Links



To support a wide range of end-user applications, Mid-America Rigging carries a wide range of Grade 80 & Grade 100 alloy steel master links. The master link is joined to alloy steel chain slings using G-Link connectors, SK connectors, and BL connectors. Our master links are made using the most modern technology.

The design is wider than many standard alloy steel master links to accommodate modern crane hooks. The additional width, especially in larger sizes, allows the fabricator to install thimbles for larger sized wire ropes used in bridle configurations. Primarily manufactured to support alloy steel chain sling fabrication, these links are very often used for wire rope and synthetic web slings.

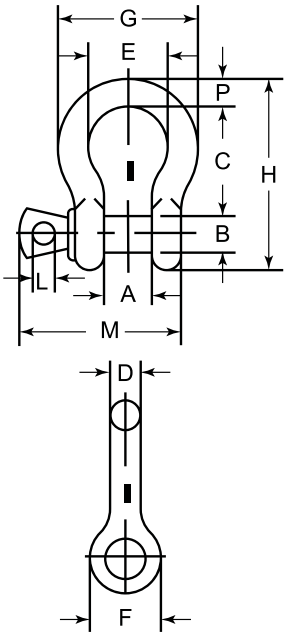
Oblong Master Links, Grade 100 - Types M & MT
Design Factor 5:1 - for use with Wire Rope

Size		Grade	WLL	DIMENSIONS							
				L	B	D	L1	l	b	d	Weight
IN	MM		(LBS)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(LBS)
3/8	11	100	3,300	3.9	2.4	0.43	-	-	-	-	0.44
1/2	14	100	7,000	4.7	2.8	0.55	-	-	-	-	0.88
3/8	17	100	11,400	5.5	3.1	0.67	-	-	-	-	1.8
3/4	19	100	12,300	5.9	3.5	0.75	-	-	-	-	2.2
7/8	22	100	17,200	6.3	3.7	0.87	-	-	-	-	3.3
1	25	100	29,900	7.5	4.3	1.0	-	-	-	-	5.1
1 1/4	30	100	35,200	7.9	4.7	1.2	-	-	-	-	7.7
1 3/8	23	100	45,300	9.4	5.5	1.3	-	-	-	-	11.7
1 1/2	38	100	68,000	9.8	5.9	1.5	-	-	-	-	15.4
1 5/8	40	100	70,400	9.8	5.9	1.6	-	-	-	-	17.6
1 3/4	45	100	84,900	11.8	7.1	1.8	-	-	-	-	26.4
2	50	100	102,600	11.8	7.9	2.0	-	-	-	-	33.1
2 1/4	55	100	143,100	13.8	7.9	2.2	-	-	-	-	46.3
2 1/2	60	100	160,000	14.8	8.3	2.4	-	-	-	-	57.3
2 3/4	70	100	220,200	17.7	9.8	2.8	-	-	-	-	94.8
3 1/4	80	100	275,300	17.7	10.2	3.1	-	-	-	-	125.6
3/4	19	100	11,000	5.9	3.5	0.75	10.6	4.7	2.8	0.55	4.0
7/8	22	100	17,600	6.3	3.7	0.87	11.8	5.5	3.1	0.67	6.6
1	25	100	21,300	7.5	4.3	1.0	13.4	5.9	2.5	0.75	9.5
1 1/4	30	100	35,200	7.9	4.7	1.2	14.2	6.3	3.7	0.87	14.3
1 5/8	40	100	57,200	9.8	5.9	1.6	17.7	7.9	4.7	1.2	33.1
2	50	100	77,000	11.8	7.9	2.0	19.7	7.9	4.7	1.3	50.7
2 1/4	55	100	110,100	11.8	7.9	2.2	21.7	9.8	5.9	1.5	72.7
2 1/2	60	100	165,100	13.8	7.9	2.4	24.0	10.2	5.5	1.8	101.4
2 3/4	70	100	220,200	17.7	9.8	2.8	28.7	11.0	6.3	2.0	156.5
3 1/4	80	100	275,300	17.7	10.2	3.1	29.5	11.0	6.3	2.2	200.6

*Design Factor 5:1, Proof tested to 2 times Working Load Limit (WLL).

Shackles

Mid-America Rigging offers one of the most complete lineups of shackles available from the most trusted names in the industry. Our stock Carbon Shackles offer extremely high Working Load Limits, consistently exhibiting more strength than other alloy shackles of the same nominal section size. Our most popular shackle is the Bolt Type Anchor but we maintain a complete stock of both screw pin and bolt type style.



G-209 / S-209 Screw Pin Anchor Shackles

Nominal Size (in.)	Working Load Limit (t)*	Weight Each (lbs.)	Dimensions (in.)											Tolerance +/-	
			A	B	C	D	E	F	G	H	L	M	P	C	A
3/16	1/3	.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.14	.16	.06	.06
1/4	1/2	.10	.47	.31	1.13	.25	.78	.61	1.28	1.84	.19	1.43	.25	.06	.06
5/16	3/4	.18	.53	.38	1.22	.31	.84	.75	1.47	2.09	.22	1.71	.31	.06	.06
3/8	1	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.02	.38	.13	.06
7/16	1-1/2	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.37	.44	.13	.06
1/2	2	.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	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	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	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	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	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	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	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	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	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	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	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

G-2130 / S-2130 Bolt Type Anchor Shackles

Nominal Size (in.)	Working Load Limit (t)*	Weight Each (lbs.)	Dimensions (in.)										Tolerance +/-	
			A	B	C	D	E	F	H	L	M	N	C	A
3/16	1/3	.06	.38	.25	.88	.19	.60	.56	1.47	.98	1.29	.19	.06	.06
1/4	1/2	.11	.47	.31	1.13	.25	.78	.61	1.84	1.28	.1.56	.25	.06	.06
5/16	3/4	.22	.53	.38	1.22	.31	.84	.75	2.09	1.47	1.82	.31	.06	.06
3/8	1	.33	.66	.44	1.44	.38	1.03	.91	2.49	1.78	2.17	.38	.13	.06
7/16	1-1/2	.49	.75	.50	1.69	.44	1.16	1.06	2.91	2.03	2.51	.44	.13	.06
1/2	2	.79	.81	.64	1.88	.50	1.31	1.19	3.28	2.31	2.80	.50	.13	.06
5/8	3-1/4	1.68	1.06	.77	2.38	.63	1.69	1.50	4.19	2.94	3.56	.69	.13	.06
3/4	4-3/4	2.72	1.25	.89	2.81	.75	2.00	1.81	4.97	3.50	4.15	.81	.25	.06
7/8	6-1/2	3.95	1.44	1.02	3.31	.88	2.28	2.09	5.83	4.03	4.82	.97	.25	.06
1	8-1/2	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	5.39	1.06	.25	.06
1-1/8	9-1/2	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	5.90	1.25	.25	.06
1-1/4	12	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	6.69	1.38	.25	.06
1-3/8	13-1/2	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	7.21	1.50	.25	.13
1-1/2	17	19.00	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	7.73	1.62	.25	.13
1-3/4	25	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	9.68	2.25	.25	.13
2	35	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	10.81	2.40	.25	.13
2-1/2	55	98.25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	13.58	3.13	.25	.13
3	85	154.00	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	15.13	3.62	.25	.25
3-1/2	120	265.00	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	17.00	4.38	.25	.25
4	150	338.00	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	17.75	4.56	.25	.25

Wire Rope

There are many different sizes, configurations, and materials that form wire rope, and these are different types including stainless steel wire rope, galvanized wire rope, and bright wire rope.

- General Purpose Wire Rope
- Rotation Resistant Wire Rope
- Specialty Wire Rope
- Drilling Lines
- Pendant Lines
- Aircraft Cable

Looking for accessories to use with wire ropes? Our rigging supplies include hardware and accessories for use with cranes, hoists & winches, and oilfield applications.

Variations when choosing your rope:

• **Diameter:** To properly measure the diameter of steel wire ropes, measure the rope at its widest point. This is an industry standard with wire cable manufacturers and steel cable suppliers.

• **Grade of Steel - EIPS, EEIPS:** EIPS is Extra Improved Plowed Steel and has roughly 10% more strength than IPS. EEIPS is Extra Extra Improved Plowed Steel and is approximately 10% stronger than the EIPS. We offer every variety of EIPS Wire Rope and have a one day lead time on any EEIPS ropes.

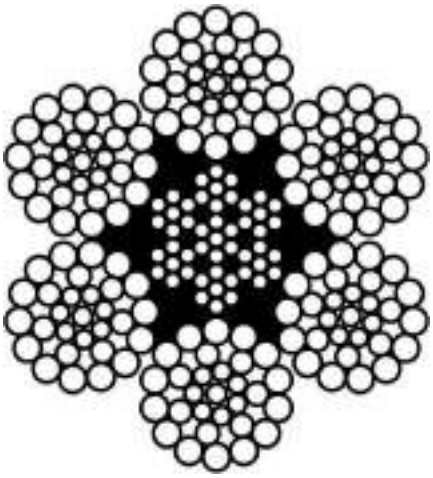
• **Direction of Lay:** Right hand and left hand designates which way the strands wrap around the core of the steel rope. Regular lay and Lang lay specify which way the wires are formed in the helix pattern. Regular lay means the wires are rotated opposite the direction of the strands around the core. Lang lay means the wires are twisted in the same direction as the strands are wrapped around the wire rope core.

• **Finish - Bright Wire, Galvanized Wire, and Stainless Steel:** Most wire ropes have a bright, self-colored finish hence the name. Wire ropes generally have a coating of lubricant to reduce friction and protect from corrosion. However, there are wire ropes that are galvanized, stainless steel, or coated in vinyl and other plastics.

• **Material of the Core:** Fiber Core **(FC)** or Independent Wire Rope Core **(IWRC)** - Fiber cores are made of natural (sisal, etc.) or synthetic (polypropylene, etc.) fibers and allow for increased flexibility. IWRC offers more support to the outer strands, and have a higher resistance to crushing. IWRC also offers more resistance to heat, reduces the amount of stretch, and increases the strength of the rope.

• **Strands:** Another variable in wire rope is how many strands make up the rope and how many wires make up one strand. For instance, a 6x26 wire rope has 6 strands around a core with 26 wires making up each strand. The 6x19 class is the most common and offers higher resistance to abrasion whereas the 6x37 class offers higher flexibility.

General Purpose



6x36 IWRC
- Fatigue resistant
- Abrasion resistant

The 6x36 classification of wire ropes includes standard 6 strand, round strand ropes with 27 through 49 wires per strand.

The 6x36 ropes are important for their fatigue resistance. This fatigue resistance is made possible by the greater number of small wires per strand.

Although there are exceptions for special applications, the constructions in 6x36 classification are primarily designed to be the most efficient for each rope diameter. As the rope size increases, for instance, a large number of wires can be used to achieve required fatigue resistance, and still those wires will be large enough to offer adequate resistance to abrasion.

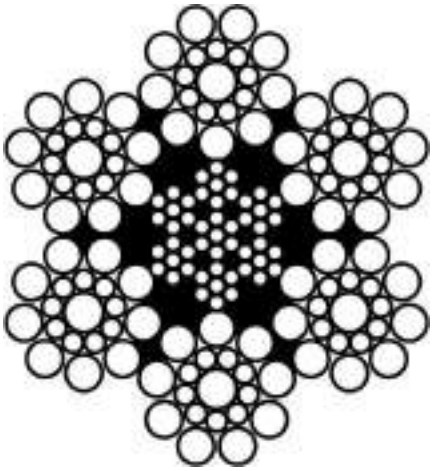
Characteristics of Standard 6x36 Class Ropes

In most rope sizes, only one 6x36 classification rope is made. These constructions were selected to provide fatigue resistance without having wires that are too small.

The greater number of wires in the 6x36 classification makes the ropes more susceptible to crushing. This can be minimized, however, by specifying an Independent Wire Rope Core (IWRC) and by using well-designed sheaves, grooved drums and proper operating techniques.

6x36 IWRC
Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.)
1/4	0.116	3.4
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.2
1/2	0.46	13.3
9/16	0.59	16.8
5/8	0.72	20.6
3/4	1.04	29.4
7/8	1.42	39.8
1	1.85	51.7
1-1/8	2.34	65
1-1/4	2.89	79.9
1-3/8	3.5	96
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.5	1/4
2	7.39	198
2-1/8	8.35	221
2-1/4	9.36	247
2-3/8	10.4	274
2-1/2	11.6	302
2-5/8	12.8	331
2-3/4	14	361
2-7/8	15.3	392
3	16.6	425
3-1/8	18	458
3-1/4	19.5	492
3-3/8	21	529
3-1/2	22.7	564
3-5/8	24.3	602
3-3/4	26	641
3-7/8	27.7	680
4	29.6	720
4-1/8	31.7	757
4-1/4	33.3	799
4-3/8	35.4	844



6x19 IWRC
• Abrasion resistant
• Crush resistant

The 6x19 classification of wire ropes includes standard 6 strand, round strand ropes with 16 through 26 wires per strand. This is a good rope to withstand abrasion or crushing on the drum. Ropes with independent wire rope strands and a core (IWRC) in general, are more crush resistant than fiber core ropes.

When you purchase our 6x19 Class of wire ropes, you get more than just another rope. Manufactured in an ISO 9001 certified factory and backed by the industry's largest staff of professional engineers, we do more than meet published specifications.

Our quality begins with our raw material qualification process. All of our suppliers must meet rod standards that are more stringent than industry standards. We then track the rod coils though the manufacturing process for full traceability. And we don't stop there; the tracking continues into the field as each schedule is tracked to the customer. In addition to tracking, throughout the manufacturing process, we break test wires and tie that information to the coil and/or reel of rope. Through these actions, we know the characteristics of the rope from its infancy and know who purchased it when it was completed. This peace of mind is what you should expect from the leader.

Characteristics of Standard 6 x 19 Class ropes:

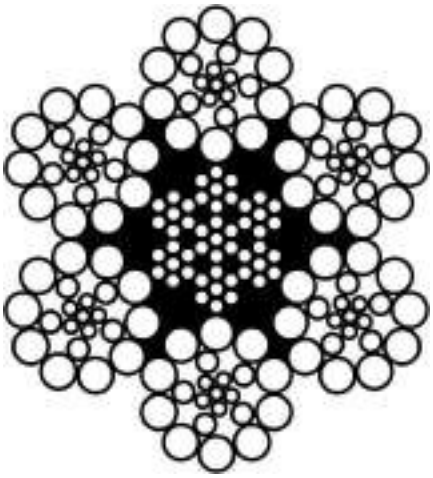
6x19S (Seale) - This is a good rope to withstand abrasion or crushing on the drum but its fatigue resistance is decreased.

6x25FW (Filler Wire) - To most wire rope users, 6x19 means 6x25 filler wire. It is a common rope in the 6x19 classification.

6x26WS (Warrington Seale) - A standard 6x26WS design provides the best rope for a wide range of applications. In general, we recommend the use of a 6x26WS in any application where a 6x25FW is used.

6x19 IWRC
Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.) XIP
1/4	0.116	3.4
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.2
1/2	0.46	13.3
9/16	0.59	16.8
5/8	0.72	20.6
3/4	1.04	29.4
7/8	1.42	39.8
1	1.85	51.7
1-1/8	2.34	65
1-1/4	2.89	79.9
1-3/8	3.5	96
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.5	174
2	7.39	198
2-1/8	8.35	221
2-1/4	9.36	247
2-3/8	10.4	274
2-1/2	11.6	302
2-5/8	12.8	331
2-3/4	14	361
2-7/8	15.3	392
3	16.6	425
3-1/8	18	458
3-1/4	19.5	492
3-3/8	21	529
3-1/2	22.7	564
3-5/8	24.3	602
3-3/4	26	641
3-7/8	27.7	680
4	29.6	720
4-1/8	31.7	757
4-1/4	33.3	799
4-3/8	35.4	844



6x26 WS IWRC
• Fatigue resistance comparable to a 6x25FW
• Recommended in any application where a 6x25FW is used.

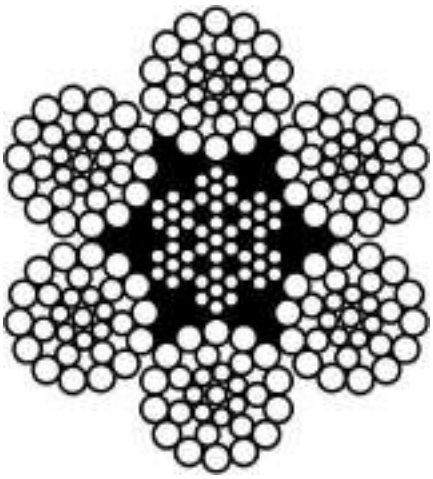
The 6x26 WS has better resistance to abrasion than a 6x25FW. It features a compact construction with solid support for the wires; therefore it has a high resistance to crushing. Its number and relative size of the inner wires add to the stability of the strand and gives it a fatigue resistance comparable to a 6x25 FW. A standard 6x26 WS construction provides the best rope for a wide range of applications. In general, we recommend the use of the 6x26WS in any application where a 6x25FW is used.

6x26 IWRC Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.) XIP
1/4	0.116	3.4
5/16	0.18	5.27
3/8	0.26	7.55
7/16	0.35	10.2
1/2	0.46	13.3
9/16	0.59	16.8
5/8	0.72	20.6
3/4	1.04	29.4
7/8	1.42	39.8
1	1.85	51.7
1-1/8	2.34	65
1-1/4	2.89	79.9
1-3/8	3.5	96
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.5	174
2	7.39	198
2-1/8	8.35	221
2-1/4	9.36	247
2-3/8	10.4	274
2-1/2	11.6	302
2-5/8	12.8	331
2-3/4	14	361
2-7/8	15.3	392
3	16.6	425
3-1/8	18	458
3-1/4	19.5	492
3-3/8	21	529
3-1/2	22.7	564
3-5/8	24.3	602
3-3/4	26	641
3-7/8	27.7	680
4	29.6	720
4-1/8	31.7	757
4-1/4	33.3	799
4-3/8	35.4	844

Available galvanized at 10% lower strengths, or in equivalent strengths of special request.

Specialty Wire



Mast Raising Lines
- Fatigue resistant
- Meets API Specifications
- Proof Tested

Mast Raising Lines, also called Bull Lines or Bridle Lines, are usually two pieces: each having sockets on both ends. These lines can be fabricated from either right regular lay rope or right lang lay rope. They must be fabricated from IWRC ropes.

Mast Raising Lines Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.) XIP
1	1.85	51.7
1-1/8	2.34	65
1-1/4	2.89	79.9
1-3/8	3.5	96
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.5	174
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2-1/8	8.35	221
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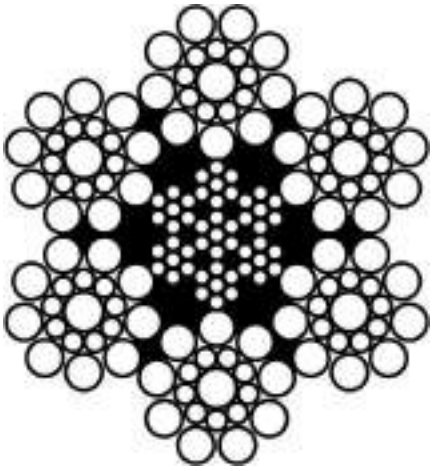
3-1/4	19.5	492
3-3/8	21	529
3-1/2	22.7	564
3-5/8	24.3	602
3-3/4	26	641
3-7/8	27.7	680
4	29.6	720

Sizes up to 1-3/8" are 6x19 class IWRC.
All sizes greater than 1 1/2@ are 6x36 class IWRC.

Rotary Drill Lines



6x19 IWRC Conventional Drill Line
- Standard Drill Line
- Meets or exceeds API 9A

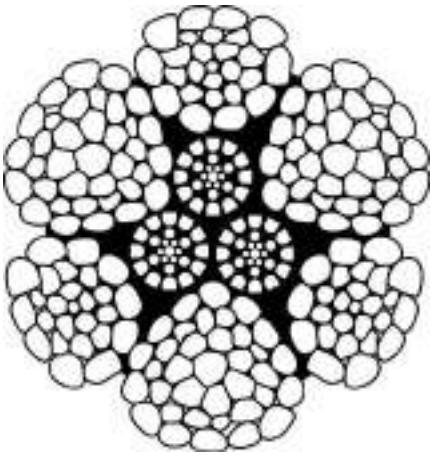
This demanding application requires a rope that is abrasion resistant, crush resistant, fatigue resistant and relatively stable.

Premium ropes may be used for specific applications. PFV cushions the strands, distributes internal stresses, keeps in wire rope lubricant and keeps out dirt and debris, extending the service life.

Conventional Drill Line Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.) XIP
7/8	1.42	39.8
1	1.85	51.7
1-1/8	2.34	65
1-1/4	2.89	79.9
1-3/8	3.5	96
1-1/2	4.16	114
1-5/8	4.88	132
1-3/4	5.67	153
1-7/8	6.5	174
2	7.39	198

Rope sizes of 7/8 - 1" are 6x26WS RRL IWRC construction.
Rope sizes of 1 1/8 - 1 1/2" are 6x195 RRL IWRC construction.
Rope sizes of 1 5/8 - 2" are 6x26WS RRL IWRC construction.
All sizes available in PFV coating.



Flex-X® 9
- Crush resistant
- Abrasion resistant
- Greater surface area

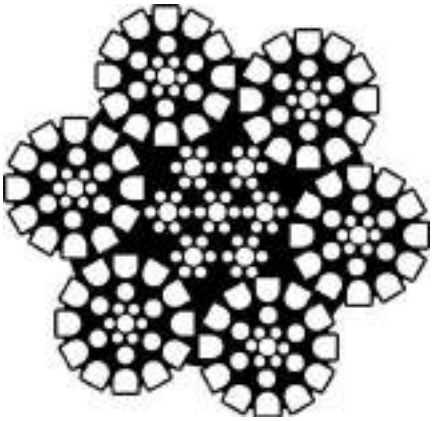
Flex-X® 9
Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.)
5/8	0.90	26.2
3/4	1.3	37.4
7/8	1.79	50.6
1	2.33	65.7
1 1/8	2.93	82.7

Flex-X® 9 features compacted strands and swaging for extra drum crushing resistance and increased stability. Its high-density strands deliver extra strength and resistance to abrasion. Flex-X® 9 is manufactured with a dual compaction process to produce a compact cross-section with minimum voids and greater surface area on outer wires that contact drums, sheaves and the rope, itself during operation. The high-density compacted strands minimize nicking at strand-to-strand contact points. Flex-X® 9 was specifically designed for boom hoist applications and tubing line applications where drum crushing is a challenge.

Flex-X® vs. standard rope of similar construction:

Flex-X® designs reduce drum scrubbing between the lead line and the previous wrap. The smooth contact creates less interference, metal loss and wire deformation. The increased surface area of Flex-X® can be seen in the comparison of the contact points of a standard 6x26WS and Flex-X® as shown.



Flex-X® 6
- Superior performance 6-strand rope
- Increased service life
- Less sheave and drum wear

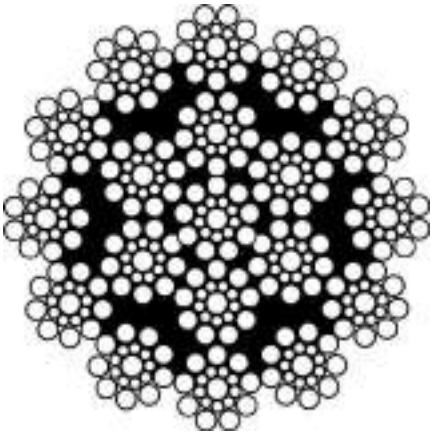
Flex-X® 6 users receive superior performance and increased service life in many applications compared to the ropes they had previously employed. When compared to conventional six-strand ropes, Flex-X® 6 ropes provide greater surface area and more steel per given diameter. This increases rope stability and strength. This results in a longer service life and less sheave and drum wear.

Flex-X® vs. standard rope of similar construction:

Flex-X® designs reduce drum scrubbing between the lead line and the previous wrap. The smooth contact creates less interference, metal loss and wire deformation. The increased surface area of Flex-X® can be seen in the comparison of the contact points of a standard 6x26WS and Flex-X® as shown.

Flex-X® 6
Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.)
3/8	0.32	8.8
7/16	0.41	11.9
1/2	0.55	15.3
9/16	0.7	19.3
5/8	0.86	22.7
3/4	1.25	32.4
7/8	1.67	43.8
1	2.18	56.9
1-1/8	2.71	71.5
1-1/4	3.43	87.9
1-3/8	4.25	106
1-1/2	5.01	125



Flex-X® 19
• Category 2 rotation resistant rope
• More crushing resistance than standard 19 x 7 rope
• Higher strength-to-diameter resistance to bending fatigue
• Exceptional stability

Flex-X® 19, a Category 2 rotation resistant rope, is made from 19 strands. Six strands are laid around a core strand in one direction, and then 12 strands are laid around this first operation in the opposite direction. Because of its tightly compacted smooth design, Flex-X® 19 offers more crushing resistance than standard 19x7 rope, higher strength-to-diameter, resistance to bending fatigue, exceptional stability, reduced wear to sheaves and drums, and improved handling, operating and spooling characteristics.

Flex-X® 19 has also demonstrated greater fatigue resistance to substantially cut rope expense and extend service life. It's ideal for multipart hoist lines wherever you encounter spooling problems, drum crushing, block twisting or have fast line speeds.

Flex-X® 19
Strength and Weights Chart

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons of 2000 lbs.)
7/16	0.43	11.2
1/2	0.49	14.6
9/16	0.65	18.5
5/8	0.78	22.7
3/4	1.16	32.4
7/8	1.58	43.8
1	2.05	56.9
1-1/8	2.57	71.5

*The minimum breaking force applies only when a test is conducted with both ends fixed. When in use, the minimum breaking force of these ropes may be significantly reduced if one end is free to rotate.

Sling Inspection & Removal Criteria Quick-Guide PER ASME B30.9

Wire Rope Slings (PER B30.9)

Wire Rope Slings shall be removed from service if any of the following conditions are present:

1. Missing or illegible sling identification.
2. Broken Wires:
   - For strand-laid and single-part slings, 10 randomly distributed broken wires in one rope lay, or 5 broken wires in one strand in one rope lay.
   - For cable-laid slings, 20 broken wires per lay.
   - For less than eight-part braided slings, 20 broken wires per braid.
   - For eight-part or more than eight braided slings, 40 broken wires per braid.
3. Severe localized abrasion or scraping.
4. Kinking, crushing, bird caging, or any other damage resulting in damage to the rope structure.
5. Evidence of heat damage.
6. End attachments that are cracked, deformed, or worn to the extent that the strength of the sling is substantially affected.
7. Severe corrosion of the rope, end attachments, or fittings.
8. For hooks, removal criteria as stated in ASME B30.10.
9. For rigging hardware, removal criteria as stated in ASME B30.26
10. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Synthetic Flat Web Slings (PER B30.9)

Synthetic Web Slings shall be removed from service if any of the following conditions exist:

1. Missing or illegible sling identification.
2. Acid or caustic burns.
3. Melting or charring of any part of the sling.
4. Holes, tears, cuts, or snags.
5. Broken or worn stitching in load bearing splices.
6. Excessive abrasive wear.
7. Knots in any part of the sling.
8. Discoloration & brittle or stiff areas on any part of the sling, may mean chemical or ultraviolet/sunlight damage.
9. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.
10. For hooks, removal criteria as stated in ASME B30.10.
11. For rigging hardware, removal criteria as stated in ASME B30.26
12. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Alloy Steel Chain Slings (PER B30.9)

Alloy Steel Chain Slings shall be removed from service if any of the following conditions are present:

1. Missing or illegible sling identification.
2. Cracks or breaks
3. Excessive wear, nicks, or gouges.
4. Stretched chain links or components
5. Bent, twisted, or deformed chain links or components.
6. Evidence of heat damage.
7. Excessive pitting or corrosion.
8. Lack of ability of chain or components to hinge (articulate) freely.
9. Weld splatter.
10. For hooks, removal criteria as stated in ASME B30.10
11. For rigging hardware, removal criteria as stated in ASME B30.26
12. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Polyester Roundslings (PER B30.9)

Roundslings shall be removed from service if any of the following conditions exist:

1. Missing or illegible sling identification.
2. Acid or caustic burns.
3. Evidence of heat damage.
4. Holes, tears, cuts, abrasive wear, or snags that expose the core yarns.
5. Broken or damaged core yarns.
6. Weld splatter that exposes core yarns.
7. Knots in the roundslings, except for termination points of core yarns inside the cover.
8. Fittings that are pitted, corroded, cracked, bent, twisted, gouged, or broken.
9. For hooks, removal criteria as stated in ASME B30.10.
10. For rigging hardware, removal criteria as stated in ASME B30.26.
11. Any other condition that may cause doubt as to the continued use of the sling.

Rigging Hardware Inspection & Removal Criteria Quick-Guide

Hooks (PER B30.10)

Hooks having damage or wear described as follows shall be repaired or replaced:

1. Cracks, nicks, and gouges that compromise the integrity of the hook. Repair of cracks, nicks, and gouges shall be carried out by a designated person by grinding longitudinally, following the contour of the hook, provided no dimension is reduced more than 10% (or as recommended by the manufacturer) of its original value.
2. Wear exceeding 10% (or as recommended by the manufacturer) of the original sectional dimension.
3. Any visibly apparent bend or twist from the plane of the unbent hook.
4. Any distortion causing an increase in throat opening of 5%, not to exceed 1⁄4 in. (or as recommended by the manufacturer)
5. Inability of self-locking hooks to lock.
6. A hook latch that is inoperative shall be repaired, replaced, or removed if not required.
7. If a required latch is inoperable and cannot be immediately repaired or replaced, the hook shall be sufficiently moused to retain loose items as defined in para. 10-1.3(c) until the latch is repaired or replaced.
8. When reassembling shank hooks, original securing methods or manufacturer's recommendations shall be followed.
9. All replacement parts shall be at least equal to the original manufacturer's specifications.
10. Hooks without provision for latches may be moused to retain loose items as defined in para. 10-1.3(c).
11. For special lifting applications where the throat opening is required to be closed, mousing may be used in place of the latch to retain loose items as defined in para. 10-1.3(c), when approved by a qualified person.

Shackles (PER B30.26)

Shackles shall be removed from service if damage such as the following is visible and shall only be returned to service when approved by a qualified person:

1. Missing or illegible manufacturer's name or trademark and/or rated load identification.
2. Indications of heat damage including weld spatter or arc strikes.
3. Excessive pitting or corrosion.
4. Bent, twisted, distorted, stretched, elongated, cracked, or broken load-bearing components.
5. Excessive nicks or gouges.
6. A 10% reduction of the original or catalog dimension at any point around the body or pin.
7. Incomplete pin engagement.
8. Excessive thread damage.
9. Evidence of unauthorized welding.
10. Other conditions, including visible damage, that cause doubt as to the continued use of the shackle.

Eyebolts, Eye Nuts, Swivel Hoist Rings, Turnbuckles (PER B30.26)

Adjustable hardware shall be removed from service if damage such as the following is present and shall only be returned to service when approved by a qualified person:

1. Missing or illegible identification.
2. Indications of heat damage including weld spatter or arc strikes.
3. Excessive pitting or corrosion.
4. Bent, twisted, distorted, stretched, elongated, cracked, or broken load-bearing components.
5. Excessive nicks or gouges.
6. A 10% reduction of the original or catalog dimension at any point.
7. Excessive thread damage or wear.
8. Evidence of unauthorized welding or modification.
9. For swivel hoist rings, lack of the ability to freely rotate or pivot.
10. Other conditions, including visible damage, that cause doubt as to continued use.

Links & Rings (PER B30.26)

Links, rings, and swivels shall be removed from service if conditions such as the following are present and shall only be returned to service when approved by a qualified person:

1. Missing or illegible identification.
2. Indications of heat damage, including weld spatter or arc strikes.
3. Excessive pitting or corrosion.
4. Bent, twisted, distorted, stretched, elongated, cracked, or broken load bearing components.
5. Excessive nicks or gouges.
6. A 10% reduction of the original or catalog dimension at any point.
7. Evidence of unauthorized welding or modification.
8. For swivels, lack of the ability to freely rotate when not loaded.
9. For swivels, loose or missing nuts, bolts, cotter pins, snap rings, or other fasteners and retaining devices.
10. Other conditions, including visible damage that cause doubt as to continued use.