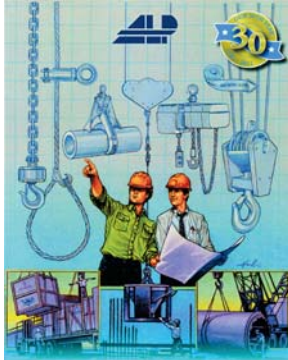




Synthetic Slings



ALP - Web Products Division



ALP - Web Products Division is a subsidiary of ALP Industries, Inc. specializing in the fabrication of synthetic web products. Through its other subsidiaries, ALP Industries markets a complete line of rigging, lifting and below-the-hook products. Contact us for a copy of our full line catalog and the ALP branch nearest you.

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SYNTHETIC SLINGS

Synthetic Web Slings

Standard Web Sling Types



Type 1 - TC (AL-1)

CHOKER: Designed for use in choker, basket or vertical hitch. Available in forged Aluminum Alloy or flame cut Alloy Steel.



Type 2 - TT (AL-2)

TRIANGLE END: 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 or flame cut Alloy Steel.



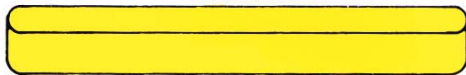
Type 3 - EEF (AL-3)

FLAT EYE: The eye is formed by folding the webbing back and sewing it flat against the sling body. Available in single or multiple thickness. Slings in widths 3" and wider are furnished with tapered eyes as standard.



Type 4 - EET (AL-4)

TWISTED EYE: The eye is formed by turning the fabric 180° before sewing to form an eye which lays 90° to the sling body. This allows for easier choking. Slings in widths 3" and wider are furnished with tapered eyes as standard.



Type 5 - EN (AL-5)

ENDLESS: Fabric is overlapped and sewn to form an endless grommet. The most versatile of all slings. Used in vertical, basket or choker hitch it provides the best gripping and holding power around the object to be lifted in the upright position. It is also the easiest to use and lasts longer because there are no eyes to determine wearing points. Endless slings are furnished with "flat" ends and can be supplied tapered.



Type 6 - RE (AL-6)

REVERSED EYE: Eye is formed by folding back the webbing and sewing it side by side. Designed primarily for use in choker hitch, although it lends itself equally well to basket and vertical hitch applications. This type of construction results in eye openings which are in the same plane as the sling body, and is best for choking. The sling body remains flat against the load.



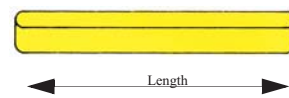
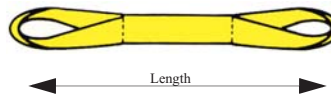
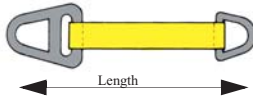
Considerations When Ordering

Every Order is Fabricated to Your Unique Specifications including multiple leg bridle assemblies. Many of our Web Products are stocked in the most commonly used sizes and constructions to enhance our service to the customer.

TYPICAL SLING IDENTIFICATION:

EET2 - 904 X 10 Ft. Nylon Sling

TYPE	PLIES	GRADE	WIDTH	LENGTH
TC - Triangle-Choker	Typically	6 - <i>Safe-T-Grip</i> ® Light Duty	1", 2", 3"	As Required
TT - Triangle-Triangle	1 - 4	7 - <i>Tufskin</i> ® Light Duty	4", 5", 6",	In Feet
EEF - Eye & Eye Flat	Plies	9 - <i>Mulox</i> ® Heavy Duty	8", 10", 12"	
EET - Eye & Eye Twisted		13 - <i>Tufskin</i> ® Heavy Duty		
EN - Endless				
RE - Reversed Eye				



NOTE: Nylon material is commonly used. If Polyester material is desired, please specify. *Tufskin*® material is a special order item.

NOTE: When ordering, specify any Non-Standard End Fittings or Optional Wear Pads.

Chemical Resistance of Web Materials

Web Material	Acids	Alcohols	Aldehydes	Strong Alkalis	Bleaching Agents	Dry Cleaning Solvents	Ethers	Halo-generated Hydrocarbons	Hydrocarbons	Ketones	Crude Oils	Lubricating Oils	Soap & Detergents	Water & Seawater	Weak Alkalis
Nylon	No	OK	OK	OK	No	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK
Polyester	*	OK	No	**	OK	OK	No	OK	OK	OK	OK	OK	OK	OK	OK

* Good Resistance to weak and strong acids at room temperature. Disintegrated by concentrated sulfuric acid.

** Degraded by strong alkalis at elevated temperatures

Standard Eye Length Specifications**

Sling Width	One Ply	Two Ply	Three Ply	Four Ply
1"	8-1/2"	8-1/2"	10"	10"
2"	10"	10"	12"	12"
3"	11"	11"	14"	14"
4"	12"	12"	16"	16"
5"	14"	14"	18"	18"
6"	16"	16"	18"	18"
8"	20"	20"	24"	24"
10"	24"	24"	24"	24"
12"	24"	24"	24"	24"

** Non-Standard Eye Lengths must be specified at the time of order.

CAUTION

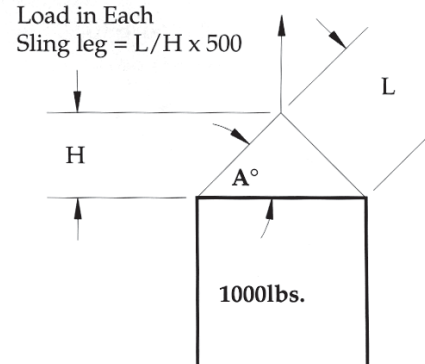
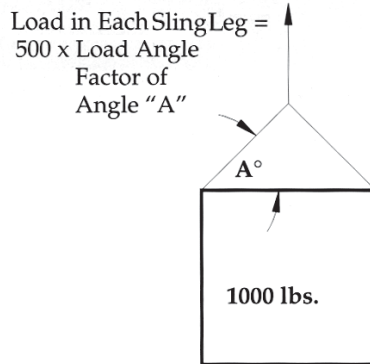
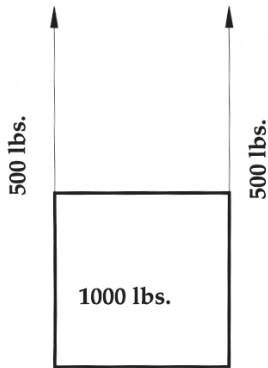
Aluminum Fittings are not recommended where sprays, mists, fumes, vapors, or liquids of caustics are present.

CAUTION: Do Not Use Slings Beyond Rated Capacity



Effects of Sling Angle

Sling capacity decreases as the angle from horizontal decreases. Sling Angles of less than 30° are not recommended.



Sling Angle Degrees (A°)	Load Angle Factor = L / H
90	1.000
60	1.155
50	1.305
45	1.414
30	2.000
LOAD ON EACH LEG OF SLING = (Load ÷ 2) x LOAD ANGLE FACTOR	

ANSI B30.9 recommends against the use of a horizontal sling angle smaller than 30°.

CAUTION: Do Not Use Slings Beyond Rated Capacity

Optional Wear Pads



Sliding Sleeve wear pads protect both sides of the sling. It provides the opportunity to shift the sleeve to any area where the sling may come into contact with sharp edges.



Edgeguard is a strip of webbing sewn along the edges of the sling. This may be desired for certain applications where the edge of the sling is subject to damage.



Regular wear pads are additional layers of material sewn to the sling at the point of expected wear. This can be sewn to one or both sides and at any point of the sling and to any length. Regular wear material can be added to the wear area of the eyes.



Mulox® Heavy Duty Nylon Slings



Type 1 (TC) & Type 2 (TC) Nylon Slings

	TC	TT	Vertical	Choke	Basket
ONE PLY*	TC1-902	TT1-902	3,100	2,480	6,200
	TC1-903	TT1-903	4,700	3,720	9,300
	TC1-904	TT1-904	6,900	4,160	12,400
	TC1-905	TT1-905	8,000	6,400	16,000
	TC1-906	TT1-906	9,300	7,440	18,600
	TC1-908	TT1-908	12,800	10,200	25,600
TWO PLY**	TC2-902	TT2-902	6,200	4,960	12,400
	TC2-903	TT2-903	8,800	7,040	17,600
	TC2-904	TT2-904	11,000	8,000	22,000
	TC2-905	TT2-905	14,000	11,200	28,000
	TC2-906	TT2-906	16,500	13,400	33,000
	TC2-908	TT2-908	20,400	16,300	40,800
10" & 12" Widths Available					
* Available with Aluminum or Steel Fittings					
** Available only with steel fittings					



Type 5 (EN) Nylon Slings

	EEF	Vertical	Choke	Basket
ONE PLY	EN1-901	3,200	2,500	6,400
	EN1-902	6,400	5,000	12,800
	EN1-903	8,600	6,900	17,200
	EN1-904	11,500	9,200	23,000
	EN1-905	13,600	10,900	27,200
	EN1-906	16,300	13,000	32,600
	EN1-908	19,200	15,400	38,400
	TWO PLY	EN2-901	6,200	4,900
EN2-902		12,200	9,800	24,400
EN2-903		16,300	13,000	32,600
EN2-904		20,700	16,500	41,400
EN2-905		24,500	19,600	49,000
EN2-906		28,600	23,000	57,200
EN2-908		30,700	24,500	61,400
THREE PLY		EN3-901	8,000	6,400
	EN3-902	16,000	12,800	32,000
	EN3-903	21,500	17,200	43,000
	EN3-904	28,700	23,000	57,400
	EN3-905	34,000	27,200	68,000
	EN3-906	40,700	32,500	81,400
	EN3-908	46,000	36,800	92,000
	FOUR PLY	EN4-901	10,000	8,000
EN4-902		19,800	15,800	39,600
EN4-903		26,700	21,300	53,400
EN4-904		35,600	28,400	71,200
EN4-905		42,200	33,700	84,400
EN4-906		50,500	40,400	101,000
EN4-908	57,600	46,000	115,200	
10" & 12" Widths Available				



Type 3 (EEF) & Type 4 (EET) Nylon Slings

	EEF	EET	Vertical	Choke	Basket
ONE PLY	EEF1-901	EET1-901	1,600	1,250	3,200
	EEF1-902	EET1-902	3,200	2,500	6,400
	EEF1-903	EET1-903	4,800	3,800	9,600
	EEF1-904	EET1-904	6,400	5,000	12,800
	EEF1-905	EET1-905	8,000	6,400	16,000
	EEF1-906	EET1-906	9,600	7,700	19,200
	EEF1-908	EET1-908	12,800	10,200	25,600
	TWO PLY	EEF2-901	EET2-901	3,200	2,500
EEF2-902		EET2-902	6,400	5,000	12,800
EEF2-903		EET2-903	8,600	6,900	17,200
EEF2-904		EET2-904	11,500	9,200	23,000
EEF2-905		EET2-905	13,600	10,900	27,200
EEF2-906		EET2-906	16,300	13,000	32,600
EEF2-908		EET2-908	19,200	15,400	38,400
THREE PLY		EEF3-901	EET3-901	4,100	3,300
	EEF3-902	EET3-902	8,300	6,600	16,600
	EEF3-903	EET3-903	12,500	10,000	25,000
	EEF3-904	EET3-904	16,000	12,800	32,000
	EEF3-905	EET3-905	19,200	15,400	38,400
	EEF3-906	EET3-906	23,000	18,400	46,000
	EEF3-908	EET3-908	30,700	24,500	61,400
	FOUR PLY	EEF4-901	EET4-901	5,000	4,000
EEF4-902		EET4-902	12,300	9,920	24,800
EEF4-903		EET4-903	17,600	14,080	35,200
EEF4-904		EET4-904	22,000	17,600	44,000
EEF4-905		EET4-905	24,800	19,800	49,600
EEF4-906		EET4-906	33,000	26,400	66,000
EEF4-908		EET4-908	39,700	31,700	79,400
10" & 12" Widths Available					

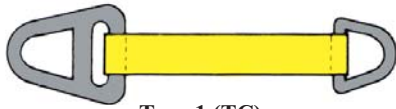


Type 6 (RE)

	RE	Vertical	Choke	Basket
ONE PLY	RE1-902	4,500	3,600	9,000
	RE1-904	7,700	6,200	15,400
	RE1-906	11,000	8,800	22,000
TWO PLY	RE2-902	6,500	5,200	13,000
	RE2-904	13,000	10,400	26,000
	RE2-906	20,000	16,000	40,000
THREE PLY	RE3-904	16,400	13,100	32,800
	RE3-906	25,500	20,400	51,000



Saf-T-Grip® Light Duty Nylon Slings



Type 1 (TC)



Type 2 (TT)



Type 5 (EN)

Type 1 (TC) & Type 2 (TT) Nylon Slings

	TC	TT	Vertical	Choke	Basket
ONE PLY	TC1-602	TT1-602	2,200	1,760	4,400
	TC1-603	TT1-603	3,300	2,640	6,600
	TC1-604	TT1-604	4,400	3,520	8,800
	TC1-606	TT1-606	6,600	5,280	13,200
TWO PLY	TC2-602	TT2-602	4,400	3,520	8,800
	TC2-603	TT2-603	6,600	5,280	13,200
	TC2-604	TT2-604	8,200	6,560	16,400
	TC2-606	TT2-606	12,300	9,840	24,600
One Ply - Steel & Aluminum Fittings					
Two Ply - Steel Fittings Only					

Type 5 (EN) Nylon Slings

	EN	Vertical	Choke	Basket
ONE PLY	EN1-601	2,200	1,760	4,400
	EN1-602	4,400	3,520	8,800
	EN1-603	6,600	5,280	13,200
	EN1-604	8,600	6,900	17,200
	EN1-606	13,200	10,560	26,400
	TWO PLY	EN2-601	4,400	3,520
EN2-602		8,800	7,040	17,600
EN2-603		13,200	10,560	26,400
EN2-604		15,500	12,400	31,000
EN2-606		24,600	19,680	49,200
THREE PLY		EN3-601	6,200	4,900
	EN3-602	12,500	10,000	25,000
	EN3-603	16,300	13,000	32,600
	EN3-604	20,600	16,400	41,200
	EN3-606	29,300	23,400	58,600
	FOUR PLY	EN4-601	7,700	6,200
EN4-602		15,500	12,400	31,000
EN4-603		20,800	16,600	41,600
EN4-604		26,600	21,200	53,200
EN4-606		37,800	30,200	75,600



Type 3 (EEF)



Type 4 (EET)

Type 3 (EEF) & Type 4 (EET) Nylon Slings

	EEF	EET	Vertical	Choke	Basket
ONE PLY	EEF1-601	EET1-601	1,100	880	2,200
	EEF1-602	EET1-602	2,200	1,760	4,400
	EEF1-603	EET1-603	3,300	2,640	6,600
	EEF1-604	EET1-604	4,400	3,520	8,800
	EEF1-606	EET1-606	6,600	5,280	13,200
	TWO PLY	EEF2-601	EET2-601	2,200	1,760
EEF2-602		EET2-602	4,400	3,520	8,800
EEF2-603		EET2-603	6,600	5,280	13,200
EEF2-604		EET2-604	8,200	6,560	16,400
EEF2-606		EET2-606	12,300	9,840	24,600
THREE PLY		EEF3-601	EET3-601	3,500	2,800
	EEF3-602	EET3-602	7,000	5,600	14,000
	EEF3-603	EET3-603	9,400	7,500	18,800
	EEF3-604	EET3-604	12,000	9,600	24,000
	EEF3-606	EET3-606	18,000	14,400	36,000
	FOUR PLY	EEF4-601	EET4-601	4,200	3,400
EEF4-602		EET4-602	8,000	6,400	16,000
EEF4-603		EET4-603	12,000	9,600	24,000
EEF4-604		EET4-604	16,000	12,800	32,000
EEF4-606		EET4-606	23,500	18,800	47,000



Type 6 (RE)

Type 6 (RE)

	RE	Vertical	Choke	Basket
ONE PLY	RE1-602	3,600	2,900	7,200
	RE1-604	6,800	5,400	13,600
	RE1-606	8,000	6,400	16,000
TWO PLY	RE2-602	5,200	4,200	10,400
	RE2-604	10,500	8,400	21,000
	RE2-606	14,400	11,500	28,800
THREE PLY	RE3-604	14,000	11,200	28,000
	RE3-606	20,000	16,000	40,000



Penco Tufskin® Abrasion Resistant Nylon Slings

Penco Tufskin® Slings are made from Latex Treated Cordura Jacketed Webbing with Red Yarn Innerwear Indicators.

It is the toughest, most abrasive resistant and durable webbing available. It's like having slings with built-in wear pads - resulting in appreciably greater sling life.

TUFKIN® LIGHT DUTY NYLON SLINGS

Type 1 (TC) & Type 2 (TT) Tufskin® Nylon Slings

Ply	Width	TC	TT	Vertical	Choker	Basket
One Ply	2"	TC1-702	TT1-702	2,200	1,650	4,400
	3"	TC1-703	TT1-703	3,150	2,375	6,300
	4"	TC1-704	TT1-704	4,500	3,375	9,000
Two Ply	2"	TC2-702	TT2-702	4,350	3,275	8,700
	3"	TC2-703	TT2-703	6,450	4,850	12,900
	4"	TC2-704	TT2-704	9,200	6,900	18,400

TUFKIN® HEAVY DUTY NYLON SLINGS

Type 1 (TC) & Type 2 (TT) Tufskin® Nylon Slings

Ply	Width	TC	TT	Vertical	Choker	Basket
One Ply	2"	TC1-1302	TT1-1302	4,400	3,300	8,800
	3"	TC1-1303	TT1-1303	6,300	4,750	12,600
	4"	TC1-1304	TT1-1304	9,000	6,750	18,000
Two Ply	2"	TC2-1302	TT2-1302	8,700	6,550	17,400
	3"	TC2-1303	TT2-1303	12,900	9,700	25,800
	4"	TC2-1304	TT2-1304	15,200	11,400	30,400

Type 3 (EEF) & Type 4 (EET) Tufskin® Nylon Slings

Ply	Width	EEF	EET	Vertical	Choker	Basket
One Ply	1"	EEF1-701	EET1-701	1,100	825	2,200
	2"	EEF1-702	EET1-702	2,200	1,650	4,400
	3"	EEF1-703	EET1-703	3,150	2,375	6,300
	4"	EEF1-704	EET1-704	4,300	3,225	8,600
Two Ply	1"	EEF2-701	EET2-701	2,200	1,650	4,400
	2"	EEF2-702	EET2-702	4,050	3,050	8,100
	3"	EEF2-703	EET2-703	6,000	4,500	12,000
	4"	EEF2-704	EET2-704	8,150	6,125	16,300

Type 3 (EEF) & Type 4 (EET) Tufskin® Nylon Slings

Ply	Width	EEF	EET	Vertical	Choker	Basket
One Ply	1"	EEF1-1301	EET1-1301	2,200	1,650	4,400
	2"	EEF1-1302	EET1-1302	4,400	3,300	8,800
	3"	EEF1-1303	EET1-1303	6,300	4,750	12,600
	4"	EEF1-1304	EET1-1304	8,600	6,450	17,200
Two Ply	1"	EEF2-1301	EET2-1301	4,400	3,300	8,800
	2"	EEF2-1302	EET2-1302	8,100	6,100	16,200
	3"	EEF2-1303	EET2-1303	12,000	9,000	24,000
	4"	EEF2-1304	EET2-1304	16,300	12,250	32,600

Type 5 (EN) Tufskin® Nylon Slings

Ply	Width	EN	Vertical	Choker	Basket
One Ply	1"	EN1-701	2,200	1,650	4,400
	2"	EN1-702	4,000	3,000	8,000
	3"	EN1-703	5,550	4,175	11,100
	4"	EN1-704	8,150	6,125	16,300
Two Ply	1"	EN2-701	4,000	3,000	8,000
	2"	EN2-702	8,700	6,525	17,400
	3"	EN2-703	10,450	7,850	20,900
	4"	EN2-704	11,900	8,925	23,800

Type 5 (EN) Tufskin® Nylon Slings

Ply	Width	TC	Vertical	Choker	Basket
One Ply	1"	EN1-1301	4,400	3,300	8,800
	2"	EN1-1302	8,000	6,000	16,000
	3"	EN1-1303	11,100	8,350	22,200
	4"	EN1-1304	16,300	12,250	32,600
Two Ply	1"	EN2-1301	8,000	6,000	16,000
	2"	EN2-1302	17,400	13,050	34,800
	3"	EN2-1303	20,900	15,700	41,800
	4"	EN2-1304	23,800	17,850	47,600

Tufskin® Light Duty Nylon Slings have:

- Visible Single Stripe on the outside of the webbing for easy identification.
- Eyes are tapered for 3" & 4" webbing widths in single ply only.

Tufskin® Heavy Duty Nylon Slings have:

- Visible Double Stripes on the outside of the webbing for easy identification.
- Heavy Duty Tufskin® Slings are 30% stronger compared with other sling webbing.
- Eyes are not tapered in any webbing widths



Specialty Slings

Penco® Stone Handling Slings



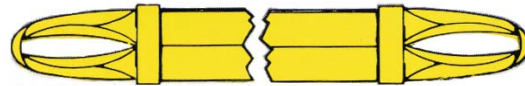
With natural untreated webbing, Penco® Stone Handling Slings are ideally suited for handling polished granite, concrete panels and marble blocks. Available in 4” width only.

Part #	Width	Ply	Vertical	Choker	Basket
STC1-904	4”	1	5,400	4,300	10,800
STC2-904	4”	2	9,700	7,770	19,400
STT1-904	4”	1	5,400	4,300	10,800
STT2-904	4”	2	9,700	7,770	19,400
SEE1-904	4”	1	5,400	4,300	10,800
SEE2-904	4”	2	9,700	7,770	19,400
SEN1-904	4”	1	10,800	8,600	21,600
SEN2-904	4”	2	19,400	15,500	38,800

STC - Triangle Choker STT - Triangle Triangle
SEE - Eye & Eye SEN - Endless

Penco® Cargo Slings

- Designed as a widebody sling where extra width is critical.
- Used only in a basket hitch.
- It provides better balance and load distribution. Available in widths 6” thru 24”.
- Special widebody slings above 24” are available upon request.



Use only in a Basket Hitch

Penco® Standard Duty Cargo Slings

PIN #	Webbing Width In.	Rated Capacity Lbs	Eye Length In.	Eye Width In.
PCS1-906	6	18,600	9	1
PCS1-908	8	25,000	10	1
PCS1-910	10	29,500	12	1
PCS1-912	12	37,200	12	1
PCS1-916	16	44,000	16	2
PCS1-920	20	49,500	20	2
PCS1-924	24	66,000	24	2

Penco® Heavy Duty Cargo Slings

PIN #	Webbing Width In.	Rated Capacity Lbs	Eye Length In.	Eye Width In.
PCS2-906	6	30,350	9	1
PCS2-908	8	42,500	10	1
PCS2-910	10	51,500	12	1
PCS2-912	12	59,300	12	1
PCS2-916	16	66,000	16	2
PCS2-920	20	76,000	20	2
PCS2-924	24	79,000	24	2



Lumber Sorter Slings

- These slings are used specifically in saw mill operations.
- The sling are fabricated with aluminum or flame cut fitting on one end.
- The other end is a sewn pocket.

Lumber Sorter Sling

PIN #	Width	Ply	Rated Capacity
LS1-904	4"	1	12,800 lbs



Auger Slings

- Designed to quick lift and secure the drilling auger to the truck boom.
- The auger sling, in swift wrap around action, lifts the auger to the boom where it is held securely in travel position.
- The nylon webbing will hang straight from the boom when not in use, will not curl or kink.
- Most common lengths 8'6" - 9'0" - 10'0" - 10'6"
- Rated Capacity: Vertical 2,400 Lbs
Choker 1,900 Lbs.



Glass Handling Sling

Glass Handling Slings are used to move the glass from the production line to the shipping/crating area.

Standard Duty Glass Handling Slings utilize two plies of 2" polyester material sewn in a configuration to provide stable, controlled transport of the glass panels. These slings are rated to 12,200 lbs when used in a vertical basket.

Heavy duty Glass Handling Slings use two plies of 4" polyester webbing and are rated to 20,000 lbs. when used in a vertical basket.

Both the Standard Duty and the Heavy Duty have a felt lining sewn in the areas that contact the glass. This lining protects the webbing from marring the glass and the glass from cutting the webbing.

Many of these slings are custom designed to the specific requirements of the glass manufacturer.





Web Sling Inspection

Inspection

Initial Inspection - Before using any new, repaired, or modified sling, it shall be inspected to ensure that the correct sling is being used as well as to determine that the sling meets the B30.9-5 Standard.

Frequent Inspection - This inspection should be made by the person handling the sling each day the sling is used.

Periodic Inspection - This inspection should be conducted by designated personnel. Frequency of inspection should be based on: Frequency of Use, Severity of Service Conditions, and Experience gained on the Service Life of Slings Used in Similar Applications.

Inspection Records - Written inspection records, utilizing the identification for each sling as established by the user, should be kept for all slings. These records should show a description of the new sling and its condition on each periodic inspection.

Removal Criteria

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

- missing or illegible sling identification.
- acid or caustic burns.
- melting or charring of any part of the sling.
- holes, tears, cuts, or snags.
- broken or worn stitching in load bearing splices.
- excessive abrasive wear.
- knots in any part of the sling.
- excessive pitting or corrosion, or cracked, distorted or broken fittings.
- red warning yarns are visible in the body of the sling.
- other visible damage that causes doubt as to the strength of the sling.

Operating Practices

- 1 Slings having suitable characteristics for the type of load, hitch, and environment shall be selected in accordance with appropriate tables.
- 2 The weight of load shall be within the rated load of the sling. (*Sling Angles have a dramatic affect on rated load*)
- 3 Slings shall be shortened, lengthened, or adjusted only by methods approved by the sling manufacturer.
- 4 Slings shall not be shortened or lengthened by knotting.
- 5 Slings that appear to be damaged shall not be used unless inspected and accepted as usable under the Inspection and Removal Criteria.
- 6 Slings shall be hitched in a manner providing control of the load.
- 7 Sharp corners in contact with the sling should be padded with material of sufficient strength to minimize damage to the sling.
- 8 All portions of the human body shall be kept from between the sling and the load, and from between the sling and the crane hook or hoist hook.
- 9 Personnel should stand clear of the suspended load.
- 10 Personnel should not ride the sling.
- 11 Shock loading should be avoided.
- 12 Slings should not be pulled from under a load when the load is resting on the sling.
- 13 Slings should be stored in a cool, dry, and dark place to prevent environmental damage.
- 14 Twisting and kinking the legs shall be avoided.
- 15 Load applied to the hook should be centered in the base (bowl) of hook to prevent point loading on the hook.
- 16 During lifting, with or without load, personnel shall be alert for possible snagging.
- 17 In a basket hitch, the load should be balanced to prevent slippage.
- 18 The sling's legs should contain or support the load from the sides above the center of gravity when using a basket hitch.
- 19 Slings should be long enough so that the rated load is adequate when the angle of the legs is taken into consideration.
- 20 Slings should not be dragged on the floor or over an abrasive surface.
- 21 In a choker hitch, slings shall be long enough so the choker fitting chokes on the webbing and never on another fitting.
- 22 Nylon and polyester slings shall not be used in contact with object or at temperatures in excess of 194°F (90°C) or below -40°F (-40°C).
- 23 When extensive exposure to sunlight or ultraviolet light is experienced by nylon or polyester web slings, the sling manufacturer should be consulted for recommended inspection procedure.

Additional information and safe operating practices are outlined in current OSHA and ANSI/ASME B30.9c Standards as applicable, pertaining to Lifting assemblies. Operating practices are outlined in current Commercial Vehicle Safety Alliance (CVSA) guidelines for Federal, State, and Provincial practices pertaining to Tiedown Assemblies.



Polyester Roundslings

Penco® Polyester Roundslings

Penco® Polyester Roundslings have the following benefits and features:

- Lightweight
- Long Life
- High Strength Flexibility
- Gentle to the Load
- By adding a cover sleeve, the Roundslings can be utilized in an Eye & Eye configuration



Penco® Polyester Roundslings

Sling Size	Color	Vertical		Choke		Vertical Basket		45° Basket	
		English	Metric	English	Metric	English	Metric	English	Metric
PR-1	Purple	2,600 lb.	1,200 kg	2,100 lb.	1,000 kg	5,200 lb.	2,400 kg	3,700 lb.	1,700 kg
PR-2	Green	5,300 lb.	2,400 kg	4,200 lb.	1,900 kg	10,600 lb.	4,800 kg	7,500 lb.	3,400 kg
PR-3	Yellow	8,400 lb.	3,800 kg	6,700 lb.	3,000 kg	16,800 lb.	7,600 kg	11,900 lb.	5,400 kg
PR-4	Tan	10,600 lb.	4,800 kg	8,500 lb.	3,800 kg	21,200 lb.	9,600 kg	15,000 lb.	6,800 kg
PR-5	Red	13,200 lb.	6,000 kg	10,600 lb.	4,800 kg	26,400 lb.	12,000 kg	18,700 lb.	8,500 kg
PR-6	White	16,800 lb.	7,600 kg	13,400 lb.	6,000 kg	33,600 lb.	15,200 kg	23,800 lb.	10,700 kg
PR-7	Blue	21,200 lb.	9,600 kg	17,000 lb.	7,600 kg	42,400 lb.	19,200 kg	30,000 lb.	13,600 kg
PR-8	Orange	25,000 lb.	11,400 kg	20,000 lb.	9,100 kg	50,000 lb.	22,800 kg	35,400 lb.	16,100 kg
PR-9	Orange	31,000 lb.	14,100 kg	24,800 lb.	11,300 kg	62,000 lb.	28,200 kg	43,800 lb.	19,900 kg
PR-10	Orange	40,000 lb.	18,200 kg	32,000 lb.	14,500 kg	80,000 lb.	36,400 kg	56,600 lb.	25,700 kg
PR-11	Orange	53,000 lb.	24,100 kg	42,400 lb.	19,300 kg	106,000 lb.	48,200 kg	74,900 lb.	34,100 kg
PR-12	Orange	66,000 lb.	30,000 kg	52,800 lb.	24,000 kg	132,000 lb.	60,000 kg	93,000 lb.	42,400 kg
PR-13	Orange	90,000 lb.	40,900 kg	72,000 lb.	32,700 kg	180,000 lb.	81,800 kg	127,300 lb.	57,800 kg

ROUNDSLING FEATURES

- High strength to weight ratio
- Low elongation / Extreme flexibility
- Double Cover for extra life
- Endless style means wear points change with each lift
- Polyester interior fibers do not contact the load causing little wear as long as the cover is intact
- Long lasting leather tag indicates working load limits
- Different colors indicate for sizes 1 to 7, our most common sizes

TECHNICAL DATA

- Maximum working temperature 100°C (200° F)
- Oil and grease do not normally affect strength
- Resistant to most acids
- Not resistant to concentrations of Alkalis
- Does not lose strength in water - will not rot or mildew
- Excellent resistance to ultraviolet rays because the outer cover protects the inner fibers
- Only 3% elongation

ROUNDSLING APPLICATIONS

- Boat Handling
- Cargo Handling
- Construction
- Drilling Equipment
- Electrical Equipment
- Heating Units
- Industrial
- Logging
- Machined Parts
- Flaield - Off Shore
- Pipes
- Transformers
- Polished Surfaces



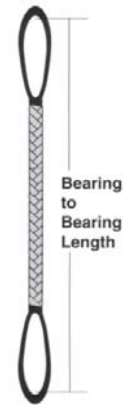
Braided Roundup Roundslings

Braided Roundslings provide greater security in handling high-capacity loads, while maintaining the qualities our other roundslings offer. Braided Round-slings are constructed using 3 (6-part) or 4 (8 part) Endless Roundup roundslings. Braided Roundslings offer superior performance in a vertical, choker or basket hitch.



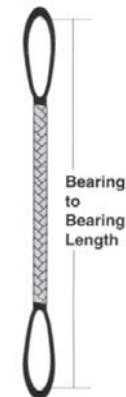
- Eyes are covered with abrasion-resistant nylon.
- Soft, flexible and easy to handle.
- Conform well to load
- Excellent strength-to weight ratio
- Capacities are color coded
- Red Core Warning Fibers alert user to damage
- Each sling is tagged for easy identification.

6-Part Braided Round Slings		*Capacity in lbs.			Min. Length	Standard Eye Length	Approx. Weight per Foot	Width Under Load
Part No.	Color Code	Vertical	Choker	Vertical Basket				
6BR1	Purple	6700	5300	13400	5'	14"	1.1 lb.	3.25"
6BR12	Green	13500	10800	27000	5'	15"	1.45 lb.	3.75"
6BR3	Yellow	21400	17100	42800	6'	18"	1.9 lb.	4.25"
6BR4	Tan	27000	21600	54000	6'	18"	2.25 lb.	4.50"
6BR5	Red	33600	26800	67200	7'	25"	3.0 lb.	5.25"
6BR6	White	42800	34200	85600	7'	25"	3.5 lb.	5.50"
6BR7	Blue	54000	43200	108000	9'	30"	4.95 lb.	6.63"
6BR8	Orange	63700	50900	127400	10'	33"	6.0 lb.	8.25"
6BR9	Orange	79000	63200	158000	10'	38"	7.75 lb.	11.0"



WARNING *DO NOT EXCEED RATED CAPACITY

8-Part Braided Roundslings		*Capacity in lbs.			Min. Length	Standard Eye Length	Approx. Weight per foot	Width Under Load.
Part No.	Color Code	Vertical	Choker	Vertical Basket				
8BR1	Purple	9000	7200	18000	5'	14"	1.4 lb.	3.50"
8BR2	Green	18000	1400	36000	5'	15"	1.85 lb.	4.00"
8BR3	Yellow	28500	22800	57000	6'	18"	2.40 lb.	4.75"
8BR4	Tan	36000	2800	72000	6'	18"	2.85 lb.	5.00"
8BR5	Red	44900	35900	89800	7'	25"	3.8 lb.	6.00"
8BR6	White	57100	45600	114200	7'	25"	4.4 lb.	6.25"
8BR7	Blue	72000	57600	144000	9'	30"	6.25 lb.	7.50"
8BR8	Orange	85000	68000	170000	10'	33"	7.6 lb.	9.50"
8BR9	Orange	105300	84200	216000	10'	38"	9.75 lb.	13.0"



LARGER CAPACITIES AVAILABLE UPON REQUEST



Roundsling Inspection

INSPECTION OF POLYESTER ROUND SLINGS: WEB SLING AND TIE DOWN ASSOCIATION

Type of Inspection

- a. **Initial Inspection** - Before any polyester round sling is placed into service it shall be inspected by a designated person to ensure that the correct round sling is being used, as well as to determine that the round sling meets the requirements for this specification.
- b. **Frequent Inspection** - This inspection shall be made by a qualified person handling the polyester round sling each time the round sling is used.
- c. **Periodic Inspection** - This inspection shall be conducted by a designated person. Frequency of inspection of the round sling should be based on:
 1. Frequency of use.
 2. Severity of service conditions.
 3. Experience gained on service life of polyester round slings in similar applications.
 4. Periodic Inspection should be conducted at least monthly.

Removal from Service

A polyester round sling shall be removed from service if any of the following is visible:

- a. If polyester round sling identification is missing or unreadable.
- b. Melting, charring or weld spatter on any part of the polyester round sling.
- c. Holes, tears, cuts, embedded particles, abrasive wear, or snags that expose the core fibers of the polyester round sling.
- d. Broken or worn stitching in the cover which exposes the core fibers.
- e. Fittings when damaged, stretched or distorted in any way.
- f. Polyester round slings that are knotted.
- g. Acid or alkali burns of the polyester round sling.
- h. Any conditions which causes doubt as to the strength of the polyester round sling.

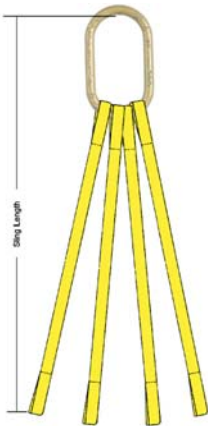
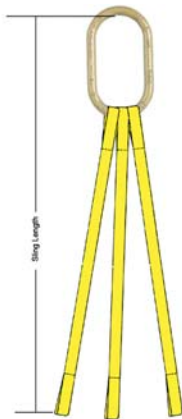
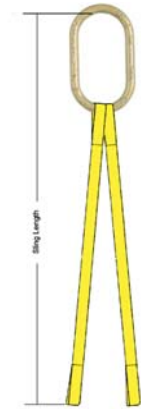
OPERATION OF POLYESTER ROUND SLINGS WEB SLING AND TIE DOWN ASSOCIATION

- Determine weight of the load. The weight of the load shall be within the rated capacity of the polyester round sling(s).
- Select a polyester round sling having suitable characteristics for the type of load, hitch and environment.
- Polyester round slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the round sling to load angle which affects rated capacities.
- Polyester round slings with fittings which are used in a choking hitch shall be sufficient length to assure that the choking action is on the round sling, and never on the fittings.
- Polyester round slings used in a basket hitch shall have the load balanced to prevent slippage.
- The openings in fittings shall be proper shape and size to ensure that the fitting will seat properly on the polyester round sling, crane hook, or other attachments.
- Polyester round slings shall always be protected from being cut by sharp corners, sharp edges, protrusions, or abrasive surfaces.
- Polyester round slings shall not be dragged on the floor or over an abrasive surface.
- Polyester round slings shall not be twisted, shortened, lengthened, tied in knots, or joined by knotting.
- Polyester round slings shall not be pulled from under loads when load is resting on the polyester round sling.
- Do not drop polyester round slings equipped with metal fittings.
- Polyester round slings that appear to be damaged shall not be used unless inspected and accepted as usable under Section 4.4 and 4.5.
- The polyester round sling shall be hitched in a manner providing control of the load.
- Personnel, including all portions of the human body, shall be kept from between the polyester round sling and the load, and from between the polyester round sling and the crane hook or hoist hook. Personnel shall stand clear of the suspended load.
- Personnel shall not ride the polyester round sling.
- Shock loading shall be avoided.
- Twisting the legs (branches) shall be avoided.
- Load applied to a hook shall be centered in the bowl of the hook to prevent point loading.
- During lifting, with or without the load, personnel shall be alert for possible snagging of the polyester round sling.
- The polyester round sling shall be long enough so the rated capacity is adequate when the sling to load angle is taken into consideration.
- Only Polyester round slings with legible identification tags shall be used.
- Tags and labels should be kept away from the load, hold and choke point.
- The polyester round sling shall not be constricted or bunched between the ears of a clevis or shackle, or in a hook. When a polyester round sling is used with a shackle, it is recommended that it be used (rigged) in the bowl of the shackle.

Additional information and safe operating practices are outlined in current OSHA and ANSI/ASME B30.9c Standards as applicable, pertaining to Lifting assemblies. Operating practices are outlined in current Commercial Vehicle Safety Alliance (CVSA) guidelines for Federal, State, Provincial practices pertaining to Tiedown Assemblies.



Multi-Leg Synthetic Slings



Mulox® Multi-Leg Slings - Flat Eyes

No. of Legs	Web Width (in.) ^	No. of Plies	Rated Capacity (lbs.)				Recommended Minimum	
			90	60	45	30	Master Link *	Eye Sling Hook **
2	1	1	3,200	2,771	2,262	1,600	1/2"	1TA
		2	6,400	5,369	4,383	3,100	3/4"	1.5TA
	2	1	6,200	5,369	4,383	3,100	3/4"	1.5TA
		2	12,400	10,738	8,767	6,200	1"	3TA
	3	1	9,400	8,140	6,646	4,700	3/4"	1.5TA
		2	17,600	15,242	12,443	8,800	1"	3TA
3	1	1	4,800	4,100	3,300	2,400	3/4"	1TA
		2	9,000	7,740	6,350	4,550	3/4"	1.5TA
	2	1	9,000	7,740	6,350	4,550	3/4"	1.5TA
		2	18,000	16,100	13,150	9,300	1"	3TA
	3	1	14,100	12,210	9,970	7,050	1"	3TA
		2	26,400	22,863	18,663	13,200	1-1/4"	5TA
4	1	1	6,400	5,500	4,500	3,200	1"	1TA
		2	12,000	10,200	8,300	5,900	1"	1.5TA
	2	1	12,000	10,200	8,300	5,900	1"	1.5TA
		2	24,800	21,470	17,530	12,400	1-1/4"	3TA
	3	1	18,800	16,280	13,292	9,400	1"	3TA
		2	35,200	30,484	24,884	17,600	1-1/4"	5TA

* Oblong Master Link & Eye Sling Hooks may be sewn in place or mechanically attached - See pages 14 - 19.

** Sling Hooks are supplied with safety latch attached when possible.

^ Tapered eyes are standard for 3" and 4" web widths in assemblies

PENCO® Multi-Leg Round Slings

No. of Legs	Sling Size	Color	Rated Capacity (lbs.)				Recommended Min. Master Link *
			90	60	45	30	
2	PR-1	Purple	5,200	4,503	3,676	2,600	5/8"
	PR-2	Green	10,600	9,180	7,494	5,300	3/4"
	PR-3	Yellow	16,800	14,549	11,878	8,400	1"
	PR-4	Tan	21,200	18,359	14,988	10,600	1"
	PR-5	Red	26,400	22,862	18,665	13,200	1-1/4"
	PR-6	White	33,600	29,098	23,755	16,800	1-1/4"
3	PR-1	Purple	7,800	6,755	5,515	3,900	3/4"
	PR-2	Green	15,900	13,769	11,241	7,950	1"
	PR-3	Yellow	25,200	21,823	17,816	12,600	1"
	PR-4	Tan	31,800	27,539	22,483	15,900	1-1/4"
	PR-5	Red	39,600	34,294	27,997	19,800	1-1/4"
	PR-6	White	50,400	43,646	35,633	25,200	1-1/2"
4	PR-1	Purple	10,400	9,006	7,353	5,200	3/4"
	PR-2	Green	21,200	18,359	14,988	10,600	1"
	PR-3	Yellow	33,600	29,098	23,755	16,800	1-1/4"
	PR-4	Tan	42,400	36,718	29,977	21,200	1-1/2"
	PR-5	Red	52,800	42,725	37,323	26,400	1-1/2"
	PR-6	White	67,200	58,195	47,510	33,600	1-3/4"

* Oblong Master Links & Fittings are mechanically connected - see pages 14 - 19.

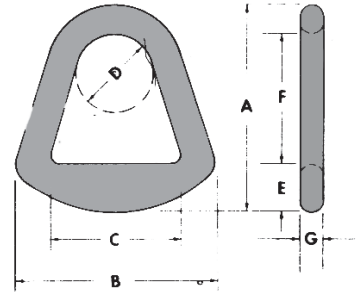


Web Sling Hardware

Aluminum Triangles & Chokers

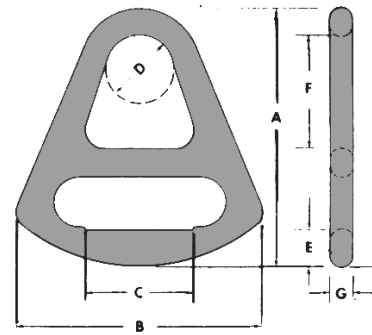
Aluminum Triangle Fitting Specifications

Size	A	B	C	D	E	F	G	Approx Wt. (lbs)	Max Rec. Safe Load	Min. Break
AT2	4	3-5/8	2-1/4	1-3/4	15/16	2-3/8	9/16	.75	3,360	16,800
AT3	5-1/4	5	3-1/4	2	1-1/8	3-5/16	5/8	1.2	5,000	25,000
AT4	6-1/4	6-5/8	4-3/8	2-3/8	1-7/16	4	11/16	1.8	6,700	33,500
AT6	8-15/16	8-7/8	6-3/8	3-1/8	1-3/4	5-1/2	15/16	5.1	9,700	48,500



Aluminum Choker Fitting Specifications

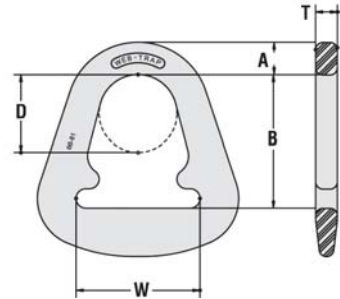
Size	A	B	C	D	E	F	G	Approx Wt. (lbs)	Max Rec. Safe Load	Min. Break
AC2	6-1/8	5-1/4	2-1/8	1-3/4	15/16	2-3/8	9/16	.75	3,360	16,800
AC3	7-1/8	7-1/2	3-1/8	2	1-1/8	3-5/16	5/8	1.2	5,000	25,000
AC4	8-3/4	8-3/4	4-1/8	2-3/8	1-7/16	4	11/16	1.8	6,700	33,500
AC6	11-5/16	11-3/4	6-1/8	3-1/8	1-3/4	5-1/2	15/16	5.1	9,700	48,500



Steel Triangles & Chokers

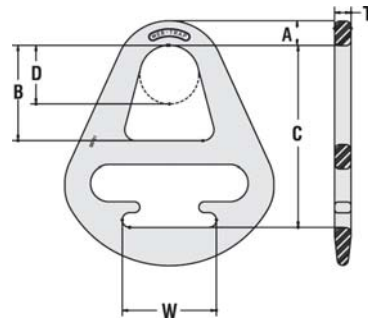
Steel Triangle Fitting Specifications

Part No.	Rated Capacity (lbs)	Dimensions (in.)					Weight (lbs.)
		A	B	D	T	W	
ST2	8,000	11/16	2-3/8	1-3/4	9/16	2	1
ST3	8,600	13/16	3-7/16	2	9/16	3	2
ST4	11,500	15/16	4	2-3/8	9/16	4	2.6
ST6	16,800	1-1/16	5-9/16	3-1/8	3/4	6	6.3
ST8	22,400	1-7/16	6-1/2	4	3/4	8	10.2
ST10	28,000	1-1/2	8-1/4	5	1	10	17
ST12	33,600	1-3/4	8-3/4	5-1/2	1	12	24



Steel Choker Fitting Specifications

Part No.	Rated Capacity (lbs)	A	B	C	D	T	W	Weight (lbs.)
SC3	8,600	13/16	3-1/4	6-3/16	2	9/16	3	3.6
SC4	11,500	15/16	3-3/4	6-15/16	2-3/8	9/16	4	5.1
SC6	16,800	1-1/16	4-3/4	8-7/8	3-1/8	3/4	6	12
SC8	22,400	1-7/16	5-5/8	10	4	3/4	8	25
SC10	28,000	1-1/2	7	11-13/16	5	1	10	38
SC12	33,600	1-3/4	7-3/4	12-13/16	5-1/2	1	12	54





Sling Saver® Connector

S-237 Sling Connector

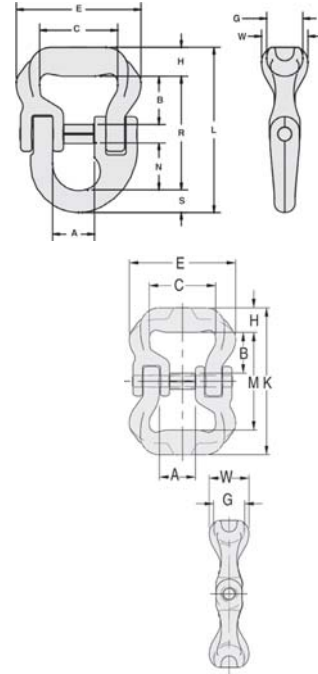


S238 Sling Connector



High Performance Sling Connector is designed to connect High Performance Synthetic Slings of all materials.

- Capabilities available:
 - Working Load Limit (5 to 1): 10,000 through 60,000 lbs.
 - Sling Body Widths: 3” through 6”.
- Allows easy connection to master links or eye hooks, and is ideal for bridles.
- 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 master links, shackle bows and conventional eye hooks. This allows 100% of the slings rated Working Load Limit to be achieved.
- Individually Proof Tested at 2.5 times the Working Load Limit.
- Each connector has a Product Identification Code (PIC) for material traceability, along with a frame size, and the name Crosby and USA in raised letters.
- Allows better load distribution on internal fibers.
- All Alloy Construction.
- Design Factor of 5 to 1.



S-237 High Performance Sling Connector

Working Load Limit		S-237 Web to Lok-A-Loy Assy. Stock No.	Frame No.	Nominal Sling Body Width (in.)	Lok-A-Loy Size	Weight Each (lbs.)	Dimensions (in.)										S-238 Web to Web Assy. Stock No.	
4:1 (lbs.)*	5:1 (lbs.)						A	B	C	E	G	H	L	N	R	S		W
12500	10000	1020704	10	3”	5/8”	3.0	1.38	1.53	2.75	4.13	1.25	.98	5.68	1.71	3.95	.75	1.75	1020423
18750	15000	1020713	15	3”	3/4”	4.8	1.59	1.58	2.75	4.37	1.38	1.10	6.49	2.03	4.46	.93	1.88	1020432
31250	25000	1020722	25	4”	7/8”	8.6	1.97	2.33	3.75	6.00	1.75	1.40	7.97	2.26	5.51	1.06	2.25	1020441
37500	30000	1020731	30	4”	7/8”	8.6	1.97	2.20	3.75	6.19	1.75	1.40	7.84	2.26	5.38	1.06	2.36	1020450
50000	40000	1020740	40	5”	1”	14.6	2.22	2.91	4.75	7.07	2.25	1.78	9.45	2.44	6.45	1.22	3.09	1020469
75000	60000	1020759	60	6”	1-1/4”	26.0	2.53	3.37	5.75	9.13	2.31	1.86	11.09	3.07	7.73	1.50	3.16	1020478

*Maximum Proof Load is 2 times the Working Load Limit at 4:1 design factor. Minimum Ultimate strength is 5 times the Working Load Limit.

S238 High Performance Sling Connector

Working Load Limit (lbs.)	S-238 Web to Web Assy. Stock No.	Frame No.	Nominal Sling Body Width (in.)	Lok-A-Loy Size	Weight Each (lbs.)	Dimensions (in.)									
						A	B	C	E	G	H	K	M	W	
5000	1020415	5	2	3/8	1.6	.88	1.42	2.00	3.18	1.00	.80	4.90	3.30	1.38	
10000	1020423	10	3”	5/8”	3.3	1.42	1.52	2.75	4.13	1.25	.98	5.72	3.76	1.75	
15000	1020432	15	3”	3/4”	4.9	1.63	1.58	2.75	4.37	1.38	1.10	6.16	3.96	1.88	
25000	1020441	25	4”	7/8”	10.1	2.00	2.33	3.75	6.00	1.75	1.41	8.40	5.58	2.25	
30000	1020450	30	4”	7/8”	11.4	2.00	2.20	3.75	6.19	1.75	1.41	8.14	5.32	2.38	
40000	1020469	40	5”	1”	20.7	2.25	2.91	4.75	7.25	2.25	1.78	10.48	6.92	3.09	
60000	1020478	60	6”	1-1/4”	32.0	2.56	3.36	5.75	9.13	2.31	1.86	11.72	8.00	3.16	

*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 with shown in the Recommended Standards Specification for Synthetic Polyester Round Slings by the Web Sling & Tie Down Association. WSTDA-RS (revised 2001).



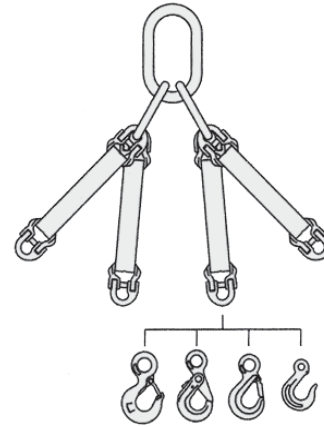
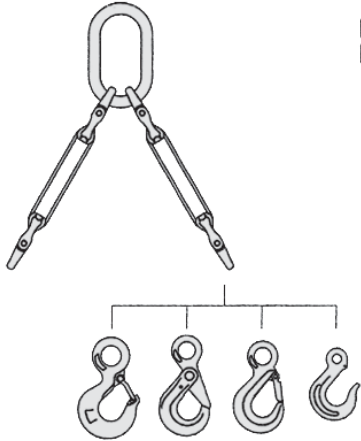
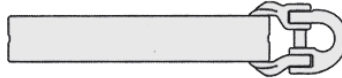
Typical Applications

The S-237 and S238 connectors have been designed to easily adapt to other Crosby fittings to develop complete systems for high performance Synthetic Slings.

Use S238 to join two slings



Use S-237 to connect to other hardware



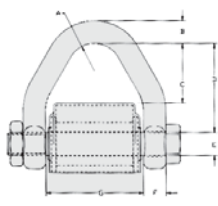
Sling Saver Web Connector

Web Connectors are designed to connect Synthetic Web Slings and Synthetic Round Slings to conventional hardware



- Connects to Alloy Eye Hooks, Grade 8 Fittings, Master Links, Rings & Shackles
- Makes field assembled bridles quick and easy
- No cotter pin to snag sling material
- Durable vinyl cover correctly positions the sling on the spool and protects the sling eye
- Design Factor of 5:1
- Increased radius of spool gives wider sling bearing surface resulting in increased area of load distribution - allows better load distribution of internal fibers

S-280 Crosby® Web Connector Specifications

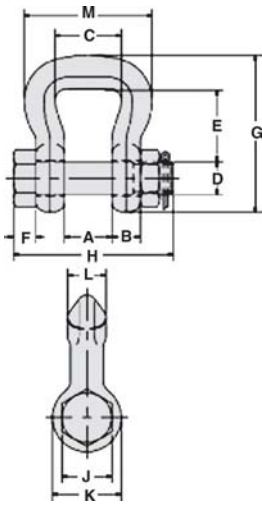


Round Sling Size (No.)	Web Slings*			Working Load Limit** (Tons)	S-280 Stock Number	Wt. (lbs)	Dimensions (In)									
	Web Width (In)	Eye Width (In)	Ply				A	B	C	D	E	F	G	H	I	J
1 & 2	2	2	2	3-1/4	1021681	1.5	.75	.62	1.63	2.44	.63	.62	2.69	.56	1.19	2.02
3	3	1.5	2	4-1/2	1021690	1.9	.75	.69	1.10	2.01	.75	.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	1.0	.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 2-1/2 times the Working Load Limit. Minimum Ultimate Strength is 5 times the Working Load Limit.



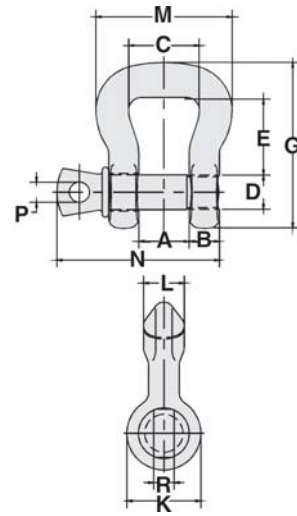
Sling Saver® Shackles



**S-252 Bolt-Type
Sling Saver® Shackle**



**S-253 Screw Pin
Sling Saver® Shackle**



- Available in 3-1/4 to 50 Ton Capacities
- Design Factor of 5:1
- All Alloy Construction
- Increased radius of bow gives wider sling bearing surface resulting in increased area of load distribution - allows better load distribution of internal fibers and Synthetic Sling efficiency increase of at least 15%

S-252 Bolt-Type Screw Pin Sling Saver® Shackle Specifications

Web Sling Eye Width (In)	Round Sling Size (No)	Work Load Limit* (Tons)	S-252 Bolt-Type		Dimensions (In)														
			PIN#	Wt (lbs)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R
1	1 & 2	3-1/4	1020485011	1.4	1.06	.58	1.38	.75	1.50	.44	3.38	3.68	1.12	1.50	.75	2.69	3.22	.44	1.00
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	4.03	.50	1.19
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	4.50	.50	1.44
3	7 & 8	12-1/2	1020518011	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	5.59	.62	1.81
4	9 & 10	20-1/2	1020529011	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	6.88	.75	2.13
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	8.66	1.00	2.88
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	10.22	1.22	3.19

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

S-253 Screw Pin Sling Saver® Shackle Specifications

Web Sling Eye Width (In)	Round Sling Size (No)	Work Load Limit* (Tons)	S-253 Screw Pin		Dimensions (In)														
			PIN#	Wt (lbs)	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R
1	1 & 2	3-1/4	1020575011	1.4	.88	.62	1.38	.75	1.50	.44	3.38	3.68	1.12	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	.50	4.15	4.25	1.31	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	.56	5.50	4.72	1.50	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	.75	6.34	5.88	1.88	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	.88	9.45	7.19	2.25	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	1.12	11.50	9.31	3.00	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	1.25	13.75	10.38	3.38	4.75	2.75	11.00	10.22	1.22	3.19

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



Web Sling Hook



WS-320A Web Sling Hook

- Originally designed for 2-Ply Web Slings the Crosby® Web Sling Hook can also be used with Round Slings of compatible Working Load Limits.
- The eye is designed to eliminate bunching effects, reduce the sling's tendency to slide, and allow better load distribution on internal fibers.
- All Alloy construction.
- Design factor of 5 to 1.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Each hook features Crosby name, Product Identification Code (PIC), Working Load Limit, and patented *QUIC-CHECK*® indicators.



WS-320A Web Sling Hook Specifications

WS-320-A S.C.	Web Sling Eye Width (in.)	Round Sling Size (Number)	Working Load Limit* (tons)	Dimensions (in.)																	Weight Each (lbs.)
				A	B	C	D	F	G	H	J	K	L	M	N	O	P	Q	T	AA	
1022701011	1"	1	1-1/2	5.25	2.26	3.98	3.11	1.38	.84	.94	.93	.71	1.50	.63	.75	.91	2.24	1.01	.98	2.00	1.10
1022712	2"	2	3	7.11	3.66	5.31	3.97	1.63	1.13	1.32	1.13	.94	2.50	.85	1.13	1.09	2.82	1.69	1.16	2.00	2.86
1022723	3"	3	5	9.33	5.13	7.06	4.81	2.00	1.44	1.63	1.47	1.31	3.75	1.13	1.63	1.36	3.51	2.59	1.53	2.50	6.60

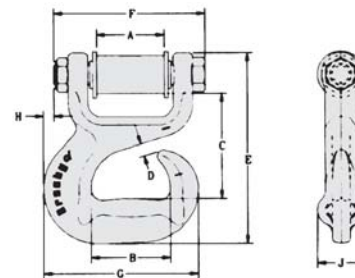
*Note: Proof load is 2-1/2 times Working Load Limit. Average straightening load (Ultimate Load) is 5 times Working Load Limit.

Web Choker Hook

S-287 Sliding Choker Hook for Webbing



- Crosby's new S-287 is designed for web sling choker applications.
- 2 Sizes: 3-1/4 Tons (2") & 4-1/2 Tons (3").
 - Special hook design protects the synthetic sling when dropped or dragged.
 - Designed to reduce friction, fraying, and abrasion in the choker area.
 - Design factor of 5:1.
 - Forged Alloy steel - Quenched & Tempered.
 - Uses same spool and cover as the S-280 Web Connector.
 - Each hook features Crosby® name, Product Identification Code (PIC), Working Load Limit.



S-287 Sliding Choker Hook For Webbing

S-287 Sliding Choker Hook PIN#	Round Sling Size (No.)	Web Sling*			Working Load Limit (tons)**	Dimension (in.)											Weight (lbs.)
		Webbing Width (in.)	Eye Width (in.)	Ply		A	B	C	D	E	F	G	H	J	AA		
1021909	1 & 2	2	2	2	3-1/4	2.13	2.50	3.32	.38	6.03	4.77	4.88	.34	1.50	1.50	3.7	
1021918	3	3	1.5	2	4-1/2	1.63	3.50	3.67	.38	7.06	4.53	6.51	1.36	1.88	-	6.1	

*Designed for use with Type III (Eye & Eye), Class 7, 2 Ply web slings.
 ** Maximum Proof Load is 2-1/2 times the Working Load Limit. Average straightening load (Ultimate Load) is 5 times the Working Load Limit.



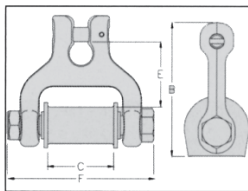
Web/Chain Connector



Designed around the same concept as Crosby's S-280 Web Connector, the S-282 Chain Connector makes the connection from your web sling to existing chain quick and easy.

- Available in three sizes:
 3-1/4 ton Working Load Limit - 2" webbing to 3/8" (10 mm) chain.
 4-1/2 ton Working Load Limit - 1-1/2" (3" Tapered Webbing) to 1/2" (13mm) chain.
 6-1/4 ton Working Load Limit - 2" (4" Tapered Webbing) to 5/8" (16 mm) chain.
- Alloy Steel (Quenched and Tempered).
- Each Connector has a Product Identification Code (PIC) for material traceability along with a Working Load Limit and the name Crosby forged into it.
- Uses same spool and cover as S-280 Web Connector.
 Replacement Kit for Spool and Web Cover available.

S-282 Web/Chain Connector

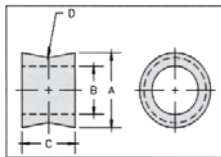


Round Sling Size (No.)	Web Slings*			Chain Size	Working Load Limit (Tons)**	S-282 Stock No.	Weight Each (lbs.)	Dimensions (in.)			
	Webbing Width (in.)	Eye Width (in.)	Ply					B	C	E	F
1 & 2	2	2	2	3/8	3-1/4	1021084	1.9	4.33	2.13	2.11	4.77
3	3	1.5	2	1/2	4-1/2	1021093	2.8	5.04	1.63	2.44	4.54
4	4	2	2	5/8	6-1/4	1021100	4.3	5.69	2.13	2.54	5.31

* NOTE: Designed for use with Type III, (Eye & Eye), Class 7, 2 Ply web slings.
 ** Maximum Proof Load is 2-1/2 times the Working Load Limit.
 Minimum Ultimate Strength is 4 times the Working Load Limit.

Link Plate & Spool

S-255 Spool



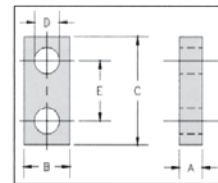
S-255 Spool

The "Spool" is designed to keep the load centered on the pin, thus keeping the sling positioned correctly in the shackle bow.

Working Load Limit (Tons)*	S-255 Stock No.	Weight Each (lbs.)	Dimensions (in.)			
			A	B	C	D
3-1/4	1020903	.33	1.25	.81	.75	.19
6-1/2	1020912	.57	1.50	.94	1.00	.25
8-3/4	1020921	.89	1.75	1.05	1.19	.31
12-1/2	1020930	1.45	2.00	1.31	1.50	.38
20-1/2	1020939	2.79	2.50	1.63	1.88	.44
35	1020948	2.40	3.25	2.13	2.25	.50
50	1020957	4.06	3.75	2.38	2.75	.62

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

S-256 Link Plate

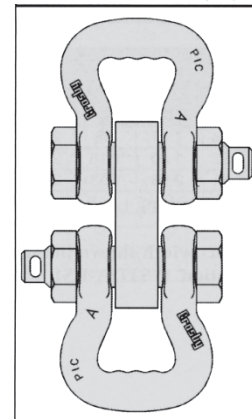
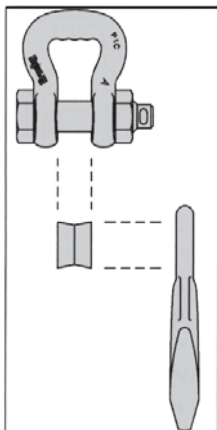


S-256 Link Plate

The "Link Plate" is designed to connect two (2) S-252 or S-253 "Sling Saver" Shackles together.

Working Load Limit (Tons)*	S-256 Stock No.	Weight Each (lbs.)	Dimensions (in.)				
			A	B	C	D	E
3-1/4	1020785	.83	.75	1.50	3.38	.81	1.88
6-1/2	1020796	1.62	1.00	1.75	4.12	.94	2.25
8-3/4	1020807	2.71	1.25	2.00	4.75	1.06	2.62
12-1/2	1020818	5.18	1.50	2.50	6.00	1.31	3.37
20-1/2	1020829	8.19	1.75	3.00	7.00	1.62	3.75
35	1020840	17.19	2.00	4.00	9.25	2.12	5.00
50	1020851	37.40	3.00	5.00	10.50	2.38	5.75

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





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Sales and Fabrication Locations

North Haven, CT Harding Company	203-865-0422
Brooksville, FL Florida Rope & Supply	352-796-8632
Tampa, FL American Lifting Products	813-832-3700
Miami, FL American Lifting Products	786-845-8617
Atlanta, GA Cobb Wire Rope & Sling Co.....	404-494-9994
North Las Vegas, NV Wayland SW	702-632-3039
Exeter, NH Harding Company	603-778-7070
Long Island City, NY Wayland, Inc.....	718-472-2722
Raleigh, NC Carolina Chain & Cable	919-831-2333

Coatesville, PA American Lifting Products, Inc.....	610-384-1800
Harrisburg, PA Pennsylvania Sling Company.....	717-657-7700
Pittsburgh, PA Pennsylvania Sling Company.....	412-364-3300
Duncan, SC Carolina Chain & Cable	864-968-8900
N. Charleston, SC Carolina Chain & Cable, SC.....	843-863-0000
Tacoma, WA Northwest Wire Rope & Sling.....	253-572-8981

Manufacturing Location

Aberdeen, NC ALP - Web Products Division.....	910-944-7616
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Corporate Office

Coatesville, PA ALP Industries, Inc.	610-384-1300
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