ROYAL ARC

SLINGS

Volume 6

WIRE ROPE

CARGO SECUREMENT

RIGGING HARDWARE

CHAIN

GSA Contract Holder
Contract GS-07F-129DA

LIFTING PRODUCTS

www.ROYALARC.com • GSA@ROYALARC.com

888-829-9099 • 877-789-9099 fax

Visit us at our Website

Safe Lift, Safe Life

Royal Arc is an American company located in Flat Rock, Michigan within the Detroit Metro region. We manufacture a full line of lifting slings and cargo securement made right here in the USA. We use only the best materials and technology in our fabrication process to create a product that, we as the manufacturer, can be proud of.

As the manufacturer, we can custom make slings and tie downs to your exact specifications. Most of our products ship within a few business days. From web slings to chain slings to auto hauling straps, we can make it. We sell through a network of distributors and resellers around the country that can help you find the best lifting and securement options available.

Quality

Our commitment to quality is what separates us from the rest. We have focused our time and energy to build a state-of-the-art manufacturing facility. Our goal is to make the best and safest products around.

We back this commitment to quality with the foremost equipment to get the job done. Our manufacturing facility includes premier programmable cutting and marking machines to insure that exact specifications are met for every job. We have automatic industrial sewing machines and manual industrial sewing machines ran by our experienced operators. We possess horizontal and vertical load test machines to guarantee product safety in our fabrication process.

This technology, along with trained employees who care about their work, allow us to reach our goal.

ROYAL ARC

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HORIZONTAL TESTING MACHINE

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SLING INSPECTION

This is an overview of the sling inspection we offer to users of lifting slings and rigging hardware. We offer this sling inspection service to assist users in identifying when slings and related lifting hardware are not in safe working condition and need to be removed from service.

This inspection is required under The American Society of Mechanical Engineers (ASME) B30.9 standard for all synthetic slings including webbing (flat) and fiber yarns in a protective cover (round), alloy steel chain slings, wire rope slings, and metal mesh slings. There are three types of inspections referenced in this ASME standard.

Initial Inspection – Prior to use, all new, altered, modified, or repaired slings shall be inspected by a designated person to verify compliance with applicable safety standards.

Frequent Inspection – A visual inspection for damage shall be performed by the user or other designated person each day or shift that the sling is used. Slings that do not meet applicable safety standards shall be removed from service and not returned to service until approved by a qualified person. Written records are not required for frequent inspections.

Periodic Inspection – A complete inspection for damage of the sling shall be periodically performed by a qualified person to determine if the sling meets applicable safety standards. Periodic inspection intervals shall not exceed 1 year. A written record of the most recent periodic inspection shall be maintained and be available for examination.

Guidelines for the time intervals of the periodic inspection are:

1) Normal service – yearly
2) Severe service – monthly to quarterly
3) Special service – as recommended by a qualified person

The frequency of periodic inspections should be based on:

1) Frequency of sling use
2) Severity of service conditions
3) Nature of lifts being made
4) Knowledge gained on the service life of slings used in similar circumstances

It is also required under Occupational Safety and Health Administration (OSHA) part 1910.184 to perform a thorough periodic inspection of alloy steel chain slings. OSHA requires maintaining a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such records available for examination.

SLING INSPECTION (cont.)

The products inspected during our standard sling inspection service are:

- Synthetic Web Slings
- Synthetic Round Slings
- Alloy Chain Slings
- Wire Rope Slings
- Metal Mesh Slings
- Sling Hardware such as hooks, links, etc
- Shackles
- Hoist Rings

The following products, by the request of the customer, can be inspected are:

- Certain Fall Protection such as harnesses, lanyards, etc
- Plate Clamps
- Eyebolts
- Manual hoists such as lever hoists and chain falls
- Web tie downs such as ratchet straps
- Binding chain such as grade 70 chain assemblies

Royal Arc will inspect the items in this section to the common industry guidelines or manufacturer's guidelines, if known. Royal Arc will not disassemble any products in this section as part of our standard sling inspection service. Our inspector will give a thorough visual inspection to the best of his/her knowledge and include in the report the visual results. If requested by the customer, product in this section in need of disassembly may be taken to a Royal Arc facility for a more detailed inspection, for a fee.

The following products are not inspected in our standard sling inspection service:

- Cranes such as bridge, gantry, jib, etc
- Crane cables
- Electrical hoisting units
- Winches
- Spreader Beams
- Specialty Lifting Devices such as vacuum lifters, c-hooks, pallet lifters, etc
- "Homemade" lifting devices
- Certain Fall Protection such as lifeline systems, scaffolding systems, etc

Some of the products in this section may be able to be inspected by Royal Arc, but would be setup separately and quoted accordingly.

The inspection result, which states that a product is suitable for use, does not suggest the length of service for which the product will remain suitable for continued service. It is the responsibility of the users and their supervisors to review and revise their inspection frequency and requirements necessary to assure that only safe lifting products are being used between inspection intervals.

TRAINING CLASSES

Royal Arc provides training courses that give true life scenarios and hands-on visuals for enhanced comprehension. Even the correct equipment becomes dangerous when used incorrectly. Learn the proper rigging procedures for a "Safe Lift, Safe Life."

These OSHA compliant training courses are available at our training centers or on-site at your facility.

Basic Crane & Rigging Training
Course Code: BCT-101

This course is our most popular and presents general safety instructions and operations including:

Qualifications required for crane operation	Using Hand Signals
Proper Crane Operations (Do's & Don'ts)	Proper usage of Crane Controls
Injury prevention	Inspection Requirements
Proper lift setup	Overview Rigging & Hitching
Basic Load Physics	Overview Chains & Slings
Crane Terminology	

IN HOUSE TRAINING

ON SITE TRAINING

Our Full list of Course Offerings

Course Number	Description	Approx Class Length
OSHA-10	OSHA 10 HR	10 hours (2 days)
OSHA-30	OSHA 30 HR	30 hours (4 days)
BCT-101	Basic Crane/Rigging Operator	6 hours (1 day)
ECT-102	Extensive Crane/Rigging	16 hours (2 days)
ICMT-103	Industrial Crane & Maintenance	24 hours (3 days)
ACMT-104	Advanced Crane/Rigging	24 hours (3 days)
BMC-101	Basic Mobile Crane	8 hours (1 day)
AMC-103	3 Day Mobile Crane	24 hours (3 days)
LOT-101	Lock Out / Tag Out	4 hours (1 day)
CSE-101	Confined Space Entry	4 hours (1 day)
FPT-101	Fall Protection	4 hours (1 day)
AFT-101	Arc Flash	4 hours (1 day)
ALT-101	Aerial Lift	4 hours (1 day)
RST-101	Qualified Rigger / Signalperson Taught by NCCCO Practical Examiner	8 hours (1 day)
Course Add-Ons		
TT	Train-the-Trainer	
HOI	Hands-On Instruction	

Please contact customer service at (888)-829-9099
for more information on any training course and we will be happy to help.

OSHA SAFE OPERATING PRACTICES
(OSHA 1910.184)

- Safe operating practices. Whenever any sling is used, the following practices shall be observed:
- Slings that are damaged or defective shall not be used.
- Slings shall not be shortened with knots or bolts or other makeshift devices.
- Sling legs shall not be kinked.
- Slings shall not be loaded in excess of their rated capacities.
- Slings used in a basket hitch shall have the loads balanced to prevent slippage.
- Slings shall be securely attached to their loads.
- Slings shall be padded or protected from the sharp edges of their loads.
- Suspended loads shall be kept clear of all obstructions.
- All employees shall be kept clear of loads about to be lifted and of suspended loads.
- Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.
- Shock loading is prohibited.
- A sling shall not be pulled from under a load when the load is resting on the sling.
- Employers must not load a sling in excess of its recommended safe working load as prescribed by the sling manufacturer on the identification markings permanently affixed to the sling.
- Employers must not use slings without affixed and legible identification markings.

OSHA® Occupational Safety and Health Administration

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GENERAL SAFETY INFORMATION

Sling Angle Reduction Factor & Tension Factor
FOR BASKET & BRIDLE HITCHES

METHOD 1- DETERMINE REDUCTION TO RATED CAPACITY

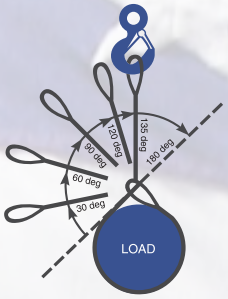
1. Calculate the Sling to Load Angle.
2. Determine the associated reduction factor (see chart).
3. Multiply the rated capacity for the basket hitch as indicated on the sling tag by the reduction factor.
4. The result is the safe capacity designation for that sling in that rigging configuration.

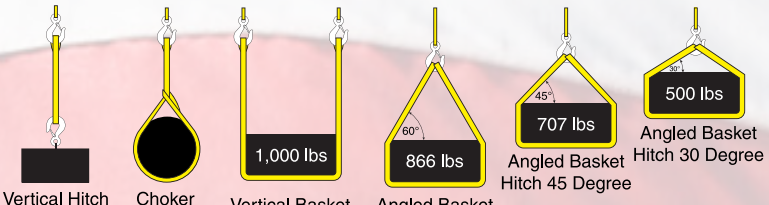
Sling Angle - Reduction Factor & Tension Factor													
Reduction Factor	1.000	0.996	0.985	0.966	0.940	0.906	0.866	0.819	0.766	0.707	0.643	0.574	0.500
Sling to Load Angle	90°	85°	80°	75°	70°	65°	60°	55°	50°	45°	40°	35°	30°
Tension Factor	1.000	1.004	1.015	1.035	1.064	1.104	1.155	1.221	1.305	1.414	1.555	1.742	2.000

METHOD 2- DETERMINE INCREASED TENSION/EFFECTIVE WEIGHT OF THE LOAD

1. Calculate the Sling to Load Angle.
2. Determine the associated tension factor (see chart).
3. Multiply the load weight by the tension factor.
4. The result is the"Effective Weight" of the load in that rigging configuration- be sure to select a sling with adequate capacity. (A longer sling will increase the Sling to Load angle, thereby reducing the tension factor/effective weight of the load.)

Angle of Choke Degree	Rated Capacity
Over 120	100%
90-120	87%
60-89	74%
30-59	62%
0-29	49%





HITCH TYPES

FOR CHOKER HITCHES

When a load is rigged using a choker hitch- if the choke angle is less than 120°, then the rated capacity of the sling must be reduced.

1) Calculate the angle of choke (see illustration).
2) Determine the associated reduction factor (see chart).
3) Multiply the rated capacity for the choker hitch as indicated on the sling tag by the reduction factor.
4) The result is the safe capacity rating for that sling in the rigging configuration.

PRODUCT GROUPS

Web Slings

A Flat Sling made of polyester webbing. These versatile, economical slings are lighter for easier handling.

Round Slings

Round Slings are made of polyester core yarn covered by a double jacket tube.

Chain Slings

Chain Slings are made of alloy steel, which allows for use under high temperatures or rugged conditions.

Wire Rope Slings

Wire Rope Slings feature 6x19 or 6x37 construction, extra improved plow steel wire rope with an independent wire rope core.

Cargo Securement

Tie down assemblies are easy to use and quickly tighten to the contour of any load. The assemblies are fabricated with polyester webbing and treated for abrasion resistance.

Wear Pads

Wear Pads can be fabricated as sliding sleeves or quick sleeves and give the sling and/or load extra protection from cutting and abrasion. Wear Pads can be made from a variety of materials including Leather, Polyester, Felt and Cordura.

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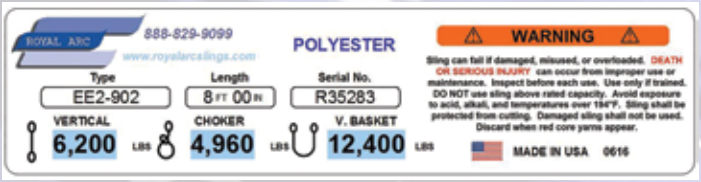
GENERAL SYNTHETIC SLING INFORMATION

All American Industrial slings meet or exceed ASME B30.9 and OSHA standards and regulations.

Chemical Factor Chart		
	Nylon	Polyester
Maximum Temp. (F)	194°	194°
Stretch at Rated Load	8 - 10%	5 - 7%
Acids	NO	*
Alcohols	OK	OK
Aldehydes	OK	NO
Strong Alkalis	OK	**
Bleaching Agents	NO	OK
Dry Cleaning Solvents	OK	OK
Ethers	OK	NO
Halogenated Hydro-Carbons	OK	OK
Hydro-Carbons	OK	OK
Ketones	OK	OK
Oils Crude	OK	OK
Oils Lubricating	OK	OK
Soap & Detergents	OK	OK
Water & Seawater	OK	OK
Weak Alkalis	OK	OK
* Disintegrated by concentrated sulfuric acid. ** Degraded by strong alkalis at elevated temperatures.		

Premium Tagging System



TAG FEATURES:

- High Performance Polymer Window Designed to outlast the Competition.
- Laser Printed For Maximum Readability
- Continuously Sewn for Maximum Durability
- UV Resistant
- Private Labeling Available

Web Sling Part Number Breakdown

EE 2 – 9 02 P x 8

TYPE OF SLING
TC, TCA, TT, TTA, EE, EET, EN, RE, WB, AWB, SOS, DOS, QOS, LS

NUMBER BODY PLIES
1, 2, 3, 4

WEBBING STRENGTH
7 = Light Duty
9 = Heavy Duty

WEB WIDTH
1”, 2”, 3”, 4”, 5”
6”, 8”, 10”, 12”

MATERIAL
P=Polyester
PEP = Polyester Edge Protect
Nylon (Leave Blank)
EP=Nylon Edge Protect

LENGTH
Any length desired for the application.

NOTE: 2 letter code (AA, AB, AC, etc...) after material code will be used to specify custom slings.

WEB SLING REMOVAL CRITERIA

Synthetic Web Slings (ASME B30.9) - A synthetic web sling shall be removed from service if conditions such as the following are present:

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 and brittle or stiff areas on any part of the sling, which 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. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

MELTING OR CHARRING

CUTTING

KNOTS

ABRASIONS OR PUNCTURE

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TRIANGLE/CHOKER • TRIANGLE/TRIANGLE

Part Number	Web Width (in)	# of Plies	Working Load Limit (LBS)		
			Vertical	Choker	V. Basket
TC1-902P	2	1	3,200	2,560	6,400
TC2-902P	2	2	6,400	5,120	12,800
TC1-903P	3	1	4,800	3,840	9,600
TC2-903P	3	2	8,800	7,040	17,600
TC1-904P	4	1	6,400	5,120	12,800
TC2-904P	4	2	11,500	9,200	23,000
TC1-906P	6	1	9,600	7,680	19,200
TC2-906P	6	2	17,000	13,600	34,000

Triangle-Triangle (TT or TTA) Type 2
This sling utilizes steel or aluminum end fittings and is most often used in a basket configuration, but can also be used in a vertical hitch. They cannot be used as a choker. These fittings help reduce wear and allow easier connection to hooks.

When ordering specify
Length, Steel or Aluminum Fittings
Length is measured
bearing point to bearing point.

Triangle-Choker (TC or TCA) Type 1
This sling utilizes steel or aluminum end fittings to allow the sling to be easily used in a basket or choker configuration. These fittings help reduce wear and allow easier connection to hooks.

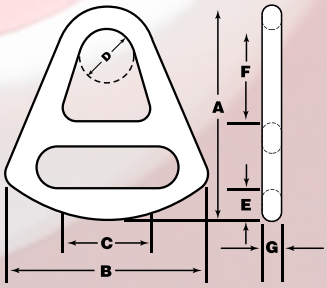
When ordering specify:
Length, Steel or Aluminum Fittings
Length is measured
bearing point to bearing point

Part Number	Web Width (in)	# of Plies	Working Load Limit (LBS)		
			Vertical	Choker	V. Basket
TT1-902P	2	1	3,200	2,560	6,400
TT2-902P	2	2	6,400	5,120	12,800
TT1-903P	3	1	4,800	3,840	9,600
TT2-903P	3	2	8,800	7,040	17,600
TT1-904P	4	1	6,400	5,120	12,800
TT2-904P	4	2	11,500	9,200	23,000
TT1-906P	6	1	9,600	7,680	19,200
TT2-906P	6	2	17,000	13,600	34,000

TRIANGLE HARDWARE

Triangle Choker - Steel									
Part Number	Inches							Weight (lbs)	Work Load Limit (lbs)
	A	B	C	D	E	F	G		
NST-24	4 5/16	3 7/8	2 3/16	1 5/8	1 1/8	2 3/8	1/2	2.00	11,800
NST-34	5 1/2	5 3/4	3 3/16	2 1/4	1 3/8	3 5/16	3/4	2.50	17,800
NST-44	6 1/2	6 3/4	4 3/16	2 1/2	1 13/16	3 3/4	3/4	4.50	25,000
NST-55	7 15/16	8	5 1/4	2 3/4	2 1/8	5	3/4	5.30	28,000
NST-64	9 1/16	9 5/16	6 1/4	3	2 5/16	5 1/2	1	10.00	32,700
PLEASE NOTE - 4-PLY DIMENSIONS & DATA GIVEN									

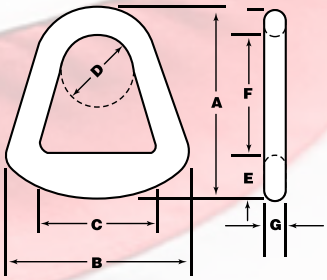
Triangle Choker - Aluminum									
Part Number	Inches							Weight (lbs)	Work Load Limit (lbs)
	A	B	C	D	E	F	G		
FAC-2	6 1/8	5 1/4	2 1/8	1 3/4	15/16	2 3/8	9/16	0.73	3,360
FAC-3	7 1/2	7 1/8	3 1/8	2	1 1/8	3 5/16	5/8	1.30	5,000
FAC-4	8 3/4	8 3/4	4 1/8	2 3/8	1 7/16	4	11/16	1.90	6,700
FAC-6	11 5/16	11 3/4	6 1/8	3 1/8	1 3/4	5 1/2	15/16	5.10	9,700



CHOKER

Triangle - Steel									
Part Number	Inches							Weight (lbs)	Work Load Limit (lbs)
	A	B	C	D	E	F	G		
NST-2	3 7/8	3 3/4	2 1/8	1 3/4	1	2 5/16	1/2	1.00	6,600
NST-3	5 3/16	5	3 1/16	2	1 1/4	3 5/16	1/2	1.60	8,900
NST-4	6 7/16	6 5/8	4 5/16	2	1 5/8	3 7/8	1/2	2.70	11,600
NST-5	7 7/8	7 15/16	5 3/16	2 1/2	2	4 15/16	1/2	3.50	14,000
NST-6	9	9 1/4	6 1/8	2 3/4	2 5/16	5 9/16	1/2	5.30	16,800
PLEASE NOTE - 2-PLY DIMENSIONS & DATA GIVEN									

Triangle - Aluminum									
Part Number	Inches							Weight (lbs)	Work Load Limit (lbs)
	A	B	C	D	E	F	G		
FAT-2	4	3 5/8	2 3/4	1 3/4	15/16	2 3/8	9/16	0.31	3,360
FAT-3	5 3/4	5	3 1/4	2	1 3/16	3 5/16	5/8	0.75	5,000
FAT-4	6 3/4	6 5/8	4 3/8	2 3/8	1 7/16	4	11/16	1.10	6,700
FAT-6	8 9/16	8 7/8	6 3/8	3 1/8	1 3/4	5 1/2	15/16	2.70	9,700



TRIANGLE

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EYE & EYE FLAT (EE) Type 3

This is one of the most popular sling types and can be used in all three types of hitches. Eyes are formed as the material is folded back and sewn flat to the sling body.

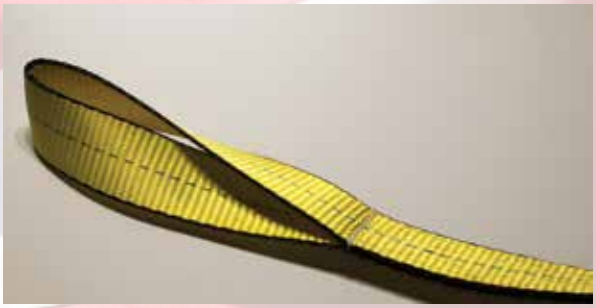
Part Number	Web Width (in)	# of Plies	Working Load Limit (LBS)		
			Vertical	Choker	V. Basket
EE1-901P	1	1	1,600	1,280	3,200
EE2-901P	1	2	3,200	2,560	6,400
EE4-901P	1	4	6,400	5,120	12,800
EE1-902P	2	1	3,200	2,560	6,400
EE2-902P	2	2	6,400	5,120	12,800
EE4-902P	2	4	11,500	9,200	23,000
EE1-903P	3	1	4,800	3,840	9,600
EE2-903P	3	2	8,800	7,040	17,600
EE4-903P	3	4	17,000	13,600	34,000
EE1-904P	4	1	6,400	5,120	12,800
EE2-904P	4	2	11,500	9,200	23,000
EE4-904P	4	4	22,800	18,240	45,600
EE1-906P	6	1	9,600	7,680	19,200
EE2-906P	6	2	17,000	13,600	34,000
EE4-906P	6	4	30,000	24,000	60,000
NOTE: Folded Eyes Standard on 3 inch to 12 inch slings; 3 ply slings available					

EYE & EYE TWISTED (EET) TYPE 4

Twisted eye slings are designed specifically to improve use of the choker hitch, but can be used in any type of hitch. Eyes are formed by turning the webbing 180 degrees before sewing to sling body.

Part Number	Web Width (in)	# of Plies	Working Load Limit (LBS)		
			Vertical	Choker	V. Basket
EET1-901P	1	1	1,600	1,280	3,200
EET2-901P	1	2	3,200	2,560	6,400
EET4-901P	1	4	6,400	5,120	12,800
EET1-902P	2	1	3,200	2,560	6,400
EET2-902P	2	2	6,400	5,120	12,800
EET4-902P	2	4	11,500	9,200	23,000
EET1-903P	3	1	4,800	3,840	9,600
EET2-903P	3	2	8,800	7,040	17,600
EET4-903P	3	4	17,000	13,600	34,000
EET1-904P	4	1	6,400	5,120	12,800
EET2-904P	4	2	11,500	9,200	23,000
EET4-904P	4	4	22,800	18,240	45,600
EET1-906P	6	1	9,600	7,680	19,200
EET2-906P	6	2	17,000	13,600	34,000
EET4-906P	6	4	30,000	24,000	60,000

NOTE: Folded Eyes Standard on 3 inch to 12 inch slings; 3 ply slings available



EYE LENGTH CHART								
# of Plies	Sling Width (inches)							
	1	2	3	4	6	8	10	12
1	8	10	11	12	16	20	24	24
2	8	10	11	12	16	20	24	24
3	10	12	14	16	18	24	24	24
4	10	12	14	16	18	24	24	24

EYE WIDTH CHART								
# of Plies	Sling Width (inches)							
	1	2	3	4	6	8	10	12
1	1	2	1 1/2	2	3	4	5	6
2	1	2	1 1/2	2	3	4	5	6
3	1	2	1 1/2	2	3	4	5	6
4	1	2	1 1/2	2	3	4	5	6

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ENDLESS (EN) TYPE 5

This sling is versatile with an endless design for stronger load ratings. The sling can be used with any type of hitch.

Part Number	Web Width (in)	# of Plies	Working Load Limit (LBS)		
			Vertical	Choker	V. Basket
EN1-901P	1	1	3,200	2,560	6,400
EN2-901P	1	2	6,200	4,960	12,400
EN4-901P	1	4	10,000	8,000	20,000
EN1-902P	2	1	6,400	5,120	12,800
EN2-902P	2	2	12,400	9,920	24,800
EN4-902P	2	4	19,800	15,840	39,600
EN1-903P	3	1	8,800	7,040	17,600
EN2-903P	3	2	16,300	13,040	32,600
EN4-903P	3	4	26,700	21,360	53,400
EN1-904P	4	1	11,500	9,200	23,000
EN2-904P	4	2	20,700	16,560	41,400
EN4-904P	4	4	35,600	28,480	71,200
EN1-906P	6	1	16,500	13,200	33,000
EN2-906P	6	2	28,600	22,880	57,200
EN4-906P	6	4	50,500	40,400	101,000
3 PLY SLINGS AVAILABLE					

REVERSED EYE (RE) TYPE 6

The reversed eye sling is a modified rugged endless sling, reinforced and protected on all sides including both sides of body and eyes with Cordura®. Superior choke hitch grips load securely.

When ordering specify Length.

Part Number	Body Width (in)	# of Plies	Eye Width (in)	Eye Length (in)	Working Load Limit (lbs)		
					Vertical	Choker	V. Basket
RE1-902P	2	1	1	9	4,500	3,600	9,000
RE2-902P	2	2	1	9	6,500	5,200	13,000
RE1-904P	4	1	2	12	7,700	6,200	15,400
RE2-904P	4	2	2	12	13,000	10,400	26,000
RE1-906P	6	1	3	15	11,000	8,800	22,000
RE2-906P	6	2	3	15	20,000	16,000	40,000

WEB BRIDLE SLINGS

Bridle slings feature combination of links and hook hardware. Hardware connections provide for the efficient handling of loads with fixed lifting points.

Part Number	Web Width (in)	# of Plies	Number of Legs	Capacity (lbs.) @ 90°	Oblong Link (Dia.)	Sling Hook Size	Eye Dimensions (W X L) (in)
SOS-EE1-901P	1	1	1	1,600	5/8	1 1/2T (7/32)	N/A
SOO-EE1-901P	1	1	1	1,600	5/8	N/A	N/A
SOE-EE1-901P	1	1	1	1,600	5/8	N/A	1 X 8
SOS-EE2-901P	1	2	1	3,100	5/8	1 1/2T (7/32)	N/A
SOO-EE2-901P	1	2	1	3,100	5/8	N/A	N/A
SOE-EE2-901P	1	2	1	3,100	5/8	N/A	1 X 8
SOS-EE2-902P	2	2	1	6,400	3/4	4.5T (3/8)	N/A
SOO-EE2-902P	2	2	1	6,400	3/4	N/A	N/A
SOE-EE2-902P	2	2	1	6,400	3/4	N/A	2 X 10

Part Number	Web Width (in)	# of Plies	Number of Legs	Capacity (lbs.) @ 60°	Capacity (lbs.) @ 45°	Capacity (lbs.) @ 30°	Oblong Link (Dia.)	Sling Hook Size	Eye Dimensions (W X L) (in)
DOS-EE1-901P	1	1	2	2,770	2,260	1,600	3/4	1-1/2T (7/32)	N/A
DOO-EE1-901P	1	1	2	2,770	2,260	1,600	3/4	N/A	N/A
DOE-EE1-901P	1	1	2	2,770	2,260	1,600	3/4	N/A	1 X 8
DOS-EE2-901P	1	2	2	5,540	4,520	3,200	3/4	2.75T (9/32)	N/A
DOO-EE2-901P	1	2	2	5,540	4,520	3,200	3/4	N/A	N/A
DOE-EE2-901P	1	2	2	5,540	4,520	3,200	3/4	N/A	1 X 8
DOS-EE2-902P	2	2	2	10,300	8,400	6,000	1	4.5T (3/8)	N/A
DOO-EE2-902P	2	2	2	10,300	8,400	6,000	1	N/A	N/A
DOE-EE2-902P	2	2	2	10,300	8,400	6,000	1	N/A	2 X 10

Part Number	Web Width (in)	# of Plies	Number of Legs	Capacity (lbs.) @ 60°	Capacity (lbs.) @ 45°	Capacity (lbs.) @ 30°	Top Ob-long Link (Dia.)	Master Sub Link (Dia.)	Bottom Oblong Link (Dia.)	Sling Hook Size	Eye Dimensions (W X L) (in)
QOS-EE1-901P	1	1	4	5,540	4,520	3,200	3/4	1/2	5/8	1-1/2T (7/32)	N/A
QOO-EE1-901P	1	1	4	5,540	4,520	3,200	3/4	1/2	5/8	N/A	N/A
QOE-EE1-901P	1	1	4	5,540	4,520	3,200	3/4	1/2	5/8	N/A	1 X 8
QOS-EE2-901P	1	2	4	10,300	8,400	6,000	3/4	1/2	5/8	2.75T (9/32)	N/A
QOO-EE2-901P	1	2	4	10,300	8,400	6,000	3/4	1/2	5/8	N/A	N/A
QOE-EE2-901P	1	2	4	10,300	8,400	6,000	3/4	1/2	5/8	N/A	1 X 8
QOS-EE2-902P	2	2	4	20,700	16,900	12,000	1	3/4	5/8	4.5T (3/8)	N/A
QOO-EE2-902P	2	2	4	20,700	16,900	12,000	1	3/4	5/8	N/A	N/A
QOE-EE2-902P	2	2	4	20,700	16,900	12,000	1	3/4	5/8	N/A	2 X 10

WEB LADDER SLING

Part Number	Overall Width (in)	Length (ft)	Ladder Spacing (in)	V. Basket Capacity (lbs.)
2LS1-908PX8	8	8	12	12,800
2LS1-908PX12	8	12	12	12,800
2LS1-908PX16	8	16	12	12,800
2LS1-908PX20	8	20	12	12,800
2LS1-912PX8	12	8	12	12,800
2LS1-912PX12	12	12	12	12,800
2LS1-912PX16	12	16	12	12,800
2LS1-912PX20	12	20	12	12,800
2LS1-916PX8	16	8	12	12,800
2LS1-916PX12	16	12	12	12,800
2LS1-916PX16	16	16	12	12,800
2LS1-916PX20	16	20	12	12,800

Ladder slings provide support to a wider area for better balance on large loads. Ladder slings are used in basket hitch applications only.

Part Number	Overall Width (in)	Length (ft)	Ladder Spacing (in)	V. Basket Capacity (lbs.)
4LS1-912PX8	12	8	12	23,000
4LS1-912PX12	12	12	12	23,000
4LS1-912PX16	12	16	12	23,000
4LS1-912PX20	12	20	12	23,000
4LS1-916PX8	16	8	12	23,000
4LS1-916PX12	16	12	12	23,000
4LS1-916PX16	16	16	12	23,000
4LS1-916PX20	16	20	12	23,000

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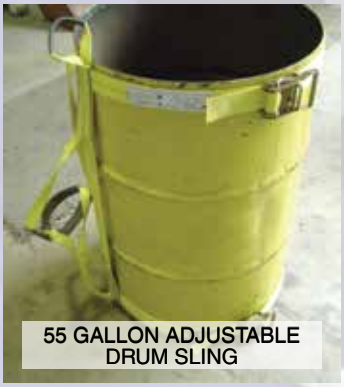
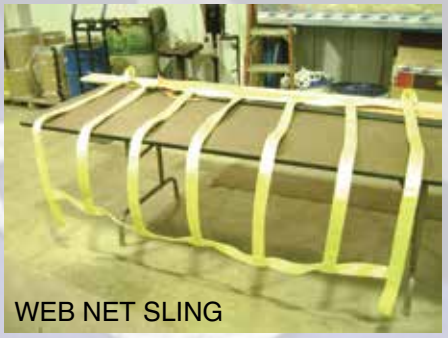
CUSTOM WEB SLINGS

Custom web slings are developed for unique applications and help eliminate unsafe lifting practices.


GLASS HANDLING SLING


55 GALLON ADJUSTABLE DRUM SLING


BRIDLE J-HOOK SLING


WEB NET SLING


5 GALLON BUCKET SLING PART NUMBER 1-BS5


WEB BASKET DRUM SLING


BOAT SLING

WEAR PADS

Polyester
Extra layer of protection
Model PWP

Felt
Good cut resistance.
Model FWP

Velcro
Allows for easy addition and removal of wear pad, 1 or 2 inch
Model V1 & V2

Cordura®
Great protection from abrasive surfaces
Model CWP

Dyneema®
Superior Strength using the world's strongest fiber. Best option for cut & abrasion resistance. Light Duty or Heavy Duty
Model LDWP or HDWP

Leather
Very rugged, good cut resistance. Velcro not available with leather.
Model LWP

Edge Guard
Helps protect the edges of the sling
Model EG

Wear Pad Part Number Breakdown

CWP V2 3 x 4

TYPE OF WEAR PAD
PWP, CWP, LWP, FWP
EG, LDWP, HDWP

PAD WIDTH
2", 3", 4", 5"
6", 8", 10", 12"

VELCRO OPTION
V1, V2

PAD LENGTH
Any length desired for the application.


EDGE GUARD


SEWN BUFFER PAD

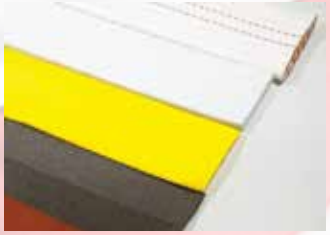

VELCRO PAD


VELCRO PAD


INSIDE EYE BUFFER


WRAPPED EYE


TUBULAR WEAR PAD



⚠ WARNING

The top cause of synthetic sling failure is cutting. When a sling is cut, property damage and personal injury or death could result. Wear pads can help reduce this problem by supplying a buffer between the load edge and the sling. Be sure to inspect wear pads for damage. If the wear pad is damaged, the sling may also be damaged.

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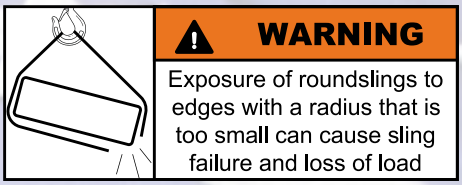
ROUND SLING SAFETY INFORMATION

Protect Sling from Damage

ALWAYS protect roundslings from being cut or damaged by corners, edges and protrusions using protection sufficient for each application. Do not ignore warning signs of misuse. Cut marks detected during any sling inspection serve as a clear signal that sling protection must be added or improved.

Exposure of slings to edges



Edges do not need to be "sharp" to cause failure of the sling. Chamfering or cutting off edges is not an acceptable substitute for fully rounding the edges to the minimum radius. Slings can also be damaged from contact with edges or burrs at the sling connection.

Sling Hardware and Connections

Connection surfaces must be smooth to avoid abrading or cutting roundslings. Roundslings can also be damaged or weakened by excessive compression between the sling and the connection points if the size of the attachment hardware or connection area is not large enough to avoid this damage. Select and use proper connection hardware that conforms to the size requirements listed for choker and vertical hitches, or for basket hitches in the charts below.

Minimum hardware dimensions suitable for use with roundslings.

Size	Single Part		Double Part	
	Min. Stock Dia (in)	Min. Width (in)	Min. Stock Dia (in)	Min. Width (in)
EN30	7/16	1	9/16	1 3/8
EN60	5/8	1 3/8	7/8	1 7/8
EN90	3/4	1 3/4	1 1/16	2 3/8
EN120	7/8	1 7/8	1 1/4	2 1/2
EN150	1	2	1 3/8	2 7/8
EN180	1 1/8	2 1/8	1 5/8	3
EN240	1 3/16	2 5/8	1 5/8	3 3/4
EN360	1 1/2	3 1/4	2	4 1/2
EN600	2	4	2 3/4	5 5/8
EN800	2 1/8	4 5/8	3	6 1/2
EN1000	2 1/2	5 1/4	3 1/2	7 3/8

ROUND SLING REMOVAL CRITERIA

Polyester Round Slings (ASME B30.9) - A synthetic round sling shall be removed from service if conditions such as the following are present:

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. Round slings that are knotted.
8. Discoloration and brittle or stiff areas on any part of the slings, which 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. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Melting or Charring

Illegible Tag

Knots

Snags & Punctures

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ENDLESS ROUND SLINGS

Roundslings are lightweight and high capacity alternative to heavier wire rope and chain. They are flexible and easy to handle with a seamless tubular construction. Capacities are classified by color code for quick identification of capacity.

Round Sling Part Number Breakdown

EN 60 x 10

TYPE OF SLING
EN, EE, SOS, DOS, QOS

SLING SIZE CODE
30, 60, 90, 120
150, 180, 240
300, 360, 400
600, 800, 1000

LENGTH
3 Foot Through
20 Foot Standard

NOTE: 2 letter code (AA, AB, AC, etc...) after size code will be used to specify custom slings.

Part Number	Color Code	Approx. Body Dia. (in)	Minimum Length (ft)	Working Load Limit (lbs.)		
				Vertical	Choker	V. Basket
EN30	Purple	5/8	2	2,600	2,100	5,200
EN60	Green	7/8	2	5,300	4,200	10,600
EN90	Yellow	1 1/8	3	8,400	6,700	16,800
EN120	Tan	1 1/8	3	10,600	8,500	21,200
EN150	Red	1 3/8	3	13,200	10,600	26,400
EN180	White	1 3/8	3	16,800	13,400	33,600
EN240	Blue	1 3/4	3	21,200	17,000	42,400
EN300	Orange	2	6	25,000	20,000	50,000
EN360	Orange	2 1/4	6	31,000	24,800	62,000

When ordering specify Length • Features Double Wall Jacket • Design factor is minimum 5 to 1

EYE TO EYE ROUND SLINGS

All the features of an endless but with an additional jacket creating two color coded lifting eyes. The protective jacket can extend the life of the sling if abrasion to the body is a problem.

Part Number	Color Code	Body Width at Load (in)	Minimum Length (ft)	Standard Eye Length (in)	Working Load Limit (lbs.)		
					Vertical	Choker	V. Basket
EE30	Purple	2 1/4	4	10	2,600	2,100	5,200
EE60	Green	2 1/2	4	10	5,300	4,200	10,600
EE90	Yellow	2 1/2	4	12	8,400	6,700	16,800
EE120	Tan	3 1/2	5	12	10,600	8,500	21,200
EE150	Red	3 1/2	5	14	13,200	10,600	26,400
EE180	White	3 3/4	7	16	16,800	13,400	33,600
EE240	Blue	4 1/4	7	16	21,200	17,000	42,400
EE300	Orange	5	7	20	25,000	20,000	50,000
EE360	Orange	6	7	20	31,000	24,800	62,000

When ordering specify Length • Features Double Wall Jacket • Design factor is minimum 5 to 1

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ROUND SLING BRIDLES & HOOKS

Bridle slings feature combinations of links and hook hardware. Hardware connections provide for the efficient handling of loads with fixed lifting points.

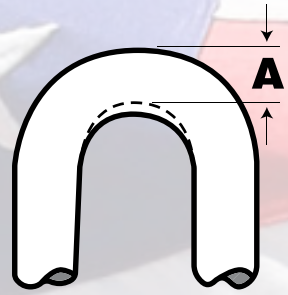
Part Number	Color Code	Number of Legs	Minimum Reach (ft)	Capacity (lbs.)		Oblong Link Dia. (in.)	Sling Hook Size
				Vertical	Basket		
SOS-EE30	Purple	1	4	2,600	5,200	5/8	2.75T (9/32)
SOS-EE60	Green	1	4	5,300	10,600	3/4	4.5T (3/8)
SOS-EE90	Yellow	1	4	8,400	16,800	7/8	7T (1/2)
SOS-EE120	Tan	1	4	10,600	21,200	7/8	11T (5/8)

Part Number	Color Code	Number of Legs	Minimum Reach (ft)	Capacity (lbs.)			Oblong Link Dia. (in.)	Sling Hook Size
				60°	45°	30°		
DOS-EE30	Purple	2	4	4,500	3,600	2,600	3/4	2.75T (9/32)
DOS-EE60	Green	2	4	9,100	7,400	5,300	7/8	4.5T (3/8)
DOS-EE90	Yellow	2	4	14,500	11,800	8,400	1	7T (1/2)
DOS-EE120	Tan	2	5	18,300	14,900	10,600	1 1/4	11T (5/8)

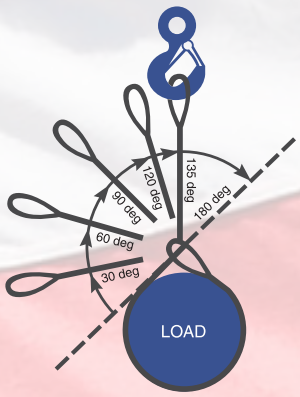
CHAIN SLING SAFETY INFORMATION

Grade 100 Heat Conditions		
Temperature exposure to chain (F)	**Reduction of Working Load Limit while at Temperature**	**Reduction of Working Load Limit after exposure to Temperature**
Below 400°	None	None
400°	15%	None
500°	25%	5%
600°	30%	15%
700°	40%	20%
800°	50%	25%
900°	60%	30%
1000°	70%	35%
Over 1000°	Remove from Service	Remove from Service

Chain Size (in)	Minimum Allowable Thickness - A (in)
7/32	0.189
9/32	0.239
3/8	0.342
1/2	0.443
5/8	0.546
3/4	0.687
7/8	0.75
1	0.887
1 1/4	1.091



Angle of Choke Degree	Rated Capacity %
Over 120	100
90-120	87
60-89	74
30-59	62
0-29	49



General Hook & Latch Guidelines Important Safety Information

- Always inspect hook & latch before using.
- Never use a latch that is distorted or bent.
- Always make sure the spring will force the latch against the tip of the hook.
- Always make sure hook supports the load.
- Do not point load hooks - load should bear on the bowl of hook. The latch must NEVER support the load. (See Figure 1 & 2).
- Latches are intended to retain a loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device.

Fig. 1

Fig. 2

CHAIN SLING REMOVAL CRITERIA

Alloy Steel Chain Slings (ASME B30.9) - An alloy steel chain sling shall be removed from service if conditions such as the following 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 spatter.
10. For hooks, removal criteria as stated in ASME B30.10
11. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Weld Spatter

Excessive Wear, Nicks or Gouges

Stretched Master Link

Bent, Twisted or Deformed Hardware

GENERAL CHAIN SLING INFORMATION

Chain slings are made of grade 100 alloy steel.
They have maximum abrasion and corrosion resistance.
All alloy chain slings meet or exceed ASME B30.9, OSHA and NACM standards.

GRADE 80							
Chain Size (in.)	Single Leg	Double Leg			Triple & Quad Leg		
	90°	60°	45°	30°	60°	45°	30°
7/32	2,100	3,600	3,000	2,100	5,500	4,400	3,200
9/32	3,500	6,100	4,900	3,500	9,100	7,400	5,200
3/8	7,100	12,300	10,000	7,100	18,400	15,100	10,600
1/2	12,000	20,800	17,000	12,000	31,200	25,500	18,000
5/8	18,100	31,300	25,600	18,100	47,000	38,400	27,100
3/4	28,300	49,000	40,000	28,300	73,500	60,000	42,400
7/8	34,200	59,200	48,400	34,200	88,900	72,500	51,300
1	47,700	82,600	67,400	47,700	123,900	101,200	71,500
1 1/4	72,300	125,200	102,200	72,300	187,800	153,400	108,400

GRADE 100							
Chain Size (in.)	Single Leg	Double Leg			Triple & Quad Leg		
	90°	60°	45°	30°	60°	45°	30°
7/32	2,700	4,700	3,800	2,700	7,000	5,700	4,000
9/32	4,300	7,400	6,100	4,300	11,200	9,100	6,400
3/8	8,800	15,200	12,400	8,800	22,900	18,700	13,200
1/2	15,000	26,000	21,200	15,000	39,000	31,800	22,500
5/8	22,600	39,100	32,000	22,600	58,700	47,900	33,900
3/4	35,300	61,100	49,900	35,300	91,700	74,900	53,000
7/8	42,700	74,000	60,400	42,700	110,900	90,600	64,000
1	59,600	103,200	84,200	59,600	154,800	126,400	89,300

Chain Sling Part Number Breakdown

3/8 D O S A 10 x 8

SIZE OF CHAIN
7/32", 9/32", 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/4"

NUMBER OF LEGS
S=Single, D=Double
T=Triple, Q=Quad

TOP FITTING
S,O,G

END FITTING
S,O,G,F,L,P,W

ADJUSTER STYLE (IF ANY)
A=Attached Close to Coupling Link
B=Any Chain Length Specified (12" Chain Length is Standard)

CHAIN GRADE
8=Grade 80
10=Grade 100

REACH
Desired Distance Between Bearing Points

CHAIN SLING TYPES

Single Leg

Double Leg

Triple Leg

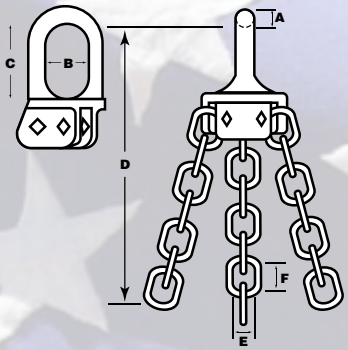
Quad Leg

CHAIN SLING TYPES – MAGNET CHAIN SLINGS

Single & Double Basket Slings

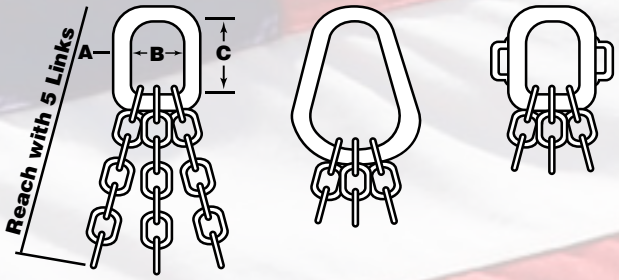
Chain Adjuster Styles

Steady Lift Magnet Chain



Part Number	Size of Chain	WLL (lbs.)	No. of Links	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	Assy. Wt. (lbs.)	Fits Magnet Diameter (in.)
537101600	1	100,000	5	2 1/4	7	12	43	3	7	235	Up to 60
537102000	1 1/4	150,000	7	2 1/2	7	12	55	3	7	375	60 and over

Standard Magnet Slings



Part Number	Size of Chain (in)	WLL (lbs.)	5 Link Reach (in.)	Master Link			End Links			
				A (in)	B (in)	C (in)	A (in)	B (in)	C (in)	Fits Magnet Diameter (in.)
537301000	5/8	47,000	30 5/8	1 3/4	6	10	7/8	2 1/4	5 1/2	Up to 40
537301200	3/4	73,500	34	2	6	10	1	2 1/2	6	Up to 45
537301400	7/8	88,900	36 7/8	2 1/4	6 1/2	11 1/2	1	2 1/2	6	Up to 48
537301600	1	123,900	40	2 1/4	6 1/2	11 1/2	1 1/4	3	7	Up to 60
537302000	1 1/4	187,800	45 1/2	2 1/2	6 1/2	12 3/4	1 1/2	3	7	60 and over


CHAIN ADJUSTER HOOKS

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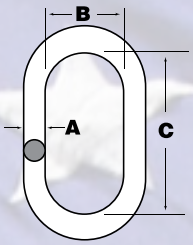
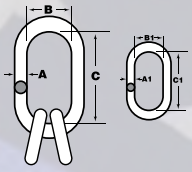
CHAIN HARDWARE

Oblong Master Links (O)



Part Number	Single Leg (in.)	Double Leg (in.)	WLL (lbs.)	A (in)	B (in)	C (in)	Weight (lbs/pc)
8451100	5/16	9/32	7,400	0.63	2.36	4.33	1.2
8451300	1/2	3/8	15,200	0.86	3.54	6.29	3.3
8451400	5/8	1/2	26,000	1.02	3.93	7.08	5.1
8451500	3/4	5/8	39,100	1.26	4.33	7.87	8.6
8451600	7/8	3/4	61,100	1.49	5.90	10.82	16.5
8451700	1	7/8	74,000	1.77	7.08	13.38	28.2

Sub-Assemblies (O)



Part Number	Chain Size (in.)	WLL (lbs.)	A (in)	B (in)	C (in)	A1 (in)	B1 (in)	C1 (in)	Weight (lbs/pc)
8452110	9/32	11,200	0.70	2.95	5.31	0.51	0.98	2.12	2.60
8452310	3/8	22,900	1.02	3.93	7.08	0.70	1.57	3.34	7.40
8452410	1/2	39,000	1.26	4.33	7.87	0.86	1.96	4.52	13.30
8452510	5/8	58,700	1.41	5.51	10.23	1.02	2.55	5.51	21.90
8452610	3/4	91,700	2.00	7.48	13.78	1.26	2.75	5.90	51.40
8452710	7/8	110,900	2.00	7.48	13.78	1.41	2.95	6.69	56.90

Eye Foundry Hook (F)

Eye Type Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Throat Opening (in)	Weight (lbs/pc)
8477200	9/32 - 5/16	5,700	4.92	2.52	2.03
8477400	3/8	8,800	5.90	2.99	3.90
8477600	1/2	15,000	6.81	3.50	6.22
8477700	5/8	22,600	8.26	4.01	11.09
8477800	3/4	35,300	10.23	4.48	16.76

CHAIN HARDWARE

Clevis Sling Hook w/Latch (S)

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Throat Opening w/Latch (in)	Weight (lbs/pc)
8418200	9/32	4,300	3.74	1.02	1.21
8418400	3/8	8,800	4.33	1.22	2.21
8418600	1/2	15,000	5.35	1.57	3.75
8418700	5/8	22,600	6.10	1.77	7.06
8418800	3/4	35,300	7.28	2.08	11.03
8418900	7/8	42,700	8.26	2.44	27.12

Eye Sling Hook w/Latch (S)

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Throat Opening w/Latch (in)	Weight (lbs/pc)
8417200	9/32 - 5/16	5,700	3.97	1.02	1.1
8417400	3/8	8,800	5.15	1.22	2.14
8417600	1/2	15,000	6.26	1.57	4.19
8417700	5/8	22,600	7.20	1.77	7.28
8417800	3/4	35,300	7.99	2.08	9.92
8417900	7/8	42,700	8.81	2.44	15.66

Safety Latch Kits

Part Number	Chain Size (in)	Use with part #'s
8410177	9/32	8417200, 8418200
8410277	3/8	8417400, 8418400
8410377	1/2	8417600, 8418600
8410477	5/8	8417700, 8418700
8410577	3/4	8417800, 8418800
8410677	7/8	8417900, 8418900

CHAIN HARDWARE

Coupling Link

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Weight (lbs/pc)
8453100	9/32	4,300	1.98	0.31
8453200	3/8	8,800	2.83	0.77
8453300	1/2	15,000	3.43	1.63
8453400	5/8	22,600	4.13	2.56
8453500	3/4	35,300	4.44	4.52
8453600	7/8	42,700	5.23	6.84

Cradle Clevis Grab Hook (G)

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Throat Opening (in)	Weight (lbs/pc)
8428200	9/32	4,300	2.57	0.39	0.97
8428400	3/8	8,800	3.14	0.51	2.12
8428600	1/2	15,000	4.15	0.66	4.63
8428700	5/8	22,600	4.40	0.74	7.5
8428800	3/4	35,300	4.64	0.92	11.47
8428900	7/8	42,700	6.06	1.02	17.2

Cradle Eye Grab Hook (G)

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Throat Opening (in.)	Weight (lbs/pc)
8427200	9/32 - 5/16	5,700	2.71	0.39	0.88
8427400	3/8	8,800	3.40	0.51	1.94
8427600	1/2	15,000	4.35	0.66	4.3
8427700	5/8	22,600	5.07	0.74	7.06
8427800	3/4	35,300	6.02	0.92	10.8
8427900	7/8	42,700	7.08	1.02	16.54

Cradle Eye Grab Shortening Hook w/Clevis Attachment (A)

Part Number	Chain Size (in)	WLL (lbs)	Reach (in)	Weight (lbs/pc)
8420200	9/32-5/16	5,700	4.60	1.35
8420400	3/8	8,800	5.82	2.69
8420600	1/2	15,000	7.28	5.62
8420700	5/8	22,600	9.13	10.80

CHAIN HARDWARE

Clevis Self Locking Hook (L)

Part Number	Chain Size (in.)	WLL (lbs.)	Reach (in.)	Throat w/Latch Open (in.)	Weight (lbs/pc)
8498200	9/32	4,300	4.84	1.33	2.09
8498400	3/8	8,800	5.63	1.77	3.53
8498600	1/2	15,000	7.08	2.00	7.06
8498700	5/8	22,600	8.46	2.36	13.23

Eye Self Locking Hook (L)

Part Number	Chain Size (in.)	WLL (lbs.)	Reach (in.)	Throat w/Latch Open (in.)	Weight (lbs/pc)
8497200	9/32	4,300	5.31	1.33	2.12
8497400	3/8	8,800	6.61	1.77	3.64
8497600	1/2	15,000	8.07	2.00	7.17
8497700	5/8	22,600	9.88	2.36	13.45

Swivel Self Locking Hook (W)

Part Number	Chain Size (in.)	WLL (lbs.)	Reach (in.)	Throat w/Latch Open (in.)	Weight (lbs/pc)
8499200	9/32	5,700	7.16	1.33	2.43
8999400	3/8	8,800	8.54	1.77	4.41
8499600	1/2	15,000	10.66	2.12	8.82
8499700	5/8	22,600	12.59	2.44	14.99

Plate Hook (P)

Part Number	Chain Size (in.)	WLL (lbs.)	Weight (lbs/pc)
593400400	9/32	3,500	2.80
593400600	3/8	7,100	5.70
593400800	1/2	12,000	13.00
593401000	5/8	18,100	26.50
593401200	3/4	28,300	42.00
593401400	7/8	34,200	65.00

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WIRE ROPE SLING REMOVAL CRITERIA

Wire Rope Slings (ASME B30.9) - A wire rope sling shall be removed from service if conditions such as the following are present:

1. Missing or illegible sling identification.
2. Broken Wires:
   - For strand-laid and single-part slings, ten randomly distributed broken wires in one rope lay, or five broken wires in one stand in one rope lay.
   - For cable-laid slings, 20 broken wires per lay.
   - For six-part braided slings, 20 broken wires per braid
   - For eight-part 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 at stated in ASME B30.10.
9. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Abrasion or Scraping

Kinking or Crushing

Stretched Master Link

Bent, Twisted or Deformed Hardware

WIRE ROPE SLINGS

Wire rope slings are rugged and reliable with Flemish eye splice and carbon steel sleeves that offer safety for your lift application. Thimbles greatly improve sling longevity by protecting the rope at connection points. All wire rope slings meet or exceed ASME B30.9 and OSHA standards.

Wire Rope Sling Part Number Breakdown

W1/4 619 EE x 12

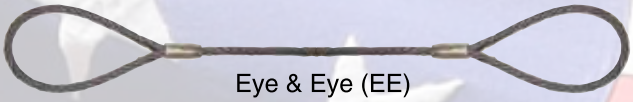
ROPE DIAMETER
W1/4, W5/16, W3/8, W1/2
W5/8,W3/4, W7/8, W1

ROPE CONSTRUCTION
619=6x19 IWRC
637=6x37 IWRC

TYPE OF SLING
EE, TT, EH, TH
SOS, DOS, TOS,QOS

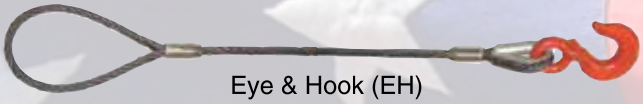
LENGTH
Any length desired
for the application.

NOTE: Include a D at end of number for domestic rope.

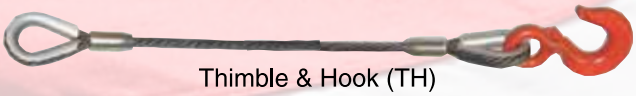


Eye & Eye (EE)

Thimble & Thimble (TT)



Eye & Hook (EH)



Thimble & Hook (TH)

Single Leg Wire Rope Sling Capacity Chart

				EIPS IWRC Rated Capacity (tons)			
Wire Rope Class	Rope Dia. (in.)	Eye Size (in.)	Min. Sling Length (ft.)	Vertical	Choker	V. Basket	Hook (tons)
6x19 EIPS IWRC	1/4	2 x 4	1'-6"	0.65	0.48	1.3	1
	5/16	2-1/2 x 5	2'-0"	1	0.75	2	1
	3/8	3 x 6	2'-0"	1.4	1.1	2.9	2
	1/2	4 x 8	2'-6"	2.5	1.9	5.1	3
	5/8	5 x 10	3'-0"	3.9	2.9	7.8	4.5
	3/4	6 x 12	3'-6"	5.6	4.1	11	7
	7/8	7 x 14	4'-0"	7.6	5.6	15	7.5
	1	8 x 16	4'-6"	9.8	7.2	20	10

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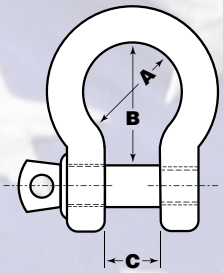
ANCHOR SHACKLES

- Meet or Exceed FED SPEC RR-C-271
- Meet ASME B30.26 Requirements
- Forged Carbon or Alloy Steel Body
- Hot Dip Galvanized to ASTM A153
- Proof Load at 2 times the Working Load Limit
- Ultimate Load at 6 times the Working Load Limit

Screw Pin Anchor Shackles

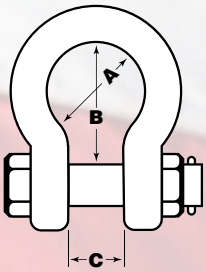
Ideal for applications where frequent pin removal is needed. Forged, Quenched and Tempered Galvanized Alloy Steel Body and Pins.



Part Number	Size (in.)	WLL (ton)	Pin Diameter (in.)	A (in)	B (in)	C (in)
8058203	1/4	3/4	5/16	3/4	1 1/8	7/16
8058303	5/16	1	3/8	13/16	1 1/4	1/2
8058403	3/8	2	7/16	15/16	1 9/16	5/8
8058503	1/2	3 1/3	5/8	1 3/16	1 7/8	13/16
8058603	5/8	5	3/4	1 1/2	2 7/16	1 1/16
8058703	3/4	7	7/8	1 3/4	2 7/8	1 1/4
8058803	7/8	9 1/2	1	2	3 5/16	1 1/2
8058903	1	12 1/2	1 1/8	2 5/16	3 3/4	1 11/16
8059003	1 1/4	18	1 3/8	2 7/8	4 11/16	2 3/16
8059103	1 1/2	30	1 5/8	3 3/8	5 3/4	2 3/8
8059403	1 3/4	40	2	4 1/2	7	2 7/8
8059503	2	50	2 1/4	5 1/4	7 3/4	3 1/4

Safety Pin Anchor Shackles

Complete with bolt, nut and cotter pin; Overhead lifting applications where pin removal is minimal. Forged, Quenched and Tempered Galvanized Carbon Steel Body and Alloy Pins.



Part Number	Size (in.)	WLL (tons)	Pin Diameter (in.)	A (in)	B (in)	C (in)
8063105	1/4	1/2	5/16	3/4	1 1/8	7/16
8063205	5/16	3/4	3/8	13/16	1 1/4	1/2
8063305	3/8	1	7/16	15/16	1 7/16	5/8
8063505	1/2	2	5/8	1 3/16	1 7/8	13/16
8063605	5/8	3 1/4	3/4	1 1/2	2 7/16	1 1/16
8063705	3/4	4 3/4	7/8	1 3/4	2 7/8	1 1/4
8063805	7/8	6 1/2	1	2	3 5/16	1 7/16
8063905	1	8 1/2	1 1/8	2 5/16	3 3/4	1 11/16
8064105	1 1/4	12	1 3/8	2 7/8	4 11/16	2 3/16
8064305	1 1/2	17	1 5/8	3 3/8	5 3/4	2 3/8
8064405	1 3/4	25	2	4 1/2	7	2 7/8
8064505	2	35	2 1/4	5 1/4	7 3/4	3 1/4

CARGO SECUREMENT SAFETY INFORMATION

RECOMMENDED OPERATING PRACTICES FOR TIE-DOWNS

- Select a synthetic web tie-down having suitable characteristics for the type of load, environment and attachment to vehicle anchor point. Fittings shall have the required shape and size to attach properly to the vehicle anchor points.
- Identify the working load limit (WLL) marked on the synthetic web tie-down by the manufacturer. If the required markings are illegible or missing, remove from service. Read all warnings and/or instructions provided by the manufacturer.
- Identify the working load limit (WLL) of the vehicle anchor points. If no rating is visible contact the vehicle manufacturer for tie-down instructions. The lesser-rated working load limit (WLL), whether that is the anchor point or the synthetic web tie-down, shall determine the working load limit (WLL) of the securement system.
- Synthetic web tie-downs shall be attached to the vehicle and positioned in accordance with applicable regulations for the commodity being transported to prevent against shifting and/or loss of cargo.
- Synthetic web tie-downs should not be dropped or dragged on the floor, ground or any abrasive surface.
- Synthetic web tie-downs shall not be shortened, joined, repaired or lengthened by being tied into knots.
- Synthetic web tie-downs should not be pulled from under cargo when the cargo is resting on the tie-down.
- Synthetic web tie-downs shall always be protected from corners, edges, protrusions, and abrasive surfaces with edge protection that resists abrasion, cutting or crushing.
- Synthetic web tie-downs designed to secure cargo shall not be used for lifting, lowering or suspending cargo or for towing.
- Before operating any synthetic web tie-down assembly the user shall secure his footing to prevent slipping or falling. In adverse weather conditions, including freezing temperatures, additional weather conditions, including freezing temperatures, additional caution should be exercised.
- When using winch or ratchet straps a minimum of two (2) and a maximum of four (4) wraps of webbing shall be on the winch or ratchet mandrel. Excessive wraps of webbing on the mandrel may reduce the working load limit (WLL) of the synthetic web tie-down and may interfere with proper operation.
- Synthetic web tie-downs shall be used, inspected and adjusted during the transportation of cargo per applicable federal, state, provincial, local and industry regulations.

ADDITIONAL TIEDOWNS REQUIRED

Additional tie-downs may be required based on the specific vehicle, cargo, tie-downs, and securement configuration involved. The individual securing the load ultimately takes responsibility for proper cargo securement.

If the cargo is prevented from moving forward by a headerboard, bulkhead, other secured cargo, or other appropriate blocking devices, then you must use at least one tie-down for every 10 feet of cargo or part thereof.

If forward movement is NOT prevented, then you must use at least the following number of tie-downs, based on 49 CFR §393.110(b};

IF THE ARTICLE IS	USE AT LEAST
5 Feet or Shorter and 1,100 Pounds or Lighter	1 Tiedown
5 Feet or Shorter and Over 1,100 Pounds	2 Tiedowns
Longer than 5 Feet but less than or equal to 10 Feet No Matter the Weight	2 Tiedowns
Longer than 10 Feet	2 Tiedowns, plus 1 additional for every additional 10 feet or part thereof

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CARGO SECUREMENT REMOVAL CRITERIA

The entire tie down must be inspected before each use and it shall be removed from service if ANY of the following are detected:

- If tie down identification tag is missing or not readable.
- Holes, tears, cuts, snags or embedded materials.
- Broken or worn stitches in the load bearing splices.
- Knots in any part of the webbing.
- Acid or alkali burns.
- Melting, charring or weld spatters on any part of the webbing.
- Excessive abrasive wear or crushed webbing.
- Signs of ultraviolet (UV) light degradation.
- Distortion, excessive pitting, corrosion or other damage to buckles or end fitting(s).
- Any conditions which cause doubt as to the strength of the tie down.

SNAGS

MELTING OR CHARRING

KNOTS

CUTTING

1 & 2 INCH RATCHET STRAPS

Ratchet Straps are easy to use and quickly tighten to the contour of the load. Our ratchet straps are fabricated with high strength polyester webbing that has been treated for abrasion resistance. All ratchet straps are labeled to meet CVSA guidelines, CHP standards, DOT regulations and WSTDA recommended standards.

1 Inch Ratchet Straps

Part Number	Strap Length	Buckle Style	End Fittings	Working Load Limit (lbs.)
R2706SH	6'	Ratchet	Coated S-Hook	800
R2715SH	15'	Ratchet	Coated S-Hook	800
R2706WH	6'	Ratchet	Coated Wire Hook	800
R2715WH	15'	Ratchet	Coated Wire Hook	800
CB506SH	6'	Cam	Coated S-Hook	500
CB515SH	15'	Cam	Coated S-Hook	500
CB506WH	6'	Cam	Coated Wire Hook	500
CB515WH	15'	Cam	Coated Wire Hook	500

2 Inch Ratchet Straps

Part Number	Strap Length	Buckle Style	End Fittings	Working Load Limit (lbs.)
R5027FH	27'	Long Wide Ratchet	Flat Hook	3,335
R5030FH	30'	Long Wide Ratchet	Flat Hook	3,335
R5027WH	27'	Long Wide Ratchet	Wire Hook	3,335
R5030WH	30'	Long Wide Ratchet	Wire Hook	3,335
R5027CE	27'	Long Wide Ratchet	18" Chain Extension	3,335
R5030CE	30'	Long Wide Ratchet	18" Chain Extension	3,335
R5027FSH	27'	Long Wide Ratchet	Flat Snap Hook	3,335
R5030FSH	30'	Long Wide Ratchet	Flat Snap Hook	3,335
R5027TSH	27'	Long Wide Ratchet	Twisted Snap Hook	3,335
R5030TSH	30'	Long Wide Ratchet	Twisted Snap Hook	3,335
R5027DR	27'	Long Wide Ratchet	Stamped D-Ring	3,335
R5030DR	30'	Long Wide Ratchet	Stamped D-Ring	3,335

Self Contained Ratchet Straps

Part Number	Web Width	Strap Length	End Fittings	Working Load Limit (lbs.)
SCR2706SH	1"	6'	Coated S-Hook	800
SCR2715SH	1"	15'	Coated S-Hook	800
SCR5027FH	2"	27'	Flat Hook	3,335
SCR5030FH	2"	30'	Flat Hook	3,335
SCR5027WH	2"	27'	Wire Hook	3,335
SCR5030WH	2"	30'	Wire Hook	3,335
SCR5027CE	2"	27'	Chain Extension	3,335
SCR5030CE	2"	30'	Chain Extension	3,335

AUTO TRANSIT & AXLE STRAPS

Part Number	Description	Web Width (in)	Strap Length (ft)	Buckle Style	End Fittings	Working Load Limit (lbs.)
R5406FSH	Auto Transit	2	6	Short Handle Ratchet	Flat Snap Hooks	3,335
R5408FSH	Auto Transit	2	8	Short Handle Ratchet	Flat Snap Hooks	3,335
R5406TSH	Auto Transit	2	6	Short Handle Ratchet	Twisted Snap Hooks	3,335
R5408TSH	Auto Transit	2	8	Short Handle Ratchet	Twisted Snap Hooks	3,335
AXLE 2	2' Axle Strap w/ cordura wear pad	2	2	N/A	Stamped D-Rings	3,335
AXLE 3	3' Axle Strap w/ cordura wear pad	2	3	N/A	Stamped D-Rings	3,335

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3 & 4 INCH RATCHET STRAPS

3 Inch Ratchet Straps

Part Number	Strap Length	Buckle Style	End Fittings	Working Load Limit (lbs.)
R7527FH	27’	Long Handle Ratchet	Flat Hook	5,400
R7530FH	30’	Long Handle Ratchet	Flat Hook	5,400
R7527WH	27’	Long Handle Ratchet	Wire Hook	5,400
R7530WH	30’	Long Handle Ratchet	Wire Hook	5,400
R7527CE	27’	Long Handle Ratchet	18” Chain Extension	5,400
R7530CE	30’	Long Handle Ratchet	18” Chain Extension	5,400
R7527DR	27’	Long Handle Ratchet	Forged D-Ring	5,400
R7530DR	30’	Long Handle Ratchet	Forged D-Ring	5,400

4 Inch Ratchet Straps

Part Number	Strap Length	Buckle Style	End Fittings	Working Load Limit (lbs.)
R10027FH	27’	Long Handle Ratchet	Flat Hook	5,400
R10030FH	30’	Long Handle Ratchet	Flat Hook	5,400
R10027WH	27’	Long Handle Ratchet	Wire Hook	6,600
R10030WH	30’	Long Handle Ratchet	Wire Hook	6,600
R10027CE	27’	Long Handle Ratchet	18” Chain Extension	5,400
R10030CE	30’	Long Handle Ratchet	18” Chain Extension	5,400
R10027DR	27’	Long Handle Ratchet	Forged D-Ring	5,400
R10030DR	30’	Long Handle Ratchet	Forged D-Ring	5,400

Ordering Notes

When ordering 1” straps, a 9” fixed end is standard. Standard webbing color is Black; other colors including Blue and Camo are available.

When ordering 2”, 3”, or 4” straps, an 18” fixed end is standard, except the chain extension straps which have a 33” fixed end. Standard webbing color is a highly visible yellow webbing. All our 2”, 3” and 4” tie-down straps are made of polyester webbing with special edge yarns that provide superb resistance to wear for longer assembly life.
All Royal Arc working load limits are based on 1/3 of the assembly breaking strength. All ratings are based on a straight tensile pull.

⚠ WARNING

U.S. Department of Transportation regulations, 49 CFR, Part 393, Paragraph 393.102(b) requires that: “The aggregate working load limit of the tie down assemblies used to secure an article against movement in any direction must be at least 1/2 times the weight of that article.”

WINCH STRAPS

Part Number	Web Width	Strap Length	End Fitting	Working Load Limit (lbs.)
WS227FH	2”	27’	Flat Hook	3,335
WS230FH	2”	30’	Flat Hook	3,335
WS227WH	2”	27’	Wire Hook	3,335
WS230WH	2”	30’	Wire Hook	3,335
WS227CE	2”	27’	18” Chain Extension	3,335
WS230CE	2”	30’	18” Chain Extension	3,335
WS327FH	3”	27’	Flat Hook	5,400
WS330FH	3”	30’	Flat Hook	5,400
WS327WH	3”	27’	Wire Hook	5,400
WS330WH	3”	30’	Wire Hook	5,400
WS327CE	3”	27’	18” Chain Extension	5,400
WS330CE	3”	30’	18” Chain Extension	5,400
WS327DR	3”	27’	Stamped D-Ring	5,400
WS330DR	3”	30’	Stamped D-Ring	5,400
WS327	3”	27’	For winch to winch	5,400
WS330	3”	30’	For winch to winch	5,400
WS427FH	4”	27’	Flat Hook	5,400
WS430FH	4”	30’	Flat Hook	5,400
WS427WH	4”	27’	Wire Hook	6,600
WS430WH	4”	30’	Wire Hook	6,600
WS427CE	4”	27’	18” Chain Extension	5,400
WS430CE	4”	30’	18” Chain Extension	5,400
WS427DR	4”	27’	Stamped D-Ring	5,400
WS430DR	4”	30’	Stamped D-Ring	5,400
WS427	4”	27’	For winch to winch	5,400
WS430	4”	30’	For winch to winch	5,400

Winch straps provide the strength and durability demanded in flatbed tie-down applications. All winch straps are labeled to meet CVSA guidelines, CHP standards, DOT regulations and WSTDA recommended standards.

⚠ WARNING

U.S. Department of Transportation regulations, 49 CFR, Part 393, Paragraph 393.102(b) requires that: “The aggregate working load limit of the tie down assemblies used to secure an article against movement in any direction must be at least 1/2 times the weight of that article.”

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E-SERIES LOGISTIC STRAPS & HARDWARE

Logistic straps are designed for use in interior van loading requirements.
All standard logistic straps have a 4' fixed end and adjustable ends are sewn captivated.
Logistic strap webbing is color coded to length: 12 ft = Yellow, 16 ft = grey, 20 ft = Blue.

Part Number	Web Width (in)	Strap Length (ft)	Buckle Style	End Fittings	Working Load Limit (lbs.)
R5312SEF	2	12	Interior Ratchet	Spring E-Fitting	1,466
R5316SEF	2	16	Interior Ratchet	Spring E-Fitting	1,466
R5320SEF	2	20	Interior Ratchet	Spring E-Fitting	1,466
CB312SEF	2	12	Cam	Spring E-Fitting	800
CB316SEF	2	16	Cam	Spring E-Fitting	800
CB320SEF	2	20	Cam	Spring E-Fitting	800

EFR-2

Part Number	Description	Break Strength (lbs.)
RTO-6	6" Rope Tie-Off w/ spring e-fitting & d-ring	4,400
EFR-2	E-track fitting w/ 2" Round Ring	5,500
HET-5P	5 foot section of 12 gauge steel horizontal e-track (painted)	
WBES	Wood beam end socket	

HET-5P

RTO-6

WBES

TIE DOWN HARDWARE

1 INCH TIE DOWN HARDWARE	
Description	**Break Strength (lbs.)**
Coated S-Hook	2,400
Light Duty Coated S-Hook	1,500
Standard Cam Buckle	1,500
Light Duty Cam Buckle	550
Self Contained Wide Handle Ratchet	4,400
Wide Handle Ratchet	4,400
Wide Handle Ratchet	3,300

2 INCH TIE DOWN HARDWARE	
Description	**Break Strength (lbs.)**
Flat Hook	11,000
Flat Snap Hook	11,000
Twisted Snap Hook	11,000
18” Chain Extension	16,200
Grab Hook w/ Pear Link	16,200
Wire Hook	6,600
Wire Hook (3 3/8" ovr)	11,000
Wire Hook (4 3/8" ovr)	11,000
Swivel J-Hook	11,000
Rubber Block	N/A
Web Adjuster	10,000
Stamped D-Ring	10,000
Cluster Hook	11,000
Cam Buckle	2,420
Wide Handle Ratchet w/ Swivel Hook	11,000
Interior Wide Handle Ratchet	4,400
Short Standard Handle Ratchet	11,000
Self Contained Wide Handle Ratchet	11,000
Long Wide Handle Ratchet	11,000

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TIE DOWN HARDWARE


FLAT HOOK

3 Inch Hardware	
Description	**Break Strength (lbs.)**
Flat Hook	17,600
Wire Hook	22,000
18” Chain Extension	16,200
Forged Delta Ring	18,000
Long Handle Ratchet	22,000


GRAB HOOK
W/PEAR LINK


WIRE HOOK


CHAIN
EXTENSION

4 Inch Hardware	
Description	**Break Strength (lbs.)**
Flat Hook	17,600
Wire Hook	22,000
18” Chain Extension	16,200
Forged Delta Ring	20,000
Long Handle Ratchet	22,000


FORGED DELTA RING

FLATBED ACCESSORIES

We offer a variety of Flatbed accessories including: plastic & steel corner protectors, coil racks, coil eye protectors, rubber tarp ties, anti-slip mats and more.


SCP-26


PCP-25


PCP-48

Part Number	Description
SCP-26	4” x 4” Steel corner protector for chain
PCP-25	4” Plastic corner protector
PCP-48	4 Foot section of heavy duty plastic corner protector
CR-26	Heavy duty coil rack 3” wide x 34” Ovr. Length

Winch & Winch Bars

Winches provide a method for securing cargo on flatbed trailers and other vehicles. All winches are designed to meet DOT regulations, WSTDA standards and Canadian 905 regulations. Winch bars feature a knurled non-slip handle and a tapered head for easy operation.

Part Number	Description
TW410	Standard weld on winch 5,500 LB WLL
TW411	Standard portable winch 5,500 LB WLL
SCWB	35 inch Standard chrome winch bar
CCWB	Combination chrome winch bar


TW410


TW411


SCWB

G70 TRANSPORT CHAIN

Versatile and quality made chain assemblies offer heavy duty transport securement. All our grade 70 transport chain meets or exceeds National Association of Chain Manufactures (NACM) standards. G70 transport chain is also available in bulk drums.

DOMESTIC			
Part Number	**Description**	**WLL (lbs.)**	**Weight (lbs/pc)**
5261163	5/16" x 16'	4700	17
5261363	5/16" x 20'	4700	21
5261463	5/16" x 25'	4700	26
5262163	3/8" x 16'	6600	24
5262363	3/8" x 20'	6600	30
5262463	3/8" x 25'	6600	37
8605182	1/2" x 20'	11,300	51

G70 HOOKS				
Part Number	**Description**	**Size of G70 Chain (in.)**	**WLL (lbs.)**	**Weight (lbs/pc)**
8022355	Clevis Grab Hook	5/16"	4,700	0.72
8022455	Clevis Grab Hook	3/8"	6,600	1.15
8022655	Clevis Grab Hook	1/2"	11,300	2.61
8015375	Clevis Slip Hook with Latch	5/16"	4,700	0.87
8015475	Clevis Slip Hook with Latch	3/8"	6,600	1.3
8015675	Clevis Slip Hook with Latch	1/2"	11,300	2.85

G70 CHAIN REFERENCE CHART

This chart indicates the minimum number of indirect tie-downs (tie-downs with both ends attached to opposite sides of vehicle) needed to secure a load based only on the loads weight. Note: Additional tie-downs may be needed based on the size of the load and/or your overall securement system.

GRADE OF CHAIN	SIZE (in.)	WLL (lbs.)	Weight of Load (lbs.)									
			5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	45,000	50,000
Grade 70 Transport	5/16	4,700	1	2	2	3	3	4	4	5	5	6
	3/8	6,600	1	1	2	2	2	3	3	4	4	4
	1/2	11,300	1	1	1	1	2	2	2	2	2	3

CHAIN LOAD BINDERS

DB LOAD BINDERS						
Part Number	**Type**	**Size of G70 Chain (in)**	**TakeUp (in)**	**Handle Length (in)**	**WLL (lbs)**	**Weight (lbs/pc)**
DB-II	Lever	5/16-3/8	4.5	16	5,400	9
DF-7100	Lever	5/16-3/8	4.5	16	7,100	9
DB-III	Lever	3/8-1/2	4.5	18	9,200	13
LDR-38	Ratchet	5/16-3/8	6	12.75	5,400	9.4
DR-1-7300	Ratchet	5/16-3/8	8	15.5	7,300	12.2
DR-2	Ratchet	3/8-1/2	8	15.5	12,000	14.6

Chain Load Binders are made of formed steel, providing a quality chain binder at a competitive price. They are for use with Grade 70 transport chain assemblies. They are available in Lever, Compression Spring and Ratchet models. All load binders meet or exceed NACM, FMCSA & CVSA standards.

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RECOVERY & TOW STRAPS

Recovery straps are made from heavy duty polyester webbing with sewn eyes wrapped with Cordura® for abrasion resistance.

Part Number	Description	Web Width	Strap Length	End Fittings	Capacity (lbs.)	Tensile Strength (lbs.)
RAW-2-220	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	2”	20’	Eyes	13,066	39,200
RAW-2-230	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	2”	30’	Eyes	13,066	39,200
RAW-2-320	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	3”	20’	Eyes	19,600	58,800
RAW-2-330	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	3”	30’	Eyes	19,600	58,800
RAW-2-420	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	4”	20’	Eyes	26,133	78,400
RAW-2-430	2 PLY Recovery Strap w/ CORDURA® reinforced eyes for wear	4”	30’	Eyes	26,133	78,400
RS210TH	Tow Strap Polyester Web	2”	10’	Hook	3,335	10,000
RS215TH	Tow Strap Polyester Web	2”	15’	Hook	3,335	10,000
RS220TH	Tow Strap Polyester Web	3”	20’	Hook	3,335	10,000
RS230TH	Tow Strap Polyester Web	3”	30’	Hook	3,335	10,000

⚠ WARNING ⚠

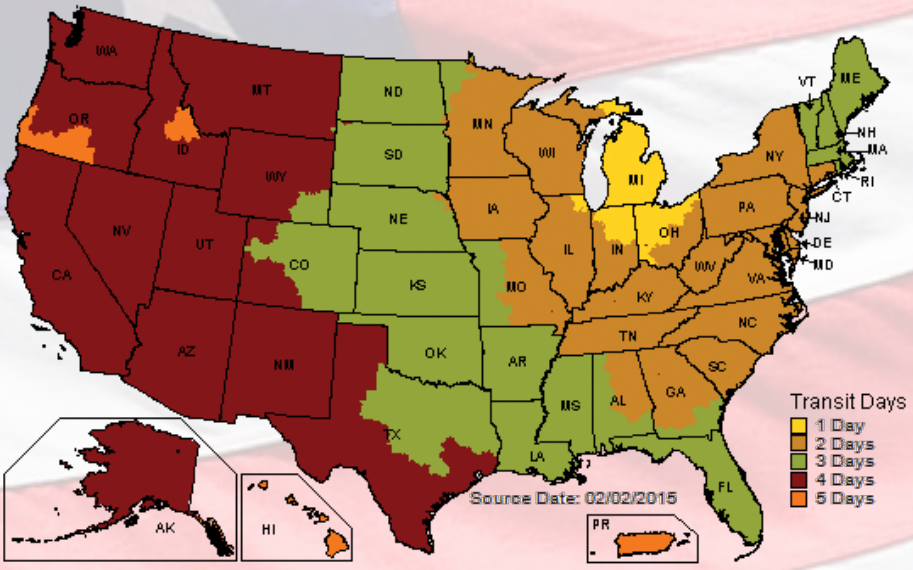
Inspect before each use. Do not use a damaged strap. Avoid dragging the strap. Do not tie strap into knots. Do not attach strap to bumpers. Avoid contact with hot exhaust systems. Do not exceed Strap Work Load Limits. Attachment points must be suitable for the application and should exceed the break strength of the strap. Detached connection points can become deadly projectiles. Stand far away from the vehicle and strap while under tension. Never stand near or in line of a strap under tension. DO NOT SHOCK LOAD THE STRAP. You must take into account all factors such as suction and incline to ensure that you maintain control of all materials and components used for recovery, including dynamic loading and tension if you are not capable of determining loading factors, use load measuring devices or equipment controls to avoid overloading. If these options are not available, DO NOT USE THE VEHICLE STRAP. IMPROPER USE MAY RESULT IN INJURY, DEATH AND/OR PROPERTY DAMAGE. Avoid edges or surfaces that could damage the strap. Use protection to prevent damage to the strap. Store strap in a cool, dark, dry location, free of environmental and mechanical damage. Remove the strap from service and do not use for any application, if any of the following are visible:
Acid or Caustic Burn, Melting or Charring of any part of the strap, Ultraviolet/Sunlight Damage, Broken or worn stitching, Excessive Abrasive, Wear Holes, Tears, Cuts, Snags or Punctures and/or other visible damage that causes doubt as to the strength of the strap.

FRACTION AND DECIMAL CONVERSION TABLE

Fraction	Inches	Millimeters
1/32	0.031	0.8
1/16	0.063	1.59
3/32	0.094	2.38
1/8	0.125	3.18
5/32	0.156	3.97
3/16	0.188	4.76
7/32	0.219	5.56
1/4	0.25	6.35
9/32	0.281	7.14
5/16	0.313	7.94
11/32	0.344	8.73
3/8	0.375	9.53
13/32	0.406	10.32
7/16	0.438	11.11
15/32	0.469	11.91
1/2	0.5	12.7

Fraction	Inches	Millimeters
17/32	0.531	13.49
9/16	0.563	14.29
19/32	0.594	15.08
5/8	0.625	15.88
21/32	0.656	16.67
11/16	0.688	17.46
23/32	0.719	18.26
3/4	0.75	19.05
25/32	0.781	19.84
13/16	0.813	20.64
27/32	0.844	21.43
7/8	0.875	22.23
29/32	0.906	23.02
15/16	0.938	23.81
31/32	0.969	24.61
1	1	25.4

UPS GROUND DELIVERY TIMES



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