



CAMBRIDGE

GRIPPER[®] slings



Coming Soon...
A Brand New Look
Same Great Company!



CAMBRIDGE INC
A CAMBRIDGE INTERNATIONAL COMPANY

Metal Mesh Slings That Hold On. And On. And On.

Cambridge's metal mesh GRIPPER® Slings offer many advantages over other types of slings, especially if the load being handled is abrasive or sharp-edged, unstable, hot or corrosive, or needs delicate handling to reduce load damage.

But perhaps a GRIPPER Sling's most important quality is its durability. The steel fabric used in our GRIPPER Sling is of low carbon content. The low carbon content prevents the wire from becoming hard and brittle during welding of the spiral to the cross rod. This fabric offers excellent resistance to abrasive loads and as a result offers unsurpassed longevity.

Further, our handles are flame-cut from hot rolled annealed steel plate. This is a very strong and tough steel with excellent resistance to shock loading. Custom handles are also easily fabricated. The handles are joined to the metal mesh fabric with stainless steel connector spirals. Using stainless steel connector spirals reduces the likelihood of failure at this point and assures complete flexibility between the handle and the metal mesh fabric.

Everything A Sling's Supposed To Be. And Then Some.

Strong

The GRIPPER Sling's all steel metal mesh construction tolerates even the most abrasive loads without fear of sling failure. In addition, its environmental tolerance permits use at temperatures of up to 550 degrees F., and even higher when made of a special alloy.

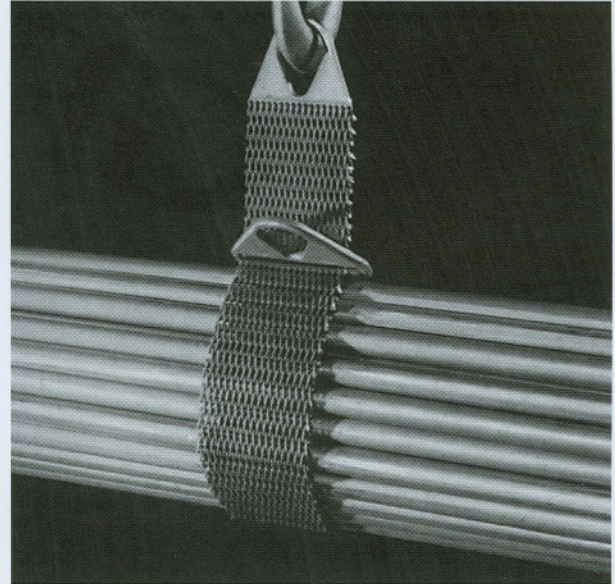
Other alloys are available for greater strength and resistance to chemical environments. See Chemical Environment Data, page 3, for a discussion of these alloys. Consult Cambridge, Inc for specific recommendations for your operating conditions.

Safe

Proof-tested at 200 per cent of its rated work load, every GRIPPER Sling's wide bearing surface improves load balance and gripping power. And since it won't kink or tangle in use like wire rope or chain slings, loads won't shift or slip. What's more, its woven spiral construction eliminates the danger of sudden failure such as can occur with a rotting core in a synthetic sling or a weak link in a chain sling. All GRIPPER products are manufactured in accordance with OSHA and ANSI B-30.9 requirements.

Gentle

The GRIPPER Sling's interwoven, smooth spiral wires offer complete flexibility. So the sling conforms to the contours of its load, eliminating the dangers of gouging, marring, crushing or cutting so common with wire rope or chain slings.



Saves Time

Easy to rig in either a choke or basket hitch, the GRIPPER Sling greatly reduces rigging and unhitching time, and often eliminates the need for two-legged slings or spreader bars.

Saves Money

The GRIPPER Sling's ability to outlast wire rope and synthetic slings will cut your costs in the long run. And, of course, you'll also reduce the costs of damage to your loads. Finally, GRIPPER Slings can be repaired or restored at a fraction of the cost of a new sling.

Versatile

The GRIPPER Sling is ideal for handling all types of products, such as coiled strip, thin walled tubing, polished shafting, hot rolled flat bar stock, round bar stock, sheet steel, lumber, paper machine rolls, precast hollow core concrete beams, prestressed concrete, structural beams, cold drawn flats, irregularly shaped objects, and loads subjected to hot or corrosive environments.

Durable Slings From A Durable Company: Cambridge

Since 1915, we've built our business through products that solve problems for customers. We'd like to tell you more about our company and what our products can do for you. Why not give us a call, send us a fax, or visit your authorized Cambridge Service Center. And, ask for a free copy of "Guides for Safer Lifting." It's filled with safety tips and practical advice for getting the most out of your slings.

GRIPPER Slings For Hostile Environments

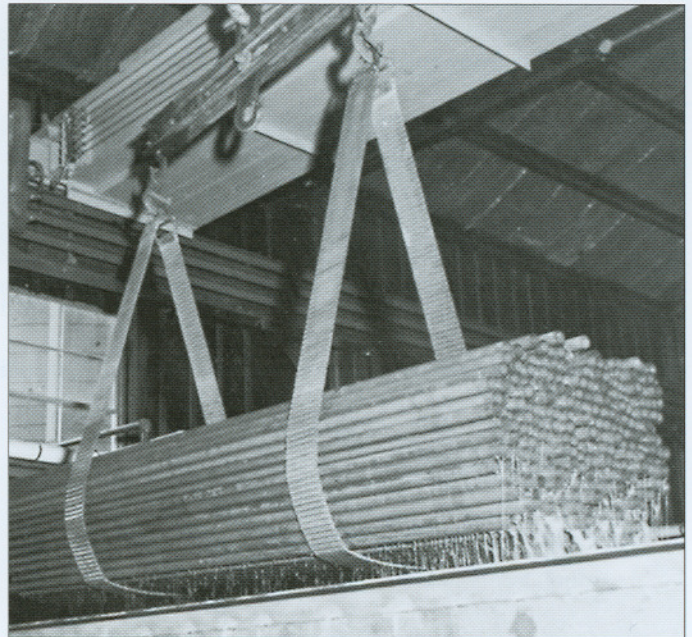
GRIPPER Slings can be manufactured of special alloys to meet operating conditions involving elevated temperatures or corrosive materials.

Monel, Type 400 is an excellent choice for use with chloride salts, alkalis, food products, organic substances, and atmospheric conditions both at normal and elevated temperatures.

Stainless Steel, Type 304 or Type 316, is resistant to corrosion and temperature both in the atmosphere and in a wide variety of corrosive media, including many acid solutions, alkalis, organic liquids, and other liquids and gases.

4130 Heat Treated Alloy Steel provides more strength, abrasion resistance and greater capacity than standard carbon steel slings.

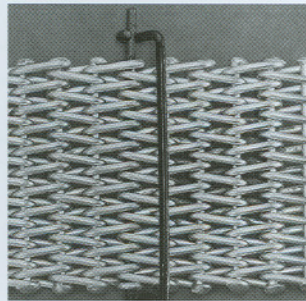
Carpenter 20 is primarily a corrosion resistant alloy which has special usefulness in sulfuric acid applications. It is not normally used for high temperature service.



Pickling bundles of thin wall tubing with chain slings requires a spreader bar and two slings. Even then, chains can cut or crush the thin walls of the tubing.

On the other hand, GRIPPER Slings used in a basket hitch provide a gentle flexing action that eliminates the possibility of damaging delicate tubing. The GRIPPER Sling's open mesh also provides quick drainage of pickling solutions, eliminating costly carry-out procedures. Finally, special alloy construction eliminates corrosion problems.

**For Endless Slings,
Ask About
Our Safety Pin**



Chemical Environment Data

The following chart is designed as a general guide only. All data is listed for 70°F. For specific temperature, concentration, and time factors, consult Cambridge, Inc. prior to purchase or use.

Metal Mesh Composition	Weak Sulphuric Acid	Weak Hydrochloric Acid	Alkaline Caustic Solutions	Salt Solutions	Organic Solvents	Water
Carbon Steel	No	No	No	No	Yes	No
T-304 Stainless Steel	No	No	Yes	No	Yes	Yes
T-316 Stainless Steel	No	No	Yes	No	Yes	Yes
Monel	No	No	Yes	Yes	Yes	Yes
AISI 4130 Alloy Steel*	No	No	No	No	Yes	No
Urethane-Coated	No	Yes	No	Yes	No	Yes
Carpenter 20	Yes	No	Yes	Yes	Yes	Yes

*Heat Treated

SPECIFICATIONS

How To Select The Proper Sling Dimensions

First, determine the hitch you will use for your sling. Next, read down the column on page 4 under the selected hitch to the load weight you wish to lift. Then read across to the first column on the left to find the required **sling width**.

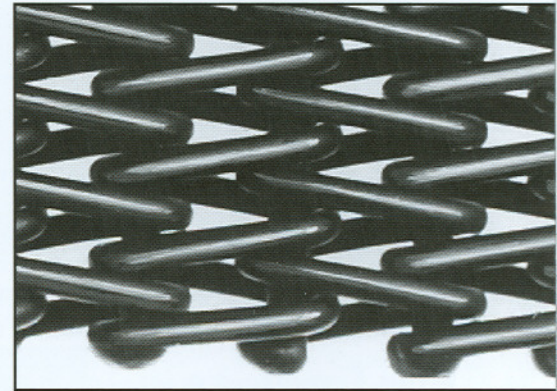
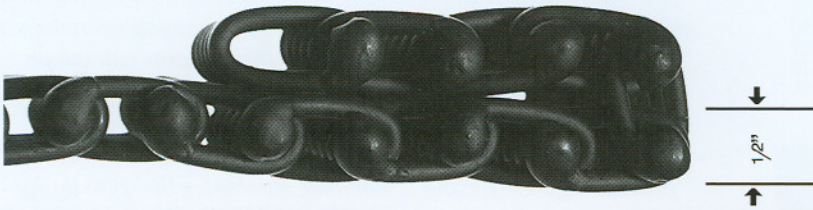
For Example: If you wish to use a G-35 sling with a choke hitch to lift 6,000 pounds, the required sling width is 6”.

Most of our customers use the G-35 Heavy Duty sling fabric shown below. It is extremely durable and cost effective. But, some applications may require a lighter duty sling. On request, Cambridge offers a Medium Duty sling fabric (made with 12 gauge wire) and a Light Duty sling fabric (made with 14 gauge wire). Compared to the G-35 Heavy Duty option, these sling fabrics are lighter weight, more flexible, have greater contact with the load and a tighter grip so are less likely to cause load damage, but do not offer the same level of lifting strength and abrasion resistance.

G-35 HEAVY DUTY

(10 Gauge)

Offers the longest service life and is most resistant to rough treatment. Excellent for handling abrasive loads.



	Nominal Width of Sling (inches)			EFFECT OF ANGLE ON RATED CAPACITIES IN BASKET HITCH		
		Choker	Vertical Basket	30° Vertical 60° Horizontal	45° Vertical 45° Horizontal	60° Vertical 30° Horizontal
G-35 HEAVY DUTY	2	1,600	3,200	2,700	2,000	1,600
	3	3,000	6,000	5,100	3,800	2,800
	4	4,400	8,800	7,480	5,600	4,400
	6	6,600	13,200	11,225	8,400	6,600
	8	8,800	17,600	15,000	11,250	8,800
	10	11,000	22,000	18,700	14,000	11,000
	12	13,200	26,400	22,440	16,800	13,200
	14	15,400	30,800	26,180	19,600	15,400
	16	17,600	35,200	29,920	22,400	17,600
	18	19,800	39,600	33,660	25,200	19,800
20	22,000	44,000	37,400	28,000	22,000	

SPECIFICATIONS



After determining the width of sling needed, based on hitch configuration and weight of the load, determine the length of sling needed using dimensions in the table below.

Examples: In Column A, find sling width.

For CHOKE style hitches

Minimum overall sling length = circumference of load in inches + Column B + Column C + 6".

For vertical BASKET STYLE HITCHES, the formula for minimum length is:

Dimension E times 2 plus the circumference of load in inches.

INCHES									HOOK SIZE	APPROX. WT. 36" SLING (LBS.)	FABRIC LBS./FT. OF LENGTH		
SLING WIDTH (Nom.)	SEE DRAWING ABOVE										10 GA.	12 GA.	14 GA.
A	B	C	D	E	F	G	H	DD					
2	4	6	2	1/2	2 3/4	1 3/4	4	3 3/4	5 TON	5	1 1/4	1 1/8	3/4
3	5 1/4	7 1/2	3	3/4	3 1/2	2 1/2	5 1/4	5	10 TON	8	1 7/8	1 3/4	1 1/8
4	5 1/2	7 3/4	4	3/4	3 1/2	2 1/2	6 1/4	5	10 TON	10	2 1/2	2 1/4	1 1/2
6	6 1/2	9	6	1	4	2 3/4	8 1/2	6	15 TON	15	3 3/8	3 3/8	2 1/4
8	8 3/4	12	8	1 1/4	5 1/2	4	11 1/4	8 1/2	25 TON	20	5 1/8	4 1/2	3
10	9 3/8	12 15/16	9 15/16	1 3/8	5 1/2	4	13 1/2	9 7/8	25 TON	33	6 3/8	5 5/8	3 3/4
12	10 1/4	13 15/16	12	1 1/2	6	4 1/2	15 3/4	10 1/2	30 TON	42	7 5/8	6 3/4	4 1/2
14	10 5/8	14 11/16	13 7/8	1 5/8	6	4 1/2	18	10 5/8	30 TON	47	8 7/8	7 7/8	5 1/4
16	11 1/4	15 5/16	15 7/8	1 3/4	6	4 1/2	20 1/4	10 3/4	30 TON	55	10 1/8	9	6
18	11 7/8	16 9/16	17 7/8	1 7/8	6	4 1/2	22 1/2	10 7/8	30 TON	64	11 3/8	10 1/8	6 3/4
20	12 1/2	17 7/16	19 7/8	2	6	4 1/2	24 3/4	11	30 TON	73	12 3/4	11 1/4	7 1/2

Our Engineering Department can design end fittings with larger crane hook openings (dimension G) where required.

SERVICE CENTERS

Urethane-Coated GRIPPER® Slings for Added Load Protection

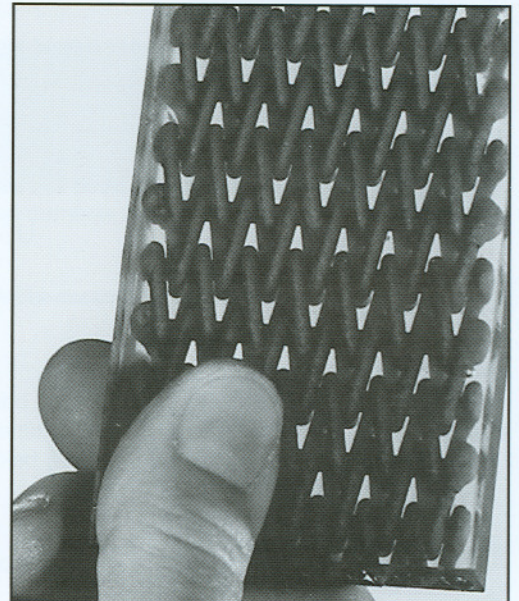
Even the most delicate jobs are no problem for the GRIPPER Sling. Thanks to the smooth wire mesh construction, you can get your sling coated with urethane to protect extra sensitive loads such as polished shafts, machined parts, marble, concrete, anything and everything that requires extra careful handling.

Clear urethane plastic-covered slings also provide flexibility and long life, free of attack by weak nitric, hydrofluoric, sulphuric, hydrochloric acids and sodium hydroxide.

For protected handling in more corrosive environments, neoprene coatings are available. Tough, yet flexible, neoprene resists attack by oils, greases, and stronger concentrations of sodium hydroxide, and sulphuric, hydrochloric and hydrofluoric acids.

We will ship to the coating vendor of your choice.

Coatings are safe up to 150°F. Check with your vendor.



Service Center Locations

GRIPPER Slings are stocked and serviced through a world-wide network of Service Centers. Each is fully qualified to give you quick, efficient service on your GRIPPER Sling requirements whether new or repair contact Cambridge for the Service Center nearest you.

EXPORT SERVICES

We export our products to all parts of the world. We are experienced in preparing FAS, C&F and CIF quotations, processing of necessary documents, and handling all types of export shipments.

To serve our customers, we have a network of representatives around the world and manufacturing facilities in Mexico, Australia and Brazil.



ALABAMA

Bessemer
Dolomite
Pelham

ARIZONA

Phoenix

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Los Angeles

CONNECTICUT

Putnam

FLORIDA

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Ft. Lauderdale
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Orlando

GEORGIA

Atlanta
Norcross

ILLINOIS

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Moline
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TENNESSEE

Knoxville
Memphis
Nashville

TEXAS

Houston

WISCONSIN

Greendale
Milwaukee
Neeah

CANADA

Ontario
Quebec

Maintenance

Although each sling is examined and fully tested prior to shipment to you, the effects of normal wear and tear vary greatly depending on application and usage. This, in addition to the degree of care in handling, makes it imperative that the sling is properly maintained.

Slings should be frequently inspected and should be returned to our Authorized Service Center (page #6) for repair if any of the following defects are present:

- Broken welds along the sling edge.
- Broken wire in any part of the mesh.
- A 25% or more reduction in wire diameter due to abrasion.
- Damage due to corrosive environments.
- An increase in overall length of the sling (handle eye to handle eye) of more than 3% for carbon steel slings and 4% for stainless steel and monel slings.
- Distortion of the female handle so the lower member is bowed more than 10% of the original width of the female slot.
- Distortion of either handle so the width of the eye is decreased by more than 10% of its original width.
- A 15% reduction of the original cross-sectional area of metal at the upper portion of either or both handle eyes.
- Slings employing welded handles should be tested yearly by means of magnetic particle inspection or other suitable non-destructive test to assure soundness of welds.

Special Precautions

Special precautions should be taken and a sling of ample size used:

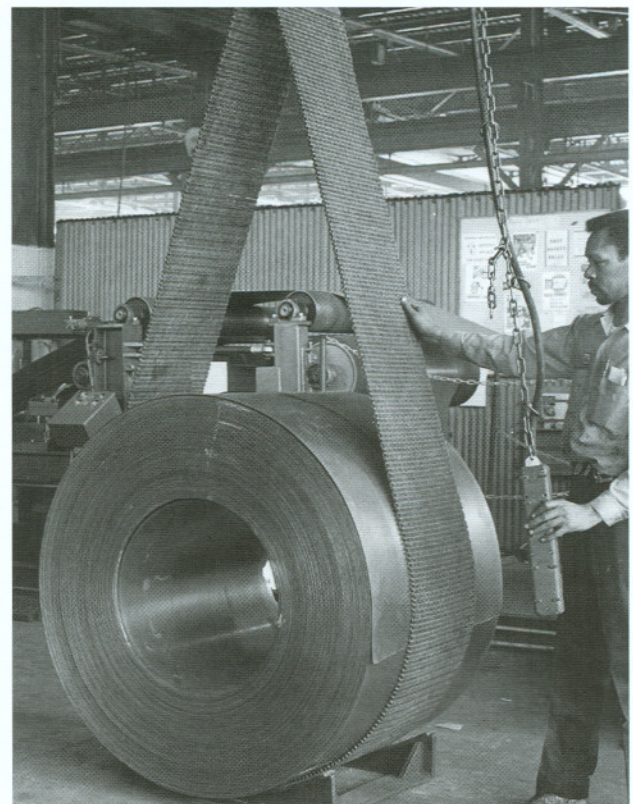
- When the exact load weight is in doubt.
- When there is a possibility of mechanical shock or jerking.
- When conditions are abnormal or severe.
- When there is exceptional hazard to personnel.
- Slings should not be used in pairs unless vertically attached to a spreader beam.
- Special care should be taken to avoid snatch or sudden loading.



Your Cambridge GRIPPER® Sling Team

We take exceptional pride in providing you with high quality products. Individually crafted from stock components, gripper slings are ready to ship quickly, but not before each sling is pull tested for strength and durability. Safe and satisfied customers are our goal.

Let us help you reach your goals.



WARRANTY

Every Cambridge product has been carefully inspected before shipment, and we guarantee to correct any defect called to our attention in writing within six months after shipment, caused by faulty material or workmanship. The buyer's EXCLUSIVE remedy shall be repair and/or replacement, at Cambridge's discretion, of the defective parts. THE PARTIES FURTHER AGREE THAT NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, NEGLIGENCE IN THE DESIGN, INSTALLATION, OR REPAIR OF THE PRODUCT, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE. THE PARTIES FURTHER AGREE THAT ALL OTHER WARRANTIES, EXPRESS OR IMPLIED (INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) ARE EXCLUDED.

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