

HHI

HOLLOWAY
HOUSTON, INC.

www.hhilifting.com



2020

CATALOG



¡SE HABLA ESPAÑOL!

PHONE: 713-674-5631
PRIMARY FAX: 713-674-8352
INTERNATIONAL SALES FAX: 713-674-0437



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Setting the Standard
in Lifting Solutions



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Company Overview

- ▶ Company Info
- ▶ Quality and Certifications
- ▶ Affiliations





Holloway Houston is the leading supplier of superior lifting products and services to energy and construction markets worldwide.

Holloway's large inventories, quality manufacturing, value-added services, testing facilities, and state-of-the-art equipment combine to deliver end-to-end industrial lifting solutions.

Committed to quality in all we do, Holloway is ISO 9001 certified and staffed by over 200 professionals dedicated to exceeding the needs of industrial lifting clients across the globe.

For more information about Holloway Houston, Inc., please visit our website at www.hhilifting.com.



Main Office

Holloway Houston, Inc.
5833 Armour Dr.
Houston, TX 77020



Sling Manufacturing

Holloway Houston, Inc.
(Sling Manufacturing / Receiving
& Will Call)
5842 Harvey Wilson Dr.
Houston, TX 77020



Technical Services & HMPE Rope

Holloway Houston, Inc.
(Technical Services & HMPE Rope)
5900 Clinton Dr.
Houston, TX 77020



Rental & Fabrication

Holloway Houston, Inc.
(Rental / Fabrication Division)
5508 Clinton Dr.
Houston, TX 77020

Warehousing

Holloway Houston, Inc.
5121 Harvey Wilson
Houston, TX 77020



Quality Policy

HHI strives to deliver consistent high-quality lifting products that meet our customers' requirements in every way.

Leadership and Commitment:

Holloway Houston's quality management program has been certified to ISO 9001, API Specification Q1, and ISO/TS 29001 standards since October 2005. Holloway Houston is currently certified to ISO 9001 quality management system and API Specification Q1 standards.



Industry Trade Associations

Holloway Houston supports lifting and material-handling industry trade associations. These associations promote the common interests, principles, goals, and distribution of technical information vital to developing and maintaining the standards of the lifting and material-handling industry.

Associated Wire Rope Fabricators (AWRF)

AWRF promotes interests common among companies manufacturing, fabricating, or distributing lifting, rigging, and load-securement devices made of chain, rope, and synthetic products.



American Petroleum Institute (API)

API is the only national trade association that represents all aspects of America's oil and natural gas industry. Their 400 corporate members, from the largest major oil company to the smallest of independents, come from all segments of the industry.



Det Norske Veritas (DNV)

DNV provides world-class expertise in technology, operations, management, and risk. But even more importantly, DNV applies its know-how to a professional service concept designed to safeguard and improve the performance of businesses.



Specialized Carriers and Rigging Association (SC&RA)

Since 1959 the SC&RA has helped 1100 members in 43 countries attain the highest standards of quality and safety through meetings, publications, services, and staff.



Web Sling and Tie Down Association (WSTDA)

is a tax-exempt, nonprofit technical association dedicated to the development and promotion of voluntary recommended standards and associated reference materials. The association was originally established in 1973 as the Web Sling Association (WSA), servicing the synthetic web sling industry.



Association of Energy Services Companies (AESC)

Since its beginning in 1956 the AESC has grown to become an international organization representing hundreds of energy service providers and associate members throughout the U.S. and the world. For over four decades, the AESC has provided leadership and guidance in setting standards to the make energy servicing industry both safer and more efficient.



International Association of Drilling Contractors (IADC)

IADC's mission is to improve industry health, safety, and environmental practices; advance drilling and completion technology; and champion responsible standards, practices, legislation, and regulations that provide for safe, efficient, and environmentally sound drilling operations worldwide.



Cordage Institute

The Cordage Institute is an international association of rope, twine, and related manufacturers, their suppliers, and affiliated industries. Its mission is to create value for its members by educating product users, the standards writing community, government agencies, and other entities on the proper use of industry products through the dissemination of standards.





Products

- ▶ Wire Rope Slings
- ▶ Wire Rope
- ▶ Synthetic Slings
- ▶ Chain & Accessories
- ▶ Crosby Shackles
- ▶ William Hackett
- ▶ Rigging Attachments and Fittings



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Wire Rope Slings

WIRE ROPE SLINGS

PRODUCTS



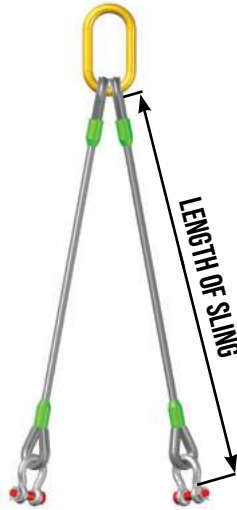


Wire Rope Dia. (inches)	Rated Capacities in Tons			Standard Eye Dimensions		Heavy Duty Thimble Eye Dimensions		Minimum Sling Length
	Vertical Hitch	Choker Hitch	Vertical Basket Hitch*	W"	L"	W"	L"	
1/4"	0.65	0.48	1.3	2"	4"	7/8"	1-5/8"	1'6"
5/16"	1	0.74	2	2-1/2"	5"	1-1/16"	1-7/8"	1'9"
3/8"	1.4	1.1	2.9	3"	6"	1-1/8"	2-1/8"	2'
1/2"	2.5	1.9	5.1	4"	8"	1-1/2"	2-3/4"	2'6"
9/16"	3.2	2.4	6.4	4-1/2"	9"	1-1/2"	2-3/4"	2'9"
5/8"	3.9	2.9	7.8	5"	10"	1-3/4"	3-1/4"	3'
3/4"	5.6	4.1	11	6"	12"	2"	3-3/4"	3'6"
7/8"	7.6	5.6	15	7"	14"	2-1/4"	4-1/4"	4'
1"	9.8	7.2	20	8"	16"	2-1/2"	4-1/2"	4'6"
1-1/8"	12	9.1	24	9"	18"	2-7/8"	5-1/8"	5'
1-1/4"	15	11	30	10"	20"	2-7/8"	5-1/8"	5'6"
1-3/8"	18	13	36	11"	22"	3-1/2"	6-1/4"	6'
1-1/2"	21	16	42	12"	24"	3-1/2"	6-1/4"	7'
1-3/4"	28	21	57	14"	28"	4-1/2"	9"	8'
2"	37	28	73	16"	32"	6"	12"	9'
2-1/4"	44	35	89	18"	36"	7"	14"	10'
2-1/2"	54	42	109	20"	40"			11'
2-3/4"	65	51	130	22"	44"			12'
3"	77	60	153	24"	48"			13'
3-1/2"	102	79	203	28"	56"			16'6"
4"	128	100	257	32"	64"			20'
4-1/2"	160	124	320	36"	72"			24'
6"	257	200	513	48"	96"			30'

Rated capacities of basket hitches are based on 40 times wire rope diameter (1/4" through 1" diameter slings) and 25 times wire rope diameter (1-1/8" and larger diameter slings). Basket ratings are calculated for vertical lifting. Appropriate reductions must be made when angular lifting is involved.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

HH-202-TTS



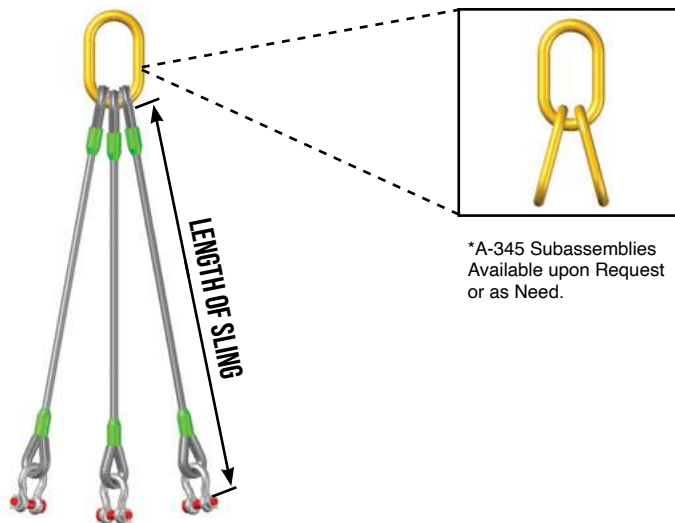
Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Recommended Master Link			Recomm. Shackle Size (Inches)	Recomm. Eye Hooks	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia.	Width	Length			
1/4"	1.1	0.91	0.65	1/2"	2.5"	5"	3/8"	3/4 ton	1'3"
3/8"	2.5	2.0	1.4	5/8"	3"	6"	1/2"	1.5 ton	1'8"
1/2"	4.4	3.6	2.5	3/4"	2.75"	5.5"	5/8"	3 ton	2'0"
5/8"	6.8	5.5	3.9	1"	3.5"	7"	3/4"	5 ton	2'4"
3/4"	9.7	7.9	5.6	1"	3.5"	7"	7/8"	7 ton	2'9"
7/8"	13	11	7.6	1-1/4"	4.3"	8.75"	1"	7.5 ton	3'3"
1"	17	14	9.8	1-1/2"	5.25"	11.5"	1-1/8"	10 ton	3'6"
1-1/8"	21	17	12	1-1/2"	5.25"	11.5"	1-1/4"	15 ton	4'0"
1-1/4"	26	21	15	1-3/4"	6"	12"	1-3/8"	15 ton	4'6"
1-3/8"	31	25	18	2"	7"	14"	1-1/2"	20 ton	5'0"
1-1/2"	37	30	21	2"	7"	14"	1-3/4"	22 ton	5'6"
1-3/4"	49	40	28	2-1/4"	8"	16"	2"	30 ton	6'6"
2"	63	52	37	2-1/2"	8"	16"	2-1/2"	37 ton	8'0"
2-1/4"	77	63	44	2-3/4"	9"	16"	2-1/2"	-	8'9"

All master links are sized to accommodate heavy-duty thimbles.
If thimbles are not required, a smaller master link may be appropriate.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.



HH-303-TTS



*A-345 Subassemblies Available upon Request or as Need.

WIRE ROPE SLINGS

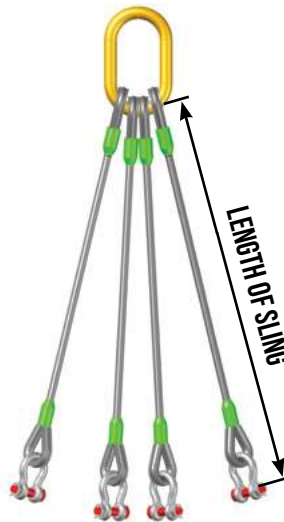
PRODUCTS

Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Recommended Master Link			Recomm. Shackle Size (Inches)	Recomm. Eye Hooks	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia.	Width	Length			
1/4"	1.7	1.4	0.97	1/2"	2.5"	5"	3/8"	3/4 ton	1'3"
3/8"	3.7	3.0	2.2	3/4"	2.75"	5.50"	1/2"	1.5 ton	1'8"
1/2"	6.6	5.4	3.8	1"	3.5"	7"	5/8"	3 ton	2'0"
5/8"	10	8.3	5.9	1"	3.5"	7"	3/4"	5 ton	2'4"
3/4"	15	12	8.4	1- 1/4"	4.38"	8.75"	7/8"	7 ton	2'9"
7/8"	20	16	11	1- 1/4"	5.25"	10.5"	1"	7.5 ton	3'3"
1"	26	21	15	1-3/4"	6"	12"	1-1/8"	10 ton	3'6"
1-1/8"	31	25	18	2"	7"	14"	1-1/4"	15 ton	4'0"
1-1/4"	38	31	22	2-1/4"	8"	16"	1-3/8"	15 ton	4'6"
1-3/8"	46	38	27	2-1/4"	8"	16"	1-1/2"	20 ton	5'0"
1-1/2"	55	45	32	2-3/4"	9"	16"	1-3/4"	22 ton	5'6"
1-3/4"	74	60	42	2-3/4"	9"	16"	2"	30 ton	6'6"
2"	95	78	55	3-1/4"	10"	20"	2-1/2"	37 ton	8'0"
2-1/4"	116	94	67	4"	10"	20"	2-1/2"	-	8'9"

All master links are sized to accommodate heavy-duty thimbles. If thimbles are not required, a smaller master link may be appropriate.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

HH-404-TTS-342



Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Recommended Master Link			Recomm. Shackle Size (Inches)	Recomm. Eye Hooks	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	Width (inches)	Length (inches)			
1/4"	2.2	1.8	1.3	1/2"	2	3	3/8"	3/4 ton	1'-3"
3/8"	5	4.1	2.9	3/4"	3	4.5	1/2"	1.5 ton	1'-8"
1/2"	8.8	7.1	5.1	1"	4	6	5/8"	3 ton	2'
5/8"	14	11	7.8	1 1/4"	5	7.75	3/4"	5 ton	2'-4"
3/4"	19	16	11	1 1/2"	6	9	7/8"	7 ton	2'-9"
7/8"	26	21	15	1 3/4"	7	10.5	1"	7.5 ton	3'-3"
1"	34	28	20	1 7/8"	7.5	11.25	1 1/8"	10 ton	3'-6"
**1-1/8"	42	34	24	2 1/4"	9	13.5	1 1/4"	15 ton	4'
**1-1/4"	51	42	30	2 1/2"	10	15	1 3/8"	15 ton	4'-6"
**1-3/8"	62	50	36	2 3/4"	11	16	1 1/2"	20 ton	5'
**1-1/2"	73	60	42	2 3/4"	11	16	1 3/4"	22 ton	5'-6"
**1-3/4"	98	80	57	4"	13	19.5	2 1/2"	30 ton	6'-6"
**2"	127	104	73	4"	16	24	2 1/2"	37 ton	8'
**2-1/4"	154	126	89	N/A	N/A	N/A	2 1/2"	-	8'-9"

All master links are sized to accommodate heavy-duty thimbles.

If thimbles are not required, a smaller master link may be appropriate.

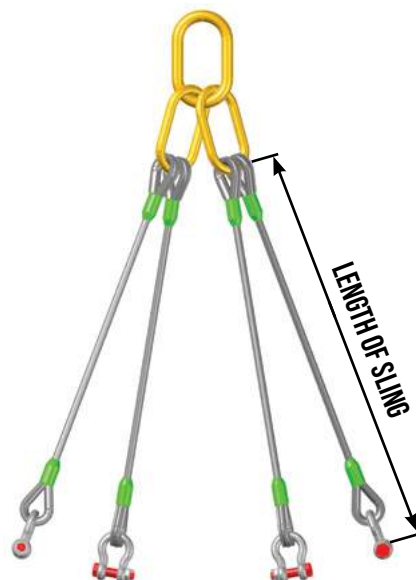
**If thimble is required at the top, these sizes must use an A-345 Master Link Assembly.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

4-Leg Bridle Sub Assembly

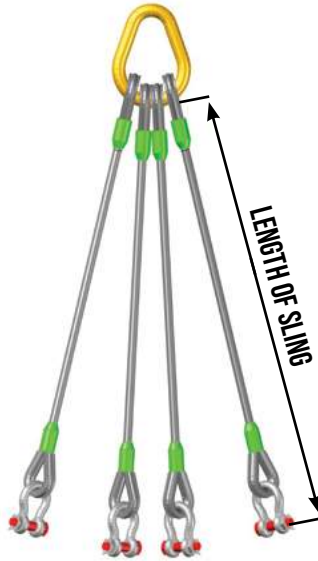


HH-404-TTS-345



Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Recommended Master Link Assembly				Recomm. Shackle Size (inches)	Recomm. Eye Hooks	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	Width (inches)	Length (inches)	Inside Dia. (inches)			
1/4"	2.2	1.8	1.3	N/A	N/A	N/A	N/A	3/8"	3/4 ton	1'-3"
3/8"	5	4.1	2.9	3/4"	3.2	6	1.77	1/2"	1.5 ton	1'-8"
1/2"	8.8	7.1	5.1	1"	4.3	7.5	2.36	5/8"	3 ton	2'
5/8"	14	11	7.8	1 1/4"	5.5	9.5	3.54	3/4"	5 ton	2'-4"
3/4"	19	16	11	1 1/2"	5.9	10.5	3.94	7/8"	7 ton	2'-9"
7/8"	26	21	15	1 3/4"	6	12	5	1"	7.5 ton	3'-3"
1"	34	28	20	1 7/8"	6	12	5	1 1/8"	10 ton	3'-6"
1 1/8"	42	34	24	2 1/4"	7	14	5.75	1 1/4"	15 ton	4'
1 1/4"	51	42	30	2 1/2"	8.38	16	8.38	1 3/8"	15 ton	4'-6"
1 3/8"	62	50	36	2 3/4"	8.38	16	8.38	1 1/2"	20 ton	5'
1 1/2"	73	60	42	2 3/4"	9.88	18	9.88	1 3/4"	22 ton	5'-6"
1 3/4"	98	80	57	4"	12	24	12	2 1/2"	30 ton	6'-6"
2"	127	104	73	4"	12	24	12	2 1/2"	37 ton	8'
2 1/4"	154	126	89	4"	12	24	12	2 1/2"	-	8'-9"

HH-404-TTS-341



Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Recommended Pear-Shaped Link				Recomm. Shackle Size (Inches)	Recomm. Eye Hooks	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	Cap. (Tons)	Width (inches)	Length (inches)			
1/4"	2.2	1.8	1.3	1/2"	3.15	2	3	3/8"	3/4 ton	1'-3"
3/8"	5	4.1	2.9	3/4"	5.59	3	4.5	1/2"	1.5 ton	1'-8"
1/2"	8.8	7.1	5.1	1"	11	4	6	5/8"	3 ton	2'
5/8"	14	11	7.8	1 1/4"	16.4	5	7.75	3/4"	5 ton	2'-4"
3/4"	19	16	11	1 1/2"	24.7	6	9	7/8"	7 ton	2'-9"
7/8"	26	21	15	1 3/4"	38.6	7	10.5	1"	7.5 ton	3'-3"
1"	34	28	20	1 7/8"	43.5	7.5	11.25	1 1/8"	10 ton	3'-6"
1-1/8"	42	34	24	2 1/4"	65	9	13.5	1 1/4"	15 ton	4'
1-1/4"	51	42	30	2 1/2"	66.9	10	15	1 3/8"	15 ton	4'-6"
1-3/8"	62	50	36	2 3/4"	98.6	11	16	1 1/2"	20 ton	5'
1-1/2"	73	60	42	2 3/4"	98.6	11	16	1 3/4"	22 ton	5'-6"
1-3/4"	98	80	57	3 1/4"	119	13	19.5	2"	30 ton	6'-6"
2"	127	104	73	4"	169	16	24	2 1/2"	37 ton	8'
2-1/4"	154	126	89	N/A	N/A	N/A	N/A	2 1/2"	-	8'-9"

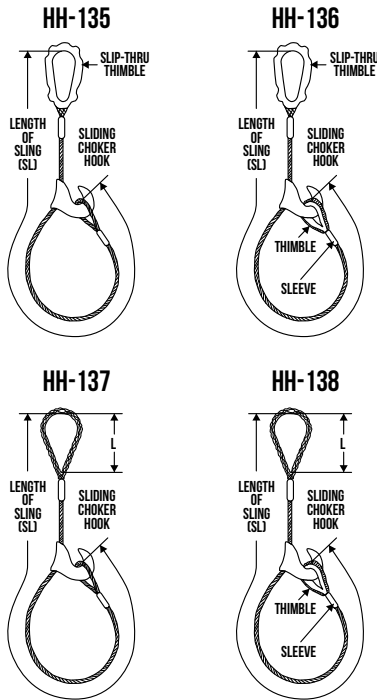
All master links are sized to accommodate heavy-duty thimbles.
If thimbles are not required, a smaller master link may be appropriate.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

Single-Leg With Sliding Choker Hooks



HH-135 thru HH-138



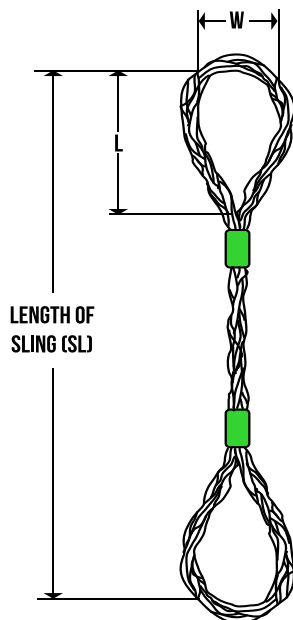
Diameter of Rope	EIPS Capacity In Tons	SLIP - THRU THIMBLES		Soft Eye Dim.
		Size	Dimension	
1/4"	0.48	W-2	2-1/8X4-1/8	2X4
3/8"	1.1	W-2	2-1/8X4-1/8	3X6
1/2"	1.9	W-3	2-3/8X4-3/8	4X8
5/8"	2.9	W-4	3-3/8X6-5/8	5X10
3/4"	4.1	W-4	3-3/8X6-5/8	6X12
7/8"	5.6	W-5	3-3/4X7-1/8	7X14
1"	7.2	W-5	3-3/4X7-1/8	8X16
1 1/8"	9.1	W-6	4-3/8X8-3/8	9X18
1 1/4"	11	W-6	4-3/8X8-3/8	10X20
1 3/8"	13	W-7	5X9-1/2	11X22
1 1/2"	16	W-7	5X9-1/2	12X24

WIRE ROPE SLINGS

PRODUCTS

8 - Part Braided Sligs

HH-120

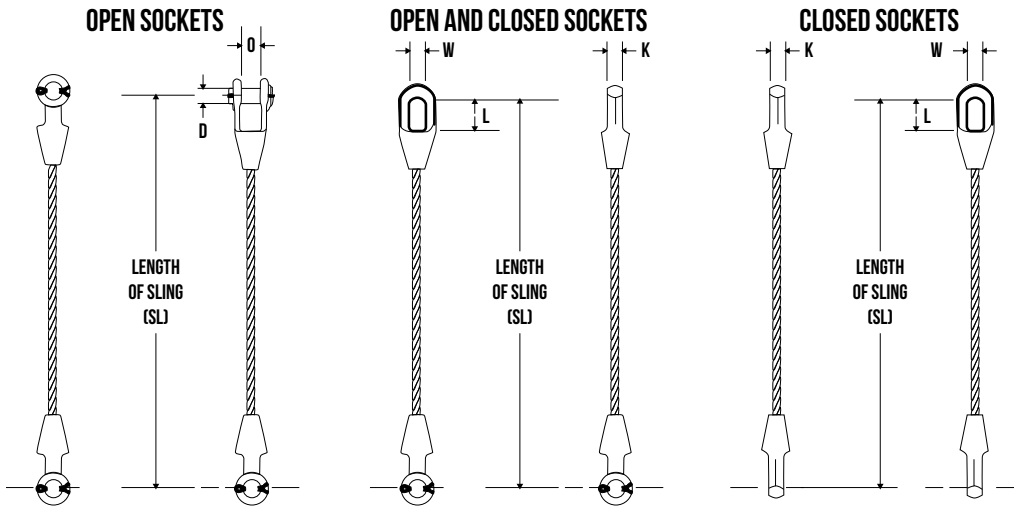


Diameter of Rope	EIPS Vertical Capacity In Tons	Minimum Sling Length ft-in	Eye Dimensions	
			Width in.	Length in.
1/8	1.1	1'10"	3	6
3/16	2.4	2'10"	5	10
1/4	3.9	3'6"	6	12
5/16	5.9	4'6"	8	16
3/8	8.4	5'0"	8	16
7/16	13.0	5'9"	9	18
1/2	17.0	6'5"	9	18
9/16	22.0	8'0"	12	24
5/8	26.0	9'4"	14	28

NOTE: RATED CAPACITIES OF CHOKER HITCHES APPLY WHEN THE ANGLE OF CHOKE IS GREATER THAN 120 DEGREES. 8-PART BRAIDS WITH CASINGS AND CHOKER HOOKS ALSO AVAILABLE.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

Precision Spelter Socket Assemblies

HH-106-P
HH-106-R
HH-103-P
HH-103-R
HH-109-P
HH-109-R


Diameter of Wire Rope (inches)	Minimum Length of Sling	Rated Capacity In Tons of 2,000 Lbs.	Open Sockets			Closed Sockets	
			Dim. O (Inches)	Dim. D (Inches)	Dim. W (Inches)	Dim. L (Inches)	Dim. K (Inches)
1/2"	1'3"	2.66	1"	1"	1.16"	2.25"	0.88"
5/8"	1'6"	4.12	1.25"	1.19"	1.41"	2.5"	1.00"
3/4"	1'9"	5.88	1.5"	1.38"	1.66"	3"	1.25"
7/8"	2'	7.96	1.75"	1.63"	1.88"	3.5"	1.50"
1"	2'6"	10.34	2"	2"	2.3"	4"	1.75"
1-1/8"	2'9"	13.00	2.25"	2.25"	2.56"	4.5"	2.00"
1-1/4"	3'	15.98	2.5"	2.5"	2.81"	5"	2.25"
1-3/8"	3'	19.20	2.5"	2.5"	2.81"	5"	2.25"
1-1/2"	3'3"	22.80	3"	2.75"	3.19"	6"	2.75"
1-3/4"	4'3"	30.60	3.5"	3.5"	3.75"	7.56"	3.13"
2"	4'9"	39.60	4"	3.75"	4.38"	8.56"	3.75"
2-1/4"	5'	49.40	4.5"	4.25"	5"	9.5"	4.00"
2-1/2"	5'9"	60.40	5"	4.75"	5.5"	10.62"	4.50"
2-3/4"	6'3"	72.20	5.25"	5"	6.25"	11.25"	4.88"
3"	6'9"	85.00	5.75"	5.25"	6.75"	11.75"	5.25"
3-1/4"	7'3"	98.40	6.25"	5.5"	7.25"	12.25"	5.75"
3-1/2"	7'6"	112.80	6.75"	6"	7.75"	13"	6.25"
3-3/4"	8'3"	126.40	7.5"	7"	8.5"	14"	7.00"
4"	8'6"	142.60	7.5"	7"	8.5"	14"	7.00"

Socket assemblies are to exact length +/- 1/4".

All assemblies are proof-tested to 40% of catalog breaking strength.

All capacities are based on extra-improved plow steel (EIPS).

Enhanced capacity based on extra-improved plow steel (EIPS). EEIPS is also available upon request.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

Precision Swaged Socket Assemblies



HH-500-P

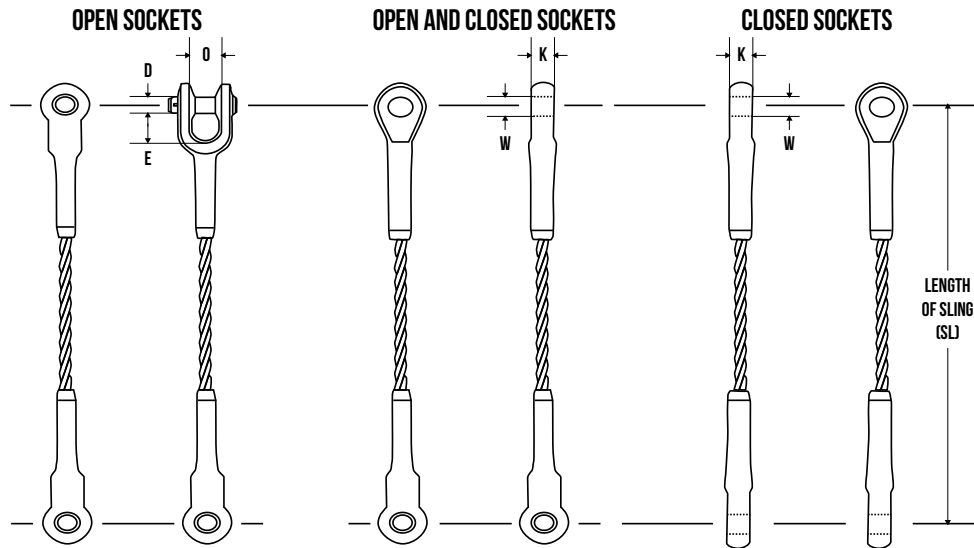
HH-500-R

HH-503-P

HH-503-R

HH-502-P

HH-502-R



Diameter of Wire Rope (inches)	Minimum Length of Sling	Rated Capacity In Tons of 2,000 Lbs.	Open Sockets			Closed Sockets	
			Dim. O (Inches)	Dim. D (Inches)	Dim. E (Inches)	Dim. K (Inches)	Dim. W (Inches)
1/4"	0'11"	0.69	0.69"	0.69"	1.15"	0.5"	0.75"
5/16"	1'3"	1.05	0.81"	0.81"	1.36"	0.67"	0.88"
3/8"	1'3"	1.50	0.81"	0.81"	1.36"	0.67"	0.88"
7/16"	1'8"	2.04	1"	1"	1.5"	0.86"	1.06"
1/2"	1'8"	2.66	1"	1"	1.5"	0.86"	1.06"
9/16"	2'0"	3.36	1.25"	1.19"	1.65"	1.13"	1.25"
5/8"	2'0"	4.12	1.25"	1.19"	1.65"	1.13"	1.25"
3/4"	2'5"	5.88	1.5"	1.38"	2.06"	1.31"	1.44"
7/8"	2'10"	7.96	1.75"	1.62"	2.44"	1.5"	1.69"
1"	3'2"	10.34	2"	2"	2.75"	1.75"	2.06"
1-1/8"	3'7"	13.00	2.25"	2.25"	3.13"	2"	2.31"
1-1/4"	4'0"	15.98	2.5"	2.5"	3.5"	2.25"	2.56"
1-3/8"	4'5"	19.20	2"	2.5"	4"	2.25"	2.56"
1-1/2"	4'9"	22.80	3"	2.75"	4.38"	2.5"	2.81"
1-3/4"	5'5"	30.60	3.5"	3.5"	5"	3"	3.56"
2"	6'4"	39.60	4"	3.75"	6.13"	3.25"	3.81"

Socket assemblies can be ordered pre-stretched and measured under load to exact length +/- 1/4".

All assemblies are proof-tested to 40% of catalog breaking strength.

All capacities are based on extra-improved plow steel (EIPS). EEIPS is also available upon request. Enhanced capacity based on extra-improved plow steel (EIPS). EEIPS is also available upon request.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

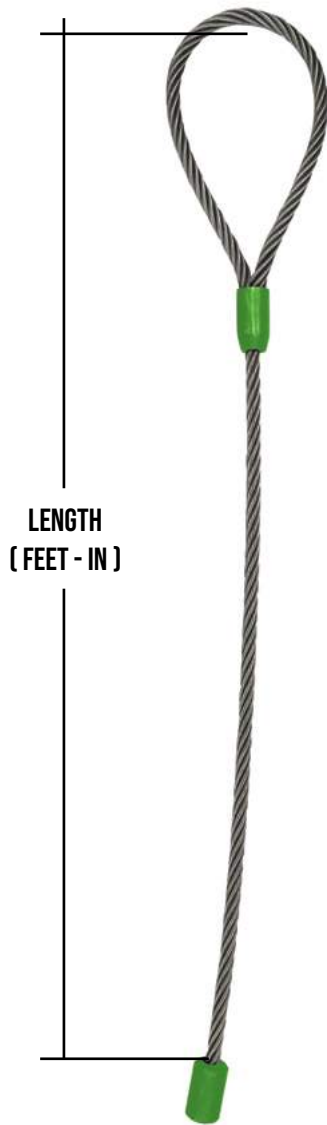
HH-1305-EE



Component Wire Rope Diameter	Vertical Capacity	Sling Body Diameter	Eye Length	Approx. Weight in Lbs. per Foot
Inches	Tons	Inches	Inches	
3/4"	14.0	1-1/2"	20"	4.2
7/8"	19.0	1-3/4"	24"	5.7
1"	24.8	2"	28"	7.4
1-1/8"	31.2	2-1/4"	32"	9.4
1-1/4"	38.4	2-1/2"	36"	11.6
1-3/8"	46.0	2-3/4"	40"	14.0
1-1/2"	55.0	3"	44"	16.6
1-3/4"	73.0	3-1/2"	52"	22.7
2"	95.0	4"	56"	29.5
2-1/4"	118.0	4-1/2"	64"	37.4
2-1/2"	145.0	5"	72"	46.4
2-3/4"	173.0	5-1/2"	80"	64.0
3"	204.0	6"	88"	66.4
3-1/2"	270.0	7"	96"	90.8
4"	343	8"	112"	118.4
4-1/2"	384	9"	126"	149.6
6"	660	12"	168"	264.7

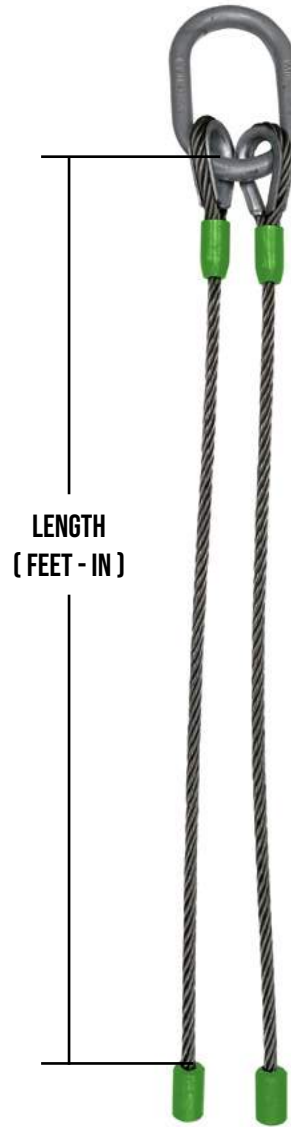
WHEN USING IN BASKET OR CHOKER CONFIGURATION, TAKE LIFTING ANGLES INTO CONSIDERATION. TO OBTAIN FULL RATED CAPACITY, THE PIN THAT THE EYE OF THE SLING PASSES OVER MUST BE A MINIMUM OF 4 TIMES THE DIAMETER OF THE COMPONENT WIRE ROPE.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.



LENGTH
(FEET - IN)

Single leg sling with standard eye top end and standard swage button bottom end.



LENGTH
(FEET - IN)

Two leg bridle with alloy master link and thimbles top end and standard swage buttons bottom end.

TC
Tea cup carrier for handling box culverts



Diameter of Rope	Rated Capacities in Short Tons		Min. Sling Length
	Single Leg 90°	Two Legs 60°	
5/8"	3.9	6.7	3'
3/4"	5.6	9.6	3'-6"
7/8"	7.6	13.1	4'
1"	9.8	16.97	4'-6"
1-1/8"	12	20.7	5'
1-1/4"	15	25.9	5'-6"
1-3/8"	18	31.1	6'
1-1/2"	21	36.3	7'

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

WARNING
See wire rope sling warnings page for warnings and inspection criteria

HH-1905-EE

WIRE ROPE SLINGS

PRODUCTS



Component Wire Rope Diameter (Inches)	Vertical Capacity Tons	Vertical Capacity M Tons	Finished Wire Rope Diameter (Inches)	Standard* Eye Length (Inches)	Bearing Area of Eye Thickness (Inches)
3/4"	42.3	38.4	3"	30"	2-1/4"
7/8"	57.3	52.0	3-1/2"	35"	2-5/8"
1"	73.7	66.9	4"	40"	3"
1-1/8"	93.5	84.8	4-1/2"	45"	3-3/8"
1-1/4"	115.0	104.3	5"	50"	3-3/4"
1-3/8"	137.0	124.3	5-1/2"	55"	4-1/8"
1-1/2"	170.0	154.2	6"	60"	4-1/2"
1-3/4"	220.7	200.2	7"	70"	5-1/4"
2"	285.2	258.7	8"	80"	6"
2-1/4"	354.6	321.7	9"	90"	6-3/4"
2-1/2"	433.6	393.4	10"	100"	7-1/2"
2-3/4"	485.0	440.0	11"	110"	8-3/4"
3"	574.0	520.7	12"	120"	9"
3-1/2"	761.0	690.4	14"	140"	10-1/2"
4"	972.0	881.8	16"	160"	12"
4-1/2"	1200.0	1088.6	18"	180"	13-1/2"
6"	1661.0	1506.8	24"	240"	18"

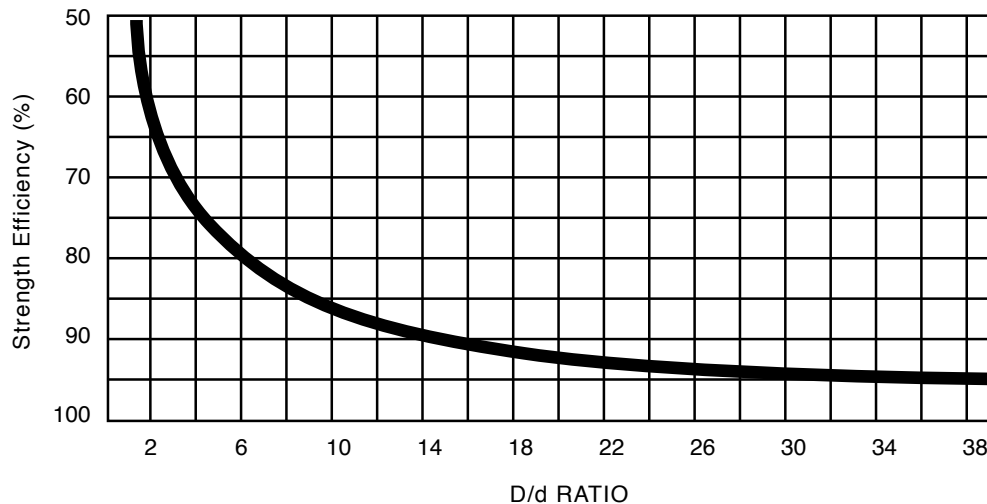
High-Capacity Low Headroom Grommet



To obtain the full rated capacity, the pin that the eye of the sling passes over must be a minimum of 1:1 D/d Ratio where D is the pin diameter, and d is the sling body diameter.

Hi-Cap LHR slings are ideal for applications in chemical plants, refineries, interstate highway construction, offshore derrick barge cranes, or whenever application requires high capacity with limited headroom.

Reduction in efficiency of wire rope when bent over pins of various sizes.



To obtain the full rated capacity, the pin that the eye of the sling passes over must be a minimum of 1:1 D/d ratio, where “D” is the pin diameter and “d” is the sling body diameter. This curve is computed for static loads only and is based on a weighted average of tests on 6-strand wire rope over pins and thimbles, on fiber core and IWRC, regular and lang constructions.

Note: The breaking strength of a grommet-type wire rope is highly dependent on the ratio of the pin diameter divided by the wire rope diameter. From this ratio, the strength efficiency can be calculated and applied to the base values on the previous page.

The values on the following four pages have been calculated based on using Crosby G-2160 Wide Body Shackles. To calculate for pins, anchor shackle bales, and trunnions:

1. Calculate your D/D ratio.
2. From your D/d ratio, determine your strength efficiency factor.
3. Apply your strength efficiency factor to the base working load limits at the top of page 1.

Phase 1 Grommet

Part #: HI-CAP1

Phase 1 Grommet (Single-Part)
(Working Load Limits Are in Tons of 2000 Lbs.)

Working Load Limit @ 5:1 Design Factor



Component Rope Dia. (inches)	Diameter of Pin, Shackle Bail, Trunnion, Etc. (inches)											
	3.00	3.50	4.00	4.50	6.00	8.00	10.00	12.00	16.00	20.00	24.00	30.00
1.50	27	28	29	29	31	32	34	35	36	37	37	38
1.75	34	36	37	38	40	42	44	45	47	48	49	50
2.00	43	46	47	49	52	55	57	58	61	63	64	66
2.25	49	52	55	56	61	64	67	68	72	74	76	77
2.50	58	62	65	67	73	77	81	83	86	90	92	94
2.75	67	72	76	79	85	91	95	98	103	106	109	112
3.00	77	82	87	91	99	106	111	115	120	124	128	132
3.50		102	108	114	126	136	143	148	156	161	165	171
4.00			130	137	153	168	177	184	195	201	206	214
4.50				160	181	200	212	222	235	244	250	259
6.00					250	283	306	323	346	363	375	388

Holloway Houston Inc. uses a 3, 6 and/or 12 inch diameter pin for testing purposes.

US Patent No: 6,381,939

BASKET RATINGS ALSO AVAILABLE UPON REQUEST. CONTACT US FOR MINIMUM LENGTHS.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

Part #: HI-CAP2

Phase 2 Grommet (Two-Part) (Working Load Limits Are in Tons of 2000 Lbs.)

Working Load Limit @ 5:1 Design Factor



Component Rope Dia. (inches)	Diameter of Pin, Shackle Bail, Trunnion, Etc. (inches)											
	3.00	3.50	4.00	4.50	6.00	8.00	10.00	12.00	16.00	20.00	24.00	30.00
1.50	54	56	58	59	63	65	68	70	72	74	75	76
1.75	69	72	74	77	81	85	88	91	95	97	99	101
2.00	87	92	95	98	105	111	114	117	123	127	129	132
2.25	99	105	110	113	122	129	134	137	144	148	152	155
2.50	117	124	130	135	146	155	162	166	173	180	184	189
2.75	135	144	152	158	171	183	191	197	206	213	219	225
3.00	154	165	174	182	199	213	223	231	241	249	256	264
3.50		204	217	228	252	273	287	297	312	322	331	343
4.00			260	274	307	336	355	369	390	403	413	429
4.50				320	362	400	425	444	470	488	501	518
6.00					500	566	612	646	693	726	750	776

Holloway Houston Inc. uses a 3, 6 and/or 12 inch diameter pin for testing purposes.

US Patent No: 6,381,939

BASKET RATINGS ALSO AVAILABLE UPON REQUEST. CONTACT US FOR MINIMUM LENGTHS.

All slings are proof-tested to 2 times working load limit. Design factor is 5:1.

HHI is an Authorized Distributor for Bridon American Wire Rope and Wirerope Works, Inc.

We also distribute wire rope imported from a variety of sources.



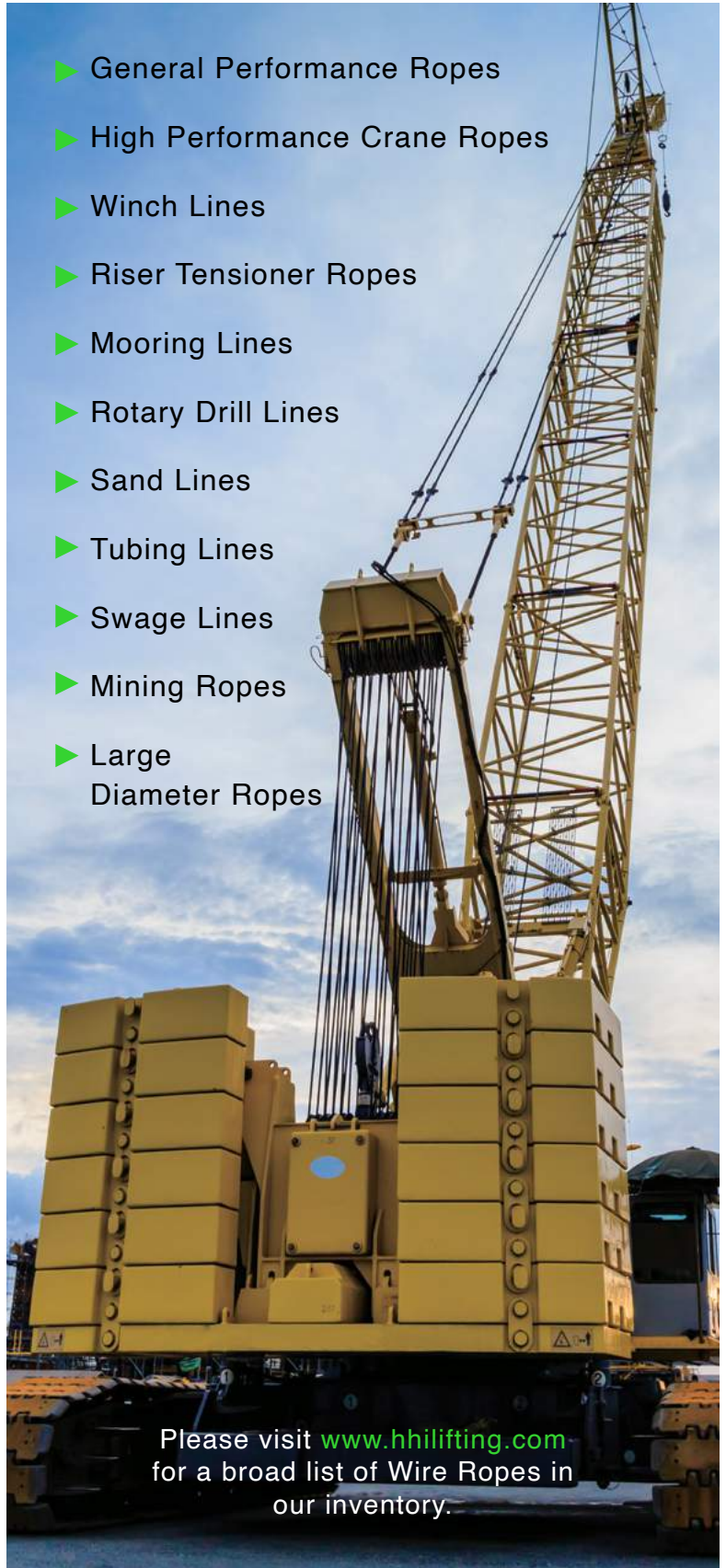
BRIDON

Authorized Bridon Wire Rope Distributor



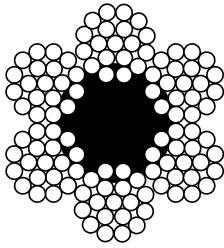
Wirerope Works, Inc.
 manufacturer of Bethlehem Wire Rope®
 Authorized Wirerope Works Distributor

- ▶ General Performance Ropes
- ▶ High Performance Crane Ropes
- ▶ Winch Lines
- ▶ Riser Tensioner Ropes
- ▶ Mooring Lines
- ▶ Rotary Drill Lines
- ▶ Sand Lines
- ▶ Tubing Lines
- ▶ Swage Lines
- ▶ Mining Ropes
- ▶ Large Diameter Ropes

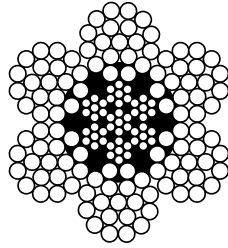


Please visit www.hhilifting.com for a broad list of Wire Ropes in our inventory.

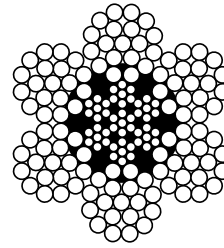
Bright Wire Rope - 6 x 19 Class



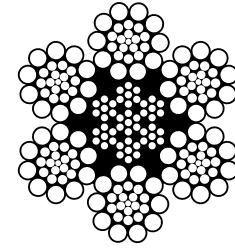
6 X 25 FILLER WIRE
WITH FIBER CORE



6 X 19 SEALE
WITH IWRC



6 X 25 FILLER WIRE
WITH IWRC



6 X 26 WARRINGTON
SEALE WITH IWRC

FIBER CORE (EIPS)

Diameter in Inches	Breaking Strength in Tons*
1/4	3.01
5/16	4.69
3/8	6.71
7/16	9.10
1/2	11.80
9/16	14.90
5/8	18.40
3/4	26.20
7/8	35.40
1	46.00
1.1/8	57.90
1.1/4	71.10

IWRC (EIPS)**

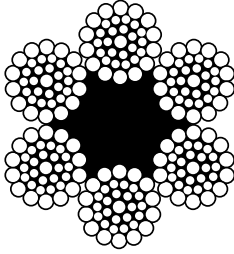
Diameter in Inches	Approx. Weight per Foot in Pounds	Breaking Strength in Tons*
1/4	0.116	3.40
5/16	0.180	5.27
3/8	0.260	7.55
7/16	0.350	10.20
1/2	0.460	13.30
9/16	0.590	16.80
5/8	0.720	20.60
3/4	1.040	29.40
7/8	1.420	39.80
1	1.850	51.70
1.1/8	2.340	65.00
1.1/4	2.890	79.90
1.3/8	3.500	96.00
1.1/2	4.160	114.00
1.5/8	4.880	132.00
1.3/4	5.670	153.00
2	7.390	198.00
2.1/4	9.360	247.00
2.3/8	10.400	274.00
2.1/2	11.600	302.00

**EEIPS available in some sizes and constructions.

According to A.S.T.M. A1023/1023M Wire Rope for General Purposes and Federal Specification RR-W-410, current revision, as applicable. Meets the performance requirements of API-9A. Preformed, right regular lay.

*Listed for comparison only. Actual operating loads should never exceed the recommended design factor or 20% of catalog Breaking Strength.

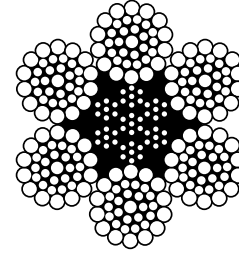
NOTE: Lang lay, left lay, alternate lay, Seale available in some sizes. Heavy lubrication on request.



6 X 36 WARRINGTON
SEALE WITH FIBER CORE

FIBER CORE (EIPS)

Diameter in Inches	Breaking Strength in Tons*
1/4	3.01
5/16	4.69
3/8	6.71
7/16	9.10
1/2	11.80
9/16	14.90
5/8	18.40
3/4	26.20
7/8	35.40
1	46.00
1.1/8	57.90
1.1/4	71.10



6 X 36 WARRINGTON
SEALE WITH IWRC

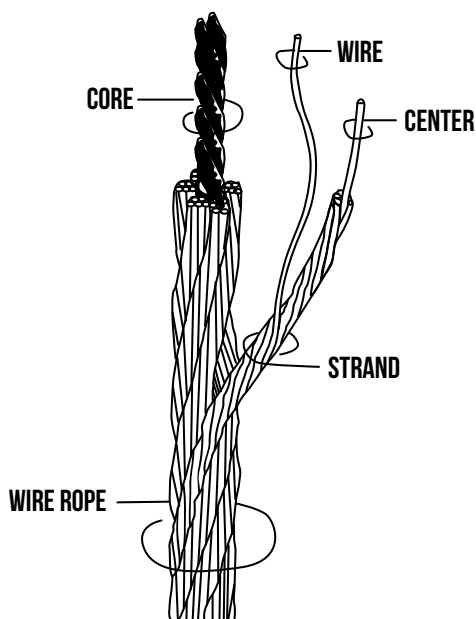
IWRC (EIPS)**

Diameter in Inches	Approx. Weight per Foot in Pounds	Breaking Strength in Tons*
1/4	0.116	3.40
5/16	0.180	5.27
3/8	0.260	7.55
7/16	0.350	10.20
1/2	0.460	13.30
9/16	0.590	16.80
5/8	0.720	20.60
3/4	1.040	29.40
7/8	1.420	39.80
1	1.850	51.70
1.1/8	2.340	65.00
1.1/4	2.890	79.90
1.3/8	3.500	96.00
1.1/2	4.160	114.00
1.5/8	4.880	132.00
1.3/4	5.670	153.00
2	7.390	198.00
2.1/4	9.360	247.00
2.1/2	11.600	302.00
2.3/4	14.000	361.00
3	16.600	425.00
3.1/2	22.700	572.00

**EIPS available in some sizes and constructions.

According to A.S.T.M. A1023/1023M Wire Rope for General Purposes and Federal Specification RR-W-410, current revision, as applicable. Meets the performance requirements of API-9A. Preformed, right regular lay.

*Listed for comparison only. Actual operating loads should never exceed the recommended design factor or 20% of catalog Breaking Strength.



The most widely used wire rope replacement, inspection, and maintenance standard for mobile-type cranes is ASME B30.5, section 5-2.4. Following is an excerpt from that standard:

For more information on wire rope, please see the Wire Rope User's Manual.

All running ropes in service should be visually inspected once each working day. A visual inspection shall consist of observation of all rope which can reasonably be expected to be in use during the day's operations. These visual observations should be concerned with discovering gross damage, such as listed below which may be an immediate hazard:

[A] Distortion of the rope such as kinking, crushing, unstranding, birdcaging, main strand displacement, or core protrusion. Loss of rope diameter in a short rope length or unevenness of outer strands should provide evidence that the rope must be replaced.

[B] General Corrosion

[C] Broken or Cut strands

[D] Number, distribution, and type of visible broken wires

[E] Core failure in rotation resistant ropes: when such damage is discovered, the rope shall be either removed from service or given an inspection (further detail per S-2.4.2).

The frequency of detailed and thorough inspections should be determined by a qualified person, who takes into account the following factors:

- ▶ Expected rope life as determined by [a] maintenance records, and [b] experience on the particular installation or similar installations.
- ▶ Severity of environment.
- ▶ Percentage of capacity lifts.
- ▶ Frequency rates of operation, and exposure to shock loads.

Inspect the entire length of the rope. Some areas of the wire rope such as around the core are more difficult to inspect. To inspect the core, examine the rope as it passes over the sheaves. The strands have a tendency to open up slightly which will afford the inspector a better view of the core. Also regularly inspect for any reduction in diameter and lengthening of rope lay as both conditions indicate core damage.



For more information on wire rope, Holloway Houston advises to read the Wire Rope Users Manual.



Synthetic Slings

SYNTHETIC SLINGS

PRODUCTS



Heavy Duty Eye & Eye Web Slings



Type 3 & 4 - EE

Web Width	No. Plys of Web	Part No.	Rated Capacities in Lbs.			Eye Length
			Vertical	Choker	V. Basket	
1"	1	EE1-91	1,600	1,280	3,200	9"
	2	EE2-91	3,100	2,480	6,200	9"
	3	EE3-91	4,100	3,300	8,200	12"
	4	EE4-91	6,200	4,960	12,400	12"
2"	1	EE1-92	3,100	2,480	6,200	9"
	2	EE2-92	6,200	4,960	12,400	9"
	3	EE3-92	8,300	6,600	16,600	12"
	4	EE4-92	12,400	9,920	24,800	12"
3"	1	EE1-93	4,650	3,720	9,300	9"
	2	EE2-93	9,300	7,440	18,600	12"
	3	EE3-93	12,500	10,000	25,000	18"
	4	EE4-93	18,600	14,880	37,200	18"
4"	1	EE1-94	6,200	4,960	12,400	12"
	2	EE2-94	11,000	8,800	22,000	12"
	3	EE3-94	16,000	12,800	32,000	18"
	4	EE4-94	22,000	17,600	44,000	18"
6"	1	EE1-96	9,300	7,440	18,600	14"
	2	EE2-96	16,500	13,200	33,000	14"
	3	EE3-96	23,000	18,400	46,000	20"
	4	EE4-96	33,000	26,400	66,000	20"
8"	1	EE1-98	12,400	9,920	24,800	18"
	2	EE2-98	22,000	17,600	44,000	18"
	3	EE3-98	30,700	24,560	61,400	24"
	4	EE4-98	44,000	35,200	88,000	24"
10"	1	EE1-910	15,500	12,400	31,000	22"
	2	EE2-910	27,500	22,000	55,000	22"
	3	EE3-910	36,800	29,400	73,600	28"
	4	EE4-910	55,000	44,000	110,000	28"
12"	1	EE1-912	18,600	14,880	37,200	26"
	2	EE2-912	33,000	26,400	66,000	26"
	3	EE3-912	44,000	35,200	88,000	32"
	4	EE4-912	66,000	52,800	132,000	32"

Type 3 E&E web slings have a flat eye and are easier to remove from beneath a load.



Type 4 E&E web slings have twisted eyes that fit better in the bowl of a hook and work better in a choker hitch.



Type 3 & 4 web slings are tapered at 3" and wider unless otherwise specified.

Type 4 twisted eye slings are generally furnished unless otherwise specified.

Slings are available in nylon or polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities. The ratings must be reduced when lifting at angles of less than 90 degrees with the horizontal.



Type 5 - EN

Web Width	Part No.	Rated Capacities in Lbs.		
		Vertical	Choker	V. Basket
1"	EN1-91	3,200	2,560	6,400
	EN2-91	6,200	4,960	12,400
	EN3-91	9,300	7,440	18,600
	EN4-91	12,400	9,920	24,800
2"	EN1-92	6,200	4,960	12,400
	EN2-92	12,400	9,920	24,800
	EN3-92	18,600	14,880	37,200
	EN4-92	22,800	18,240	45,600
3"	EN1-93	9,300	7,440	18,600
	EN2-93	18,600	14,880	37,200
	EN3-93	27,900	22,320	55,800
	EN4-93	34,400	27,520	68,800
4"	EN1-94	12,400	9,920	24,800
	EN2-94	22,000	17,600	44,000
	EN3-94	34,400	27,520	68,800
	EN4-94	45,800	36,640	91,600
6"	EN1-96	18,600	14,880	37,200
	EN2-96	33,000	26,400	66,000
	EN3-96	51,600	41,280	103,200
	EN4-96	66,000	52,800	132,000
8"	EN1-98	22,000	17,600	44,000
	EN2-98	44,000	35,200	88,000
	EN3-98	68,800	55,000	137,600
	EN4-98	105,000	84,000	210,000
10"	EN1-910	27,500	22,000	55,000
	EN2-910	55,000	44,000	110,000
	EN3-910	86,000	68,800	172,000
	EN4-910	114,700	91,760	229,400
12"	EN1-912	33,000	26,400	66,000
	EN2-912	66,000	52,800	132,000
	EN3-912	103,300	82,640	106,600
	EN4-912	137,600	110,080	275,200

Combining strength and versatility, endless slings are the most cost-effective general-purpose web slings available.



Slings are available in nylon or polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities. The ratings must be reduced when lifting at angles of less than 90 degrees with the horizontal.

Common Sling Hitches

Vertical Hitch



Choker Hitch



Basket Hitch



SYNTHETICS APPLICATION
AND WARNING INFORMATION

Reversed Eye Web Slings



Type 6 - RE

Web Width	Part No.	Rated Capacities in Lbs.			Material Size	Eye Length
		Vertical	Choker	V. Basket		
2"	RE1-91	4,600	3,680	9,200	1" 9800	9"
	RE2-91	7,700	6,160	15,400	1" 9800	9"
	RE3-91	11,550	9,240	23,100	1" 9800	9"
	RE4-91	11,600	9,280	23,200	1" 9800	9"
3"	RE1-915	6,900	5,520	13,800	1.5" 9800	12"
	RE2-915	11,600	9,120	23,200	1.5" 9800	12"
	RE3-915	17,250	13,800	34,500	1.5" 9800	12"
	RE4-915	17,400	13,920	34,800	1.5" 9800	12"
4"	RE1-92	8,600	6,880	17,200	2" 9800	18"
	RE2-92	14,500	11,600	29,000	2" 9800	18"
	RE3-92	20,400	16,320	40,800	2" 9800	18"
	RE4-92	23,000	18,400	46,000	2" 9800	18"
6"	RE1-93	12,000	9,600	24,000	3" 9800	14"
	RE2-93	17,400	13,920	34,800	3" 9800	18"
	RE3-93	26,500	21,200	53,000	3" 9800	20"
	RE4-93	34,000	27,200	68,000	3" 9800	24"



Abrasion-resistant Cordura wear pads cover the eyes and side of the body, giving extra protection to prevent wear.

Slings are available in nylon or polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities. The ratings must be reduced when lifting at angles of less than 90 degrees with the horizontal.

Reversed eye slings are the most durable web slings available.

They provide superior performance in heavy-duty and abrasive applications.

They work well in all three hitch configurations.



SYNTHETICS APPLICATION
AND WARNING INFORMATION

Choker & Basket Sling

Type 1 Choker Sling

Web Width	Alloy Steel	Forged Aluminum	Rated Capacities in Lbs.		
			Vertical	Choker	V. Basket
2"	CHS1-92	CHA1-92	3,100	2,480	6,200
	CHS2-92	N/A	6,200	4,960	12,400
	CHS3-92	N/A	8,300	6,600	16,600
	CHS4-92	N/A	12,400	9,920	24,800
3"	CHS1-93	CHA1-93	4,650	3,720	9,300
	CHS2-93	N/A	9,300	7,440	18,600
	CHS3-93	N/A	12,500	10,000	25,000
	CHS4-93	N/A	18,600	14,880	37,200
4"	CHS1-94	CHA1-94	6,200	4,960	12,400
	CHS2-94	N/A	11,000	8,800	22,000
	CHS3-94	N/A	16,000	12,800	32,000
	CHS4-94	N/A	22,000	17,600	44,000
6"	CHS1-96	CHA1-96	9,300	7,440	18,600
	CHS2-96	N/A	16,500	13,200	33,000
	CHS3-96	N/A	23,000	16,400	46,000
	CHS4-96	N/A	33,000	26,400	66,000
8"	CHS1-98	N/A	12,400	9,920	24,800
	CHS2-98	N/A	22,000	17,600	44,000
	CHS3-98	N/A	30,700	24,500	61,400
	CHS4-98	N/A	44,000	35,200	88,000
10"	CHS1-910	N/A	15,500	12,400	31,000
	CHS2-910	N/A	27,500	22,000	55,000
	CHS3-910	N/A	36,800	29,400	73,600
	CHS4-910	N/A	55,000	44,000	110,000
12"	CHS1-912	N/A	18,600	14,880	37,200
	CHS2-912	N/A	33,000	26,400	66,000
	CHS3-912	N/A	44,000	35,200	88,000
	CHS4-912	N/A	66,000	52,800	132,000



Metal hardware prolongs the life of slings prone to damage on the end of the sling.

Slings are available in nylon or polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities. The ratings must be reduced when lifting at angles of less than 90 degrees with the horizontal.

Type 2 Basket Sling

Web Width	Alloy Steel	Forged Aluminum	Rated Capacities in Lbs.	
			Vertical	V. Basket
2"	BHS1-92	BHA1-92	3,100	6,200
	BHS2-92	N/A	6,200	12,400
	BHS3-92	N/A	8,300	16,600
	BHS4-92	N/A	12,400	24,800
3"	BHS1-93	BHA1-93	4,650	9,300
	BHS2-93	N/A	9,300	18,600
	BHS3-93	N/A	12,500	25,000
	BHS4-93	N/A	18,600	37,200
4"	BHS1-94	BHA1-94	6,200	12,400
	BHS2-94	N/A	11,000	22,000
	BHS3-94	N/A	16,000	32,000
	BHS4-94	N/A	22,000	44,000
6"	BHS1-96	BHA1-96	9,300	18,600
	BHS2-96	N/A	16,500	33,000
	BHS3-96	N/A	23,000	46,000
	BHS4-96	N/A	33,000	66,000
8"	BHS1-98	N/A	12,400	24,800
	BHS2-98	N/A	22,000	44,000
	BHS3-98	N/A	30,700	61,400
	BHS4-98	N/A	44,000	88,000
10"	BHS1-910	N/A	15,500	31,000
	BHS2-910	N/A	27,500	55,000
	BHS3-910	N/A	36,800	73,600
	BHS4-910	N/A	55,000	110,000
12"	BHS1-912	N/A	18,600	37,200
	BHS2-912	N/A	33,000	66,000
	BHS3-912	N/A	44,000	88,000
	BHS4-912	N/A	66,000	132,000



Fittings available in forged aluminum or alloy steel.

Slings are available in nylon or polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities.



**SYNTHETICS APPLICATION
AND WARNING INFORMATION**



Velcro Sleeve Wear Pad
Available In Nylon,
Leather, Polyester And
Cordura



Sliding Sleeve Wear Pad
Available In Nylon,
Leather, Polyester And
Cordura



**Nylon Sliding Sleeve
Wear Pad With Leather**
On One Side Only



**Spectra Sliding Sleeve
Wear Pad**



Chain Saver Wear Pad



Tiedown Ratchet J Hook



**Tiedown Ratchet
Flat Hook**



Fork Lift Pad Protector



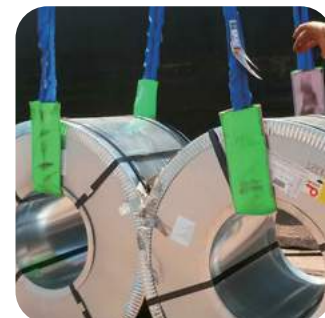
Cargo Basket Sling



Multileg Roundsling



Bridle Web Sling
Available In Nylon And
Polyester (1 To 4 Legs)



Steel Coil Sling

HHERS & HHEER

Rated Capacities in Lbs.

Part No.	Part No.	Color Code	Vertical	Choker	Vertical Basket	Minimum Length	Body Dia	Approx. Weight Per Foot
HHERS1	HHEER1	Purple	2,600	2,100	5,200	2'	0.71	0.3 LB
HHERS2	HHEER2	Green	5,300	4,200	10,600	2'	0.83	0.386 LB
HHERS3	HHEER3	Yellow	8,400	6,700	16,800	2'	1.03	0.64 LB
HHERS4	HHEER4	Tan	10,600	8,500	21,200	2'	1.11	0.75 LB
HHERS5	HHEER5	Red	13,200	10,600	26,400	2'	1.27	0.95 LB
HHERS6	HHEER6	White	16,800	13,400	33,600	3'	1.35	1.04 LB
HHERS7	HHEER7	Blue	21,200	17,000	42,400	3'	1.59	1.29 LB
HHERS8	HHEER8	Orange	25,000	20,000	50,000	3'	1.75	1.65 LB
HHERS9	HHEER9	Orange	31,000	24,800	62,000	3'	1.83	2 LB
HHERS10	HHEER10	Orange	40,000	32,000	80,000	3'	2.07	2.4 LB
HHERS11	HHEER11	Orange	53,000	42,400	106,000	5'	2.30	3 LB
HHERS12	HHEER12	Green/Black	66,000	52,800	132,000	5'	2.70	4 LB
HHERS13	HHEER13	Green/Black	90,000	72,000	180,000	5'	3.18	4.9 LB
HHERS14	HHEER14	Green/Black	100,000	80,000	200,000	5'	3.26	5.3 LB

*Larger Capacities Available Upon Request

For extra protection and increased durability, eye and eye roundslings are fabricated by encasing the body of an endless sling within a heavy-duty tubular Cordura sleeve.

5:1 design factor



SYNTHETICS APPLICATION
AND WARNING INFORMATION



HHERS Endless Roundslings



HHEER Eye And Eye Roundslings



Ask us about our water resistant cover.

Braided Roundslings



6-Part Braids

HH6BR

Part No.	Color Code	Rated Capacities in Lbs.			Minimum Length	Standard Eye Length	Body Width	Approx. Weight Per Foot
		Vertical	Choker	Vertical Basket				
HH6BR1	Purple	6,700	5,300	13,400	5'	14"	3.25"	1.10 LB
HH6BR2	Green	13,500	10,800	27,000	5'	15"	3.75"	1.45 LB
HH6BR3	Yellow	21,400	17,100	42,800	6'	18"	4.25"	1.90 LB
HH6BR4	Tan	27,000	21,600	54,000	6'	18"	4.50"	2.25 LB
HH6BR5	Red	33,600	26,800	67,200	7'	25"	5.25"	3.00 LB
HH6BR6	White	42,800	34,200	85,600	7'	25"	5.50"	3.50 LB
HH6BR7	Blue	54,000	43,200	108,000	9'	30"	6.63"	4.95 LB
HH6BR8	Orange	63,700	50,900	127,400	10'	33"	8.25"	6.00 LB
HH6BR9	Orange	79,000	63,200	158,000	10'	38"	11.00"	7.75 LB

8-Part Braids

HH8BR

Part No.	Color Code	Rated Capacities in Lbs.			Minimum Length	Standard Eye Length	Body Width	Approx. Weight Per Foot
		Vertical	Choker	Vertical Basket				
HH8BR1	Purple	9,000	7,200	18,000	5'	14"	3.50"	1.40 LB
HH8BR2	Green	18,000	14,400	36,000	5'	15"	4.00"	1.85 LB
HH8BR3	Yellow	28,500	22,800	57,000	6'	18"	4.75"	2.40 LB
HH8BR4	Tan	36,000	28,800	72,000	6'	18"	5.00"	2.85 LB
HH8BR5	Red	44,900	35,900	89,800	7'	25"	6.00"	3.80 LB
HH8BR6	White	57,100	45,600	114,200	7'	25"	6.25"	4.40 LB
HH8BR7	Blue	72,000	57,600	144,000	9'	30"	7.50"	6.25 LB
HH8BR8	Orange	85,000	68,000	170,000	10'	33"	9.50"	7.60 LB
HH8BR9	Orange	105,300	84,200	210,600	10'	38"	13.00"	9.75 LB



SYNTHETICS APPLICATION
AND WARNING INFORMATION

Braided roundslings achieve high working load limits without sacrificing the light weight and flexibility offered by the rest of our roundslings line.



An uncontrolled flow line rupture can wreak havoc on your project site. The high-pressure explosion will not only destroy your equipment but may also result in serious injuries or even fatalities. One of the best ways to avoid these circumstances is to use pipe restraint slings.

Holloway Houston brings you the Python Pipe Restraint Slings. This simple piece of engineering can minimize the risk of pipe ruptures and potential injuries.

General Features:

- Specially designed to control the piping, in case of a high-pressure eruption.
- Manufactured as per the latest safety and manufacturing standards.
- High strength – suitable for applications under high pressure and temperature.
- Flexible and lightweight design reduces ergonomic concerns.
- Color-coded for easy usage.
- Easy to maintain.



Python Pipe Restraint Light Duty Red Sling

- 2" Max Pressure 15,000 PSI
- 3" Max Pressure 8,000 PSI
- 4" Max Pressure 5,000 PSI

Python Pipe Restraint Medium Duty Blue Sling

- 2" Max Pressure 20,000 PSI
- 3" Max Pressure 15,000 PSI
- 4" Max Pressure 10,000 PSI

Python Pipe Restraint Heavy Duty Orange Sling

- 2" Max Pressure 20,000 PSI
- 3" Max Pressure 20,000 PSI
- 4" Max Pressure 15,000 PSI

Inspection, Care, & Use of Synthetic Slings



SYNTHETICS APPLICATION AND WARNING INFORMATION

REMOVAL FROM SERVICE:

1. If rated capacity tag is missing or not readable.
2. Acid or alkali burns.
3. Melting, charring, or weld splatter of any part of the sling.
4. Holes, tears, cuts, snags, or imbedded particles.
5. Broken or worn stitches.
6. Excessive abrasive wear.
7. Knots in any part of the sling.
8. Distortion, excessive pitting, corrosion, or broken fittings.
9. Any conditions which cause doubt as to the strength of the sling.

OPERATING PRACTICES:

- 1 Determine weight of the load. The weight of the load shall be within the rated capacity of the sling.
- 2 Select sling having suitable characteristics for the type of load, hitch, & environment.
- 3 Slings shall not be loaded in excess of the rated capacity. Consideration shall be given to the sling load angle, which affects rated capacity. (See load factor chart.)
- 4 Slings with fittings, when used as a choker hitch, shall be of sufficient length to assure that the choking action is on the sling and never on a fitting.
- 5 Slings used in a basket hitch shall have the load balanced to prevent slippage.
- 6 The opening in fittings shall be the proper shape and size to insure that the fitting will seat properly in the hook or other attachments.
- 7 Slings shall always be protected from being cut by sharp corners and edges, protrusions, and abrasive surfaces.
- 8 Slings shall not be dragged on the floor or over abrasive surfaces.
- 9 Slings shall not be twisted, tied into knots, or joined by knotting.
- 10 Slings shall not be pulled from under loads if the load is resting on the sling.
- 11 Do not drop slings equipped with fittings.
- 12 Slings that appear to be damaged shall not be used unless inspected & accepted.
- 13 The sling shall be hitched in a manner providing control of the load.
- 14 All parts of the body shall be kept from between the sling and the load, as well as from between the sling and the crane or hoist hook.
- 15 Personnel shall stand clear of the suspended load.
- 16 Personnel shall not ride the sling.
- 17 Shock loading shall be avoided.
- 18 Twisting and kinking the legs (branches) shall be avoided.
- 19 Load applied shall be centered in the base (bowl) of hook to prevent point loading of the hook.
- 20 During lifting, with or without the load, personnel shall be alert for possible snagging.

- 21 The slings' legs shall contain or support the load from the sides above the center of gravity when using a basket hitch.
- 22 Slings shall be long enough that the rated capacity of the sling is adequate when the angle of the legs is considered (see load chart).
- 23 Place block under load prior to setting down the load to allow removal of the sling, if applicable.
- 24 Synthetic slings shall not be used at temperatures above 194 degrees F.
- 25 Exposure to sun or ultraviolet light degrades slings. Store slings in a cool, dry, & dark place when not in use.

INSPECTION

A. Initial Inspection

Before any new or repaired sling is placed in service, it shall be inspected by a designated person to ensure that the correct sling is being used and to determine that the sling meets the requirements of this specification and has not been damaged in shipment.

B. Frequent Inspection

This inspection shall be made by a qualified person handling the sling each time the sling is used.

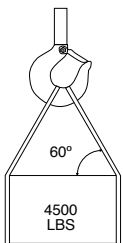
C. Periodic Inspection

This inspection shall be conducted by designated personnel. Frequency of inspection should be based on:

1. Frequency of sling use
2. Severity of service conditions
3. Experience gained on the service life of slings used in similar applications
4. Periodic inspections should be conducted at least monthly

Sling Angle and Sling Load Chart

Sling Angle is the angle measured between a horizontal line and the sling leg or body. The angle is very important and can have a dramatic effect on the rated capacity of the sling. As illustrated, when this angle decreases, the load on each leg increases. This principle applies whether the sling is used to pull at an angle, in a basket hitch, or in multi-legged bridle slings. This data is only for equally loaded sling legs. Sling angles of less than 30 degrees are not recommended.



Sling Angle in Degrees	Factor
90	1.000
85	.996
80	.985
75	.966
70	.940
65	.906
60	.866
55	.819
50	.766
45	.707
40	.643
35	.574
30	.500

Actual sling capacity = Factor x rated capacity

Additional requirements and safe operating practices are outlined in current OSHA and ANSI/ASME B30.9 and/or other regulations as applicable.

Silver Back HHIperLift Slings



The Silverback HHIperLift Slings family of roundslings made with Honeywell Spectra fibers is part of a series of new-generation lifting tools utilizing space-age materials and high-tech design methodologies.

- ▶ **High Specific Modulus - Excellent for Lifting and Mooring in Ultra-Deep Water**
- ▶ **Highly Cut-Resistant**
- ▶ **Resists Prolonged Saltwater Immersion**
100% Proof-Tested and More

Silverback HHIperLift Slings General and Technical Data

High Contact Rigging Efficiency (HCRE)

Silverback HHIperLift Slings offer superior rigging efficiency compared with conventional materials, such as wire rope, braided rope, and traditional roundslings that generally require fairly large and fixed diameters in relation to lifting potential.

Silverback HHIperLift Slings advantage over braided rope or helically laid stranded yarn is its use of a special oversized triple cover with parallel laid yarn inside. This cover allows the user to reshape slings to better fit available load-bearing surfaces.

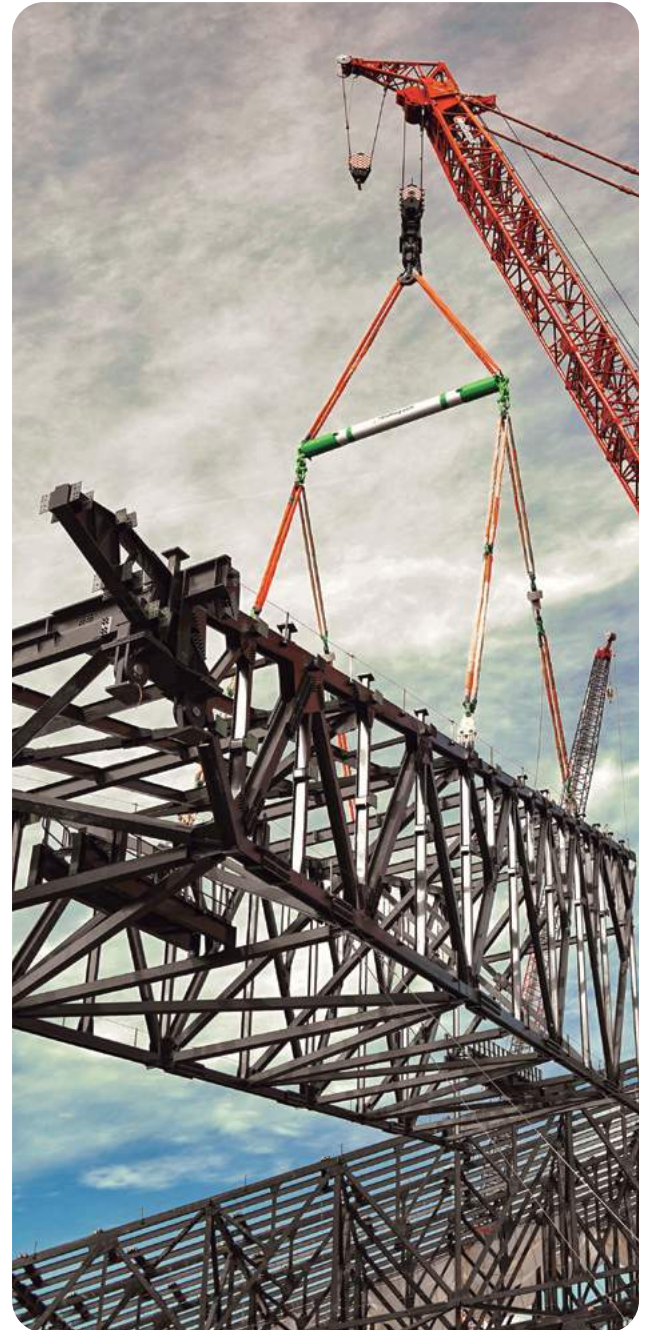
Silverback HHIperLift Slings increase the contact of lifting fibers with the pin, allowing the use of a smaller shackle. Because the thickness of the fiber bundle in contact with the lifting area is reduced, the required 3:1 D/d ratio is maintained.

Ratings and Design Factors:

Silverback HHIperLift Slings are rated in metric tons.

The design factor is 5:1 (Ultimate = 5 x rated load).

Exceeding rated capacity is not recommended.



Silver Back HHIperLift Slings



Characteristics and Advantages:

- ▶ Much stronger: Up to 40% greater specific strength than aramid fibers (Technora, Kevlar) with outstanding toughness and durability.
 - ▶ Lightweight: Spectra slings are light enough to be manipulated without the use of special equipment or work-rated ROVs. A vertical 15' 75-ton sling weighs less than 75 pounds.
 - ▶ Reduced elongation: Maximum of 3.8% at breaking load.
 - ▶ Floatation properties: Lightweight, with 0.97-g/cc density. Tends to remain relatively stationary in deep water.
 - ▶ Prolonged saltwater immersion tolerance: Honeywell Spectra® testing indicates no reduction in lifting capacity after 6 months of saltwater immersion and only 1-2% loss after 12 months of immersion.
 - ▶ Excellent fatigue resistance.
 - ▶ Superior damping characteristics (vibration, shock, and impact): Can withstand high-load strain rate velocities.
 - ▶ High specific modulus: Excellent for lifting and mooring in ultra-deep water. Exceptional high-pressure resistance.
 - ▶ High chemical resistance.
 - ▶ Good UV resistance.
- Highly cut-resistant.
- ▶ Made in America: All Honeywell Spectra fibers and cover materials are manufactured in the U.S. Sling fabrication and load testing are performed at HHI's Houston facility.
 - ▶ API-Q1 standards of design, calculation, and large sample testing, as well as other proven methods, are used in the development of Spectra roundslings.



Silver Back HHIperLift Slings



HHI proof-tests and certifies 100% of our HHIperLift slings before delivery:

- ▶ All slings are serialized with copies of certification maintained by HHI and available on HHI's website.
- ▶ HHI's triple cover system enhances durability and is designed to reduce both cover abrasion and exterior damage.
- ▶ **ROV Markings Available:**
Upon request, prior to fabrication, ROV connection and handling points can be indicated on the slings using high contrast cover material versus a more neutral background for the body of the sling.

▶ Use and Care

Silverback HHIperLift slings roundslings should be used in accordance with OSHA roundsling guidelines. Keep in mind that while Spectra® fibers are extremely resistant to cuts, the three cover layers (nylon, Cordura, and polyester) can be cut much more easily.



Optional Spectra* Cover Material

Available in lieu of a traditional three-material cover for use in area prone to extreme abrasion and/or sharp edges, our Spectra® cover offers much improved cut and abrasion resistance.

HH-SP & HH-SPE

HHI Part Number Endless Roundslings	HHI Part Number Eye and Eye Roundslings	Vertical WLL in M Ton	Choker Hitch WLL in M Ton	Vertical Basket WLL in M Ton	Approx. Wgt/Ft Length (lbs.)	Recomm. Wide Body Shackles	Body Dia
HH-18T-SP	HH-18T-SPE	18t	14.4t	36t	.81	18t	1.43
HH-25T-SP	HH-25T-SPE	25t	20t	50t	1.13	30t	1.75
HH-50T-SP	HH-50T-SPE	50t	40t	100t	2.26	55t	2.38
HH-75T-SP	HH-75T-SPE	75t	60t	150t	3.39	75t	2.86
HH-100T-SP	HH-100T-SPE	100t	80t	200t	4.52	125t	3.5
HH-125T-SP	HH-125T-SPE	125t	100t	250t	5.65	125t	3.89
HH-150T-SP	HH-150T-SPE	150t	120t	300t	6.78	150t	4.29
HH-175T-SP	HH-175T-SPE	175t	140t	350t	7.91	200t	4.77
HH-200T-SP	HH-200T-SPE	200t	160t	400t	9.04	200t	4.93
HH-225T-SP	HH-225T-SPE	225t	180t	450t	10.17	250t	5.57
HH-250T-SP	HH-250T-SPE	250t	200t	500t	11.30	250t	5.89
HH-275T-SP	HH-275T-SPE	275t	220t	550t	12.43	300t	6.21
HH-300T-SP	HH-300T-SPE	300t	240t	600t	13.56	300t	6.52
HH-350T-SP	HH-350T-SPE	350t	280t	700t	15.83	400t	7.16
HH-400T-SP	HH-400T-SPE	400t	320t	800t	18.09	400t	7.48
HH-450T-SP	HH-450T-SPE	450t	360t	900t	20.35	500t	8.43
HH-500T-SP	HH-500T-SPE	500t	400t	1,000t	22.61	500t	8.91

*Larger Capacities Available upon Request

Three-layer DuraFab cover w/ parallel laid yarn, high contact rigging efficiency, rated capacity & 5:1 design factor.

Elongation, excellent fatigue & cut resistance, and good UV resistance.

Sling ratings are based on a standard type wide body shackle (or equivalent bearing surface) of equal or greater capacity.



Endless Roundslings



Eye And Eye Roundslings

HH-EEP



HHI PART NUMBER	Nominal Diameter	Size # (Circ.)	Approx. Wgt Rope	Working Load Limit Vertical	Sling Minimum Tensile Strength Vertical
	Inches	Inches	Lbs/FT	Pounds	Pounds
HH-11-EEP	7/16"	1-1/4"	0.042	4,200	21,000
HH-12-EEP	1/2"	1-1/2"	0.064	6,260	31,300
HH-14-EEP	9/16"	1-3/4"	0.079	7,580	37,900
HH-16-EEP	5/8"	2"	0.106	10,280	51,400
HH-18-EEP	3/4"	2-1/4"	0.133	13,700	68,500
HH-22-EEP	7/8"	2-3/4"	0.196	18,520	92,600
HH-24-EEP	1"	3"	0.234	22,000	110,000
HH-28-EEP	1-1/8"	3-1/2"	0.319	29,400	147,000
HH-30-EEP	1-1/4"	3-3/4"	0.362	33,000	165,000
HH-32-EEP	1-5/16"	4"	0.417	39,200	196,000
HH-36-EEP	1-1/2"	4-1/2"	0.517	44,200	221,000
HH-40-EEP	1-5/8"	5"	0.66	58,200	291,000
HH-44-EEP	1-3/4"	5-1/2"	0.78	62,800	314,000
HH-48-EEP	2"	6"	0.91	71,000	355,000
HH-52-EEP	2-1/8"	6-1/2"	1.09	85,600	428,000
HH-56-EEP	2-1/4"	7"	1.22	96,200	481,000
HH-60-EEP	2-1/2"	7-1/2"	1.48	106,000	530,000
HH-64-EEP	2-5/8"	8"	1.67	119,200	596,000
HH-68-EEP	2-3/4"	8-1/2"	1.87	132,000	660,000
HH-72-EEP	3"	9"	2.14	156,000	780,000
HH-76-EEP	3-1/8"	9-1/2"	2.35	170,000	850,000
HH-80-EEP	3-1/4"	10"	2.61	188,000	940,000
HH-84-EEP	3-1/2"	10-1/2"	2.98	221,600	1,108,000
HH-88-EEP	3-5/8"	11"	3.24	250,000	1,250,000
HH-92-EEP	3-3/4"	11-1/2"	3.43	263,400	1,317,000
HH-96-EEP	4"	12"	3.94	304,000	1,520,000
HH-100-EEP	4-1/8"	12-1/2"	4.57	324,400	1,622,000
HH-104-EEP	4-1/4"	13"	5.14	339,400	1,697,000
HH-108-EEP	4-1/2"	13-1/2"	5.3	365,400	1,827,000
HH-112-EEP	4-5/8"	14"	5.46	376,000	1,880,000
HH-116-EEP	4-3/4"	14-1/2"	5.87	385,400	1,927,000
HH-120-EEP	5"	15"	6.06	413,900	2,069,500
HH-124-EEP	5-1/8"	15-1/2"	6.57	442,400	2,212,000
HH-128-EEP	5-1/4"	16"	7.03	471,000	2,355,000
HH-132-EEP	5-1/2"	16-1/2"	7.49	499,500	2,497,500
HH-136-EEP	5-5/8"	17"	8.13	528,000	2,640,000
HH-140-EEP	5-3/4"	17-1/2"	8.71	556,500	2,782,500
HH-144-EEP	6"	18"	9.32	585,000	2,925,000
HH-148-EEP	6-1/8"	18-1/2"	9.85	613,600	3,068,000
HH-152-EEP	6-1/4"	19"	10.38	642,100	3,210,500
HH-156-EEP	6-1/2"	19-1/2"	11.03	670,600	3,353,000
HH-160-EEP	6-5/8"	20"	11.59	699,200	3,496,000
HH-164-EEP	6-3/4"	20-1/2"	12.27	727,700	3,638,500
HH-168-EEP	7"	21"	12.84	756,200	3,781,000
HH-172-EEP	7-1/8"	21-1/2"	13.34	792,700	3,963,500
HH-176-EEP	7-1/4"	22"	13.92	813,200	4,066,000
HH-180-EEP	7-1/2"	22-1/2"	14.52	841,800	4,209,000
HH-184-EEP	7-5/8"	23"	15.27	870,300	4,351,500
HH-188-EEP	7-3/4"	23-1/2"	15.89	898,800	4,494,000
HH-192-EEP	8"	24"	16.53	927,400	4,637,000
HH-196-EEP	8-1/8"	24-1/2"	17.32	955,800	4,779,000
HH-200-EEP	8-1/4"	25"	17.98	984,400	4,922,000



Features & Benefits

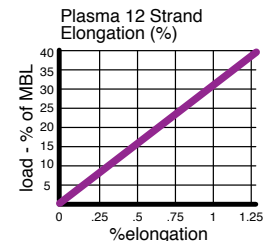
- Highest Strength
- Lowest Stretch
- Low Creep
- Soft Hand
- Torque Free
- Easy Splicing
- Floats

Applications

- Replacement for Wire Rope
- Vessel Mooring
- Inland River Barge Lines
- Lifting Slings
- Winch Lines
- Aerial Retrieval Lines
- Emergency Tow Packages

Specific gravity	0.98*
Melting point	284° F (140° C)*
Critical temp.	150° F (65° C)*
Coefficient of friction	0.09-0.12
Elongation at break	4%-5%
Fiber water absorption	0%
UV resistance	moderate
Wet abrasion	superior
Dry abrasion	superior

*-value based on date supplied by the fiber manufacturer for new, dry fiber



Tensile Strengths are determined in accordance with Cordage Institute 1500.2.

Test Methods for Fiber Rope. Minimum Tensile Strength (MTS) published

Assumes spliced terminations. Weight are calculated at linear density under stated preload (200d2) plus 4%.

<-> Design Factor 5:1 <-> Minimum D/d 3:1

HMPE Slings Endless Grommet



HH-EP



HHI PART NUMBER	Nominal Diameter	Size # (Circ.)	Approx. Wgt Rope	Working Load Limit Vertical	Sling Minimum Tensile Strength Vertical
	Inches	Inches	Lbs/FT	Pounds	Pounds
HH-11-EP	7/16"	1-1/4"	0.042	6,930	34,650
HH-12-EP	1/2"	1-1/2"	0.064	10,329	51,645
HH-14-EP	9/16"	1-3/4"	0.079	12,507	62,535
HH-16-EP	5/8"	2"	0.106	16,962	84,810
HH-18-EP	3/4"	2-1/4"	0.133	22,605	113,025
HH-22-EP	7/8"	2-3/4"	0.196	30,558	152,790
HH-24-EP	1"	3"	0.234	36,300	181,500
HH-28-EP	1-1/8"	3-1/2"	0.319	48,510	242,550
HH-30-EP	1-1/4"	3-3/4"	0.362	54,450	272,250
HH-32-EP	1-5/16"	4"	0.417	64,680	323,400
HH-36-EP	1-1/2"	4-1/2"	0.517	72,930	364,650
HH-40-EP	1-5/8"	5"	0.66	96,030	480,150
HH-44-EP	1-3/4"	5-1/2"	0.78	103,620	518,100
HH-48-EP	2"	6"	0.91	117,150	585,750
HH-52-EP	2-1/8"	6-1/2"	1.09	141,240	706,200
HH-56-EP	2-1/4"	7"	1.22	158,730	793,650
HH-60-EP	2-1/2"	7-1/2"	1.48	174,900	874,500
HH-64-EP	2-5/8"	8"	1.67	196,680	983,400
HH-68-EP	2-3/4"	8-1/2"	1.87	217,800	1,089,000
HH-72-EP	3"	9"	2.14	257,400	1,287,000
HH-76-EP	3-1/8"	9-1/2"	2.35	280,500	1,402,500
HH-80-EP	3-1/4"	10"	2.61	310,200	1,551,000
HH-84-EP	3-1/2"	10-1/2"	2.98	365,640	1,828,200
HH-88-EP	3-5/8"	11"	3.24	412,500	2,062,500
HH-92-EP	3-3/4"	11-1/2"	3.43	434,610	2,173,050
HH-96-EP	4"	12"	3.94	501,600	2,508,000
HH-100-EP	4-1/8"	12-1/2"	4.57	535,260	2,676,300
HH-104-EP	4-1/4"	13"	5.14	560,010	2,800,050
HH-108-EP	4-1/2"	13-1/2"	5.3	602,910	3,014,550
HH-112-EP	4-5/8"	14"	5.46	620,400	3,102,000
HH-116-EP	4-3/4"	14-1/2"	5.87	635,910	3,179,550
HH-120-EP	5"	15"	6.06	682,935	3,414,675
HH-124-EP	5-1/8"	15-1/2"	6.57	729,960	3,649,800
HH-128-EP	5-1/4"	16"	7.03	777,150	3,885,750
HH-132-EP	5-1/2"	16-1/2"	7.49	824,175	4,120,875
HH-136-EP	5-5/8"	17"	8.13	871,200	4,356,000
HH-140-EP	5-3/4"	17-1/2"	8.71	918,225	4,591,125
HH-144-EP	6"	18"	9.32	965,250	4,826,250
HH-148-EP	6-1/8"	18-1/2"	9.85	1,012,440	5,062,200
HH-152-EP	6-1/4"	19"	10.38	1,059,465	5,297,325
HH-156-EP	6-1/2"	19-1/2"	11.03	1,106,490	5,532,450
HH-160-EP	6-5/8"	20"	11.59	1,153,680	5,768,400
HH-164-EP	6-3/4"	20-1/2"	12.27	1,200,705	6,003,525
HH-168-EP	7"	21"	12.84	1,247,730	6,238,650
HH-172-EP	7-1/8"	21-1/2"	13.34	1,307,955	6,539,775
HH-176-EP	7-1/4"	22"	13.92	1,341,780	6,708,900
HH-180-EP	7-1/2"	22-1/2"	14.52	1,388,970	6,944,850
HH-184-EP	7-5/8"	23"	15.27	1,435,995	7,179,975
HH-188-EP	7-3/4"	23-1/2"	15.89	1,483,020	7,415,100
HH-192-EP	8"	24"	16.53	1,530,210	7,651,050
HH-196-EP	8-1/8"	24-1/2"	17.32	1,577,070	7,885,350
HH-200-EP	8-1/4"	25"	17.98	1,624,260	8,121,300



SYNTHETIC SLINGS

PRODUCTS

Features & Benefits

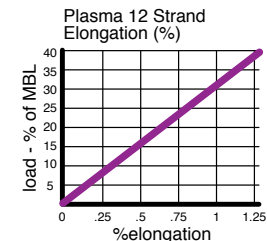
- Highest Strength
- Lowest Stretch
- Low Creep
- Soft Hand
- Torque Free
- Easy Splicing
- Floats

Applications

- Replacement for Wire Rope
- Vessel Mooring
- Inland River Barge Lines
- Lifting Slings
- Winch Lines
- Aerial Retrieval Lines
- Emergency Tow Packages

Specific gravity	0.98*
Melting point	284° F (140° C)*
Critical temp.	150° F (65° C)*
Coefficient of friction	0.09-0.12-
Elongation at break	4%-5%
Fiber water absorption	0%
UV resistance	moderate
Wet abrasion	superior
Dry abrasion	superior

*-value based on date supplied by the fiber manufacturer for new, dry fiber



Tensile Strengths are determined in accordance with Cordage Institute 1500.2.

Test Methods for Fiber Rope. Minimum Tensile Strength (MTS) published

Assumes spliced terminations. Weight are calculated at linear density under stated preload (200d2) plus 4%.

<-> Design Factor 5:1 <-> Minimum D/d 3:1



HammerHead Slings

SYNTHETIC SLINGS



PRODUCTS

- ▶ High Strength
- ▶ Light Weight
- ▶ Durable
- ▶ Repairable
- ▶ Low Stretch
- ▶ 100% Proof Tested

*Your minimum D/d is 2:1. However, it is suggested to use the sling at a 3:1 D/d to increase the longevity of the sling's lifespan.

Sling's working load is based on a 5:1 factor of safety.

Rated Capacities in Pounds

Part No.	Vertical*	Choker	Vertical Basket**	Min length	Rope Dia.	Approx Sling Dia.	Approx wgt per linear foot of sling
HH-9-EPC	5,700	4,600	11,500	2'	3/8"	1/2"	0.123
HH-11-EPC	6,900	5,500	13,800	2'	7/16"	9/16"	0.149
HH-12-EPC	10,300	8,200	20,600	2'	1/2"	11/16"	0.216
HH-16-EPC	16,900	13,500	33,900	2'	5/8"	7/8"	0.348
HH-18-EPC	22,600	18,000	45,200	2'	3/4"	1"	0.461
HH-22-EPC	30,500	24,400	61,000	2.5'	7/8"	1-3/16"	0.66
HH-24-EPC	36,300	29,000	72,600	2.5'	1"	1-3/8"	0.819
HH-28-EPC	48,500	38,800	97,000	3'	1-1/8"	1-1/2"	1.087
HH-30-EPC	54,400	43,500	108,800	3'	1-1/4"	1-5/8"	1.278
HH-36-EPC	72,000	58,000	145,000	3.5'	1-1/2"	2"	1.842
HH-40-EPC	96,000	76,000	192,000	3.5'	1-5/8"	2-3/16"	2.269
HH-44-EPC	103,000	82,000	207,000	4'	1-3/4"	2-3/8"	2.693
HH-48-EPC	117,000	93,000	234,000	4'	2"	2-5/8"	2.28
HH-52-EPC	141,000	112,000	282,000	4.5'	2-1/8"	2-7/8"	3.295
HH-56-EPC	158,000	126,000	317,000	4.5'	2-1/4"	3"	3.849
HH-60-EPC	174,000	139,000	349,000	5'	2-1/2"	3-3/8"	4.323
HH-64-EPC	196,000	157,000	393,000	5'	2-5/8"	3-1/2"	5.303
HH-68-EPC	217,000	174,000	435,000	6'	2-3/4"	3-5/8"	5.951
HH-72-EPC	257,000	205,000	514,000	6.5'	3"	4"	6.752
HH-76-EPC	280,000	224,000	561,000	6.5'	3-1/8"	4-1/8"	7.728
HH-80-EPC	310,000	248,000	620,000	6.5'	3-1/4"	4-3/8"	9.344
HH-84-EPC	365,000	292,000	731,000	7.5'	3-1/2"	4-5/8"	10.543
HH-88-EPC	412,000	330,000	825,000	7.5'	3-5/8"	4-7/8"	11.678
HH-96-EPC	501,000	401,000	1,003,000	8.5'	4"	5-3/8"	14.299





HOLLOWAY HOUSTON INC. Introduces a new improved version of the traditional soft shackle. Utilizing our unique braiding machine, we have added an additional braided polyester jacket coated with Fiber Lock as abrasion protection over the body on the Hippo Link™. This feature gives the **Hippo Link®** added life and durability.



- ▶ **Light Weight**
- ▶ **Floats**
- ▶ **Low Stretch**
- ▶ **Easy Handling**
- ▶ **High Strength**
- ▶ **Will Not Rust**
- ▶ **Easy On Equipment**

Part Number	Size	Length	Work Load Limit Pounds
EHL-316-006	3/16"	6"	2,700
EHL-014-006	1/4"	6"	4,000
EHL-516-010	5/16"	10"	5,800
EHL-038-010	3/8"	10"	8,700
EHL-716-010	7/16"	10"	9,400
EHL-012-010	1/2"	10"	12,500
EHL-916-010	9/16"	10"	15,160
EHL-058-018	5/8"	18"	20,500
EHL-034-018	3/4"	18"	27,400
EHL-078-024	7/8"	24"	37,000
EHL-001-024	1"	24"	44,000
EHL-118-024	1-1/8"	24"	58,800
EHL-114-024	1-1/4"	24"	66,000
EHL-112-028	1-1/2"	28"	88,400



Grade 30 Proof Coil Chain

A general-purpose chain of standard commercial quality. Made from low-carbon steel, this chain is frequently used for fabricating tow chains, logging chains, and when appropriate, tie down or binding chains. The manufacturer's symbol and grade (3, 30, or 300) is marked on chain links approximately every 12 inches. This chain should not be used in overhead lifting applications.

Grade 40 High-Test Chain

Commonly used in the trucking industry for tie downs meeting DOT specifications, this chain is made of steel with increased carbon content. Compared to proof coil chain of the same size, this high-test chain increases working load limits by a factor of 2:1. The manufacturer's symbol and grade (4, 40, 43, or 400) is marked on chain links approximately every 12 inches. This chain should not be used in overhead lifting applications.

Grade 70 Transport Chain

As its name implies, transport chain is primarily used to tie down loads on over-the-road equipment. Made from heat-treated carbon steel, it is about 25% stronger than high-test chains. The manufacturer's symbol and grade (7, 70, or 700) is marked on chain links approximately every 12 inches. This chain should not be used in overhead lifting applications.

Grade 80 Alloy Chain

Designed to stretch a minimum of 15% before breaking, alloy chain is the only grade of chain approved for overhead lifting by OSHA and other agencies. Its heat-treated alloy steel makes it ideal for lifting slings and heavy-duty tow chains. The manufacturer's symbol and grade (8, 80, or 800) is marked on chain links approximately every 12 inches. This chain is suitable for overhead lifting applications.

The most recent alloy chain provides about 25% higher working load limits than Grade 80 alloy chain with some limitations reported in lower ambient temperatures and availability of fittings. The manufacturer's symbol and grade marking: 10 or 100 is placed on the chain links every foot or so. Suitable for overhead lifting.



Grade 100 Alloy Chain

Grade 100, the most recently developed alloy chain, improves on Grade 80 chain's working load limits by about 25%, though that figure is impacted by lower ambient temperatures and the availability of fittings. The manufacturer's symbol and grade (10 or 100) is marked on chain links approximately every 12 inches. This chain is suitable for overhead lifting applications.

Spectrum Alloy Chain

Grade 100 Chain Sling Components



Working load limit - 4 to 1 design factor

Chain Size		90°	60°	45°	30°	60°	45°	30°
(in.)	(mm)	Single Leg		Double Leg		Triple & Quad Leg		
-	6	3200	5500	4500	3200	8300	6800	4800
1/4 (9/32)	7	4300	7400	6100	4300	11200	9100	6400
5/16	8	5700	9900	8100	5700	14800	12100	8500
3/8	10	8800	15200	12400	8800	22900	18700	13200
1/2	13	15000	26000	21200	15000	39000	31800	22500
5/8	16	22600	39100	32000	22600	58700	47900	33900
3/4	20	35300	61100	49900	35300	91700	74900	52950
7/8	22	42700	74000	60400	42700	110900	90600	64000
1	26	59700	109400	84400	59700	155100	126000	89550

*For choker applications, the working load limit must be reduced by 20%. The Crosby A-1338 cradle grab hook doesn't require any reduction of the working load limit. The design factor of 4:1 on Spectrum 10 alloy chain agrees with the design factor used by the International Standards Organization (ISO) and ANSI B30.9 and is the preferred set of working load limit values to be used.

All Grade 100 fittings shown below can also be attached to Grade 80 chain.



Holloway Houston offers a wide array of chain slings. Please contact us for more information on custom chain slings.

Braided Chain Slings



Our Braided Chain Slings are made from Grade 100 alloy chain and have the strength and durability to handle the most challenging applications. They can withstand high temperatures and are resilient to the harshest environmental conditions. Braided Chain Slings are available in a range of sizes from 7/32" to 1/2" chain links and can be made with a standard hook friendly link or choker end link.

Features and Benefits:

- Resistance to abrasion and cutting.
- 100% Proof test on each sling
- Wide bearing area helps distribute the load
- High strength steel end links with G100 chain parts
- End links fit most crane hooks and are customizable
- Length, width, and capacity are customizable
- Low stretch
- Repairable
- Hard stamped with a serial number for traceability

World's Largest Crosby Distributor



Crosby®



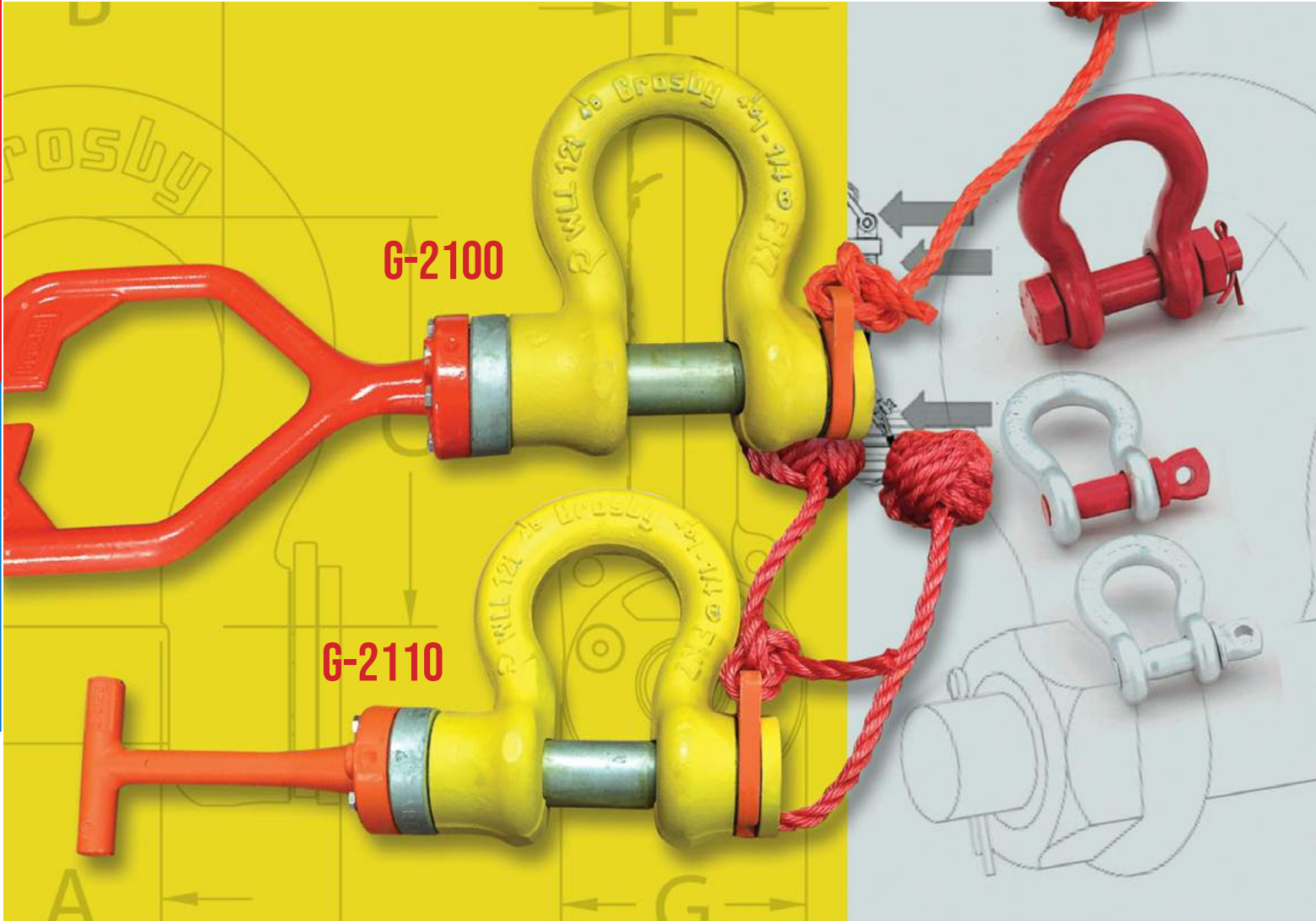
Fittings and Chain

- ▶ WIRE ROPE END FITTINGS
- ▶ SHACKLES
- ▶ SLING SAVER FITTINGS
- ▶ HOOKS & SWIVELS
- ▶ RIGGING ACCESSORIES
- ▶ CHAIN & ACCESSORIES
- ▶ McKISSICK BLOCKS
- ▶ WESTERN & MARINE BLOCKS
- ▶ CROSBY LIFTING CLAMPS
- ▶ SPECIAL PRODUCTS
- ▶ RIGGING INFORMATION
- ▶ RIGGING TRAINING

Holloway Houston has been the world's largest Crosby distributor since 1989 and stocks a broad assortment of fittings and accessories for pick-up or delivery.

CROSBY PRODUCTS

PRODUCTS



HOLLOWAY HOUSTON STOCKS A BROAD ASSORTMENT OF SHACKLES OF ALL KINDS AND SIZES FOR ALL YOUR NEED.

G-209 S-209

Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271D Type IVA, Grade A, Class 2, except for those provisions required of the contractor.



G-2130 S-2130

Bolt-type anchor shackles meet the performance requirements of Federal Specifications RR-C-271D Type IVA, Grade A, Class 3, except for those provisions required of the contractor.



G-2160

All sizes quenched and tempered for maximum strength. Forged alloy steel from 7-300 metric tons. All 2160 shackles are individually proof-tested and magnetic-particle inspected. Crosby certification available at time of order.





Bolt Type Shackles

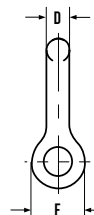
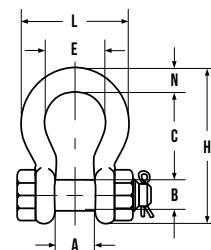
G-2130 / S-2130 Bolt Type Anchor Shackles



G-2130 S-2130

Bolt Type Anchor shackles with thin head bolt - nut with cotter pin. Meets the performance requirement of Federal Specifications RR-C-271D Type IVA, Grade A, Class 3, except for those provisions required of the contractor.

- Capacities 1/3 thru 150 metric tons, grade 6.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Forged – Quenched and Tempered, with alloy bolts.
- Hot Dip galvanized or self colored. (85, 120, and 150 metric ton shackles are all hot dip galvanized bows and the bolts are Dimetcoated® and painted red)
- Fatigue rated (1/3t - 55t).
- Shackles 25t and larger are RFID EQUIPPED.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- Meets or exceeds all requirements of ASME B30.26.
- Shackles 85 metric tons and larger are individually proof tested to 2.0 times the working load limit.
- Type Approval certification in accordance with ABS 2007 Steel Vessel Rules 1-11-17.7 and ABS Guide for Certification on Cranes available. Certificates available when requested at time of order and may include additional charges test from 3.25t up to 25 tons to DNV2.7-1 and EN13889.



G-2130 S-2130

Nominal Size (In.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (In.)								Tolerance +/-		
		G-2130	S-2130		A	B	C	D	E	F	H	L	N	C	A
3/16	1/3	1019464	-	.06	.38	.25	.88	.19	.60	.56	1.47	.98	.19	.06	.06
1/4	1/2	1019466	-	.11	.47	.31	1.13	.25	.78	.61	1.84	1.28	.25	.06	.06
5/16	3/4	1019468	-	.22	.53	.38	1.22	.31	.84	.75	2.09	1.47	.31	.06	.06
3/8	1	1019470	-	.33	.66	.44	1.44	.38	1.03	.91	2.49	1.78	.38	.13	.06
7/16	1-1/2	1019471	-	.49	.75	.50	1.69	.44	1.15	1.06	2.91	2.03	.44	.13	.06
1/2	2	1019472	1019481	.79	.81	.64	1.88	.50	1.31	1.19	3.28	2.31	.50	.13	.06
5/8	3-1/4	1019490	1019506	1.68	1.06	.77	2.38	.63	1.69	1.50	4.19	2.94	.69	.25	.06
3/4	4-3/4	1019515	1019524	2.72	1.25	.89	2.81	.75	2.00	1.81	4.97	3.50	.81	.25	.06
7/8	6-1/2	1019533	1019542	3.95	1.44	1.02	3.31	.88	2.28	2.09	5.83	4.03	.97	.25	.06
1	8-1/2	1019551	1019560	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	1.06	.25	.06
1-1/8	9-1/2	1019579	1019588	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	1.25	.25	.06
1-1/4	12	1019597	1019604	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	1.38	.25	.06
1-3/6	13-1/2	1019613	1019622	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	1.50	.25	.13
1-1/2	17	1019631	1019640	19.00	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	1.62	.25	.13
1-3/4	25	10119659	1019668	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	2.25	.25	.13
2	35	1019677	1019686	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	2.40	.25	.13
2-1/2	55	1019695	1019702	98-25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	3.13	.25	.25
3	85	1019711	-	154.00	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	3.62	.25	.25
3-1/2	120	1019739	-	265.00	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	4.38	.25	.25
4	150	1019757	-	338.00	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	4.56	.25	.25

* NOTE: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. Individually Proof Tested with certification.

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



Crosby® Bolt Type Shackles

CROSBY PRODUCTS

G-2140 / S-2140 Alloy Bolt Type Anchor Shackles



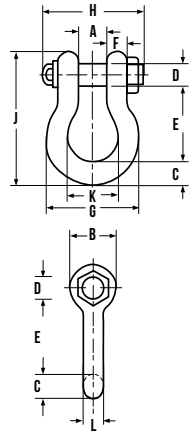
G-2140 meets the performance requirements of Federal Specification RR-C-271F, Type IVA, Grade B, Class 3, except for those provisions required of the contractor

G-2140E

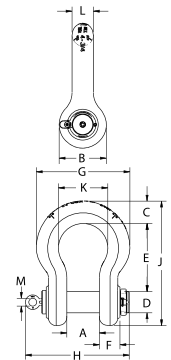


Crosby Easy-Loc®

- ▶ Quenched and Tempered.
 - ▶ Alloy bows, Alloy bolts.
 - ▶ Forged Alloy Steel 2 thru 200 metric tons. Cast Alloy Steel 250 thru 400 metric tons. Meets performance requirements of Grade 8 shackles.
 - ▶ Working Load Limit is permanently shown on every shackle.
 - ▶ 30, 40, 55, and 85 metric ton shackle bows are available galvanized or self colored with pins that are galvanized and painted red.
 - ▶ 120, 150, 175 metric ton shackle bows are hot-dip galvanized; pins are Dimetcoated and painted red.
 - ▶ 200, 250, 300 and 400 metric ton shackle bows are Dimetcoated; pins are Dimetcoated and painted red.
 - ▶ Sizes 1-1/2 and larger are RFID EQUIPPED.
 - ▶ Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
 - ▶ Shackles are Quenched and Tempered and can meet DNV impact requirements of 42 joules (31 ft-lbs.) at -20 degree C (-4 degree F).
 - ▶ All sizes are individually proof tested to 2.0 times the Working Load Limit.
 - ▶ Refer to page 85 for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
 - ▶ Shackles 200 metric tons and larger are provided as follows.
 - Serialized Pin and Bow
 - Material Certification (Chemical)
 - Magnetic Particle Inspected.
 - Certification must be requested at time of order.
 - ▶ Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
 - ▶ Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- Look for the Red Pin. . . the mark of genuine Crosby quality.



G-2140 S-2140



G-2140 / S-2140 Crosby® Alloy Bolt Type Shackles

Nominal Shackle Size (In.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (In.)											Tolerance +/-	
		G-2140	S-2140		A	B	C	D+/- .02	E	F	G	H	J	K	L	A	E
3/8	2	1021015	-	0.33	0.66	0.91	0.38	0.44	1.44	0.38	1.78	2.17	2.49	1.03	0.28	0.06	0.13
7/16	2-2/3	1021020	-	0.49	0.75	1.06	0.44	0.50	1.69	0.41	2.03	2.51	2.91	1.06	0.44	0.06	0.13
1/2	3-1/13	1021029	-	0.79	0.81	1.19	0.50	0.64	1.88	0.46	2.31	2.80	3.28	1.31	0.50	0.06	0.13
5/8	5	1021038	-	1.68	1.06	1.50	0.69	0.77	2.38	0.58	2.94	3.56	4.19	1.69	0.63	0.06	0.13
3/4	7	1021047	-	2.72	1.25	1.81	0.81	0.89	2.81	0.69	3.50	4.15	4.97	2.00	0.75	0.06	0.25
7/8	9-1/2	1021056	-	3.95	1.44	2.09	0.97	1.02	3.31	0.81	4.03	4.82	5.83	2.28	0.88	0.06	0.25
1	12-1/2	1021065	-	5.66	1.69	2.38	1.06	1.15	3.75	0.92	4.69	5.39	6.56	2.69	1.00	0.06	0.25
1-1/8	15	1021074	-	8.27	1.81	2.69	1.25	1.25	4.25	1.04	5.16	5.90	7.47	2.91	1.13	0.06	0.25
1-1/4	18	1021083	-	11.7	2.03	3.00	1.38	1.40	4.69	1.16	5.75	6.69	8.25	3.25	1.29	0.06	0.25
1-3/8	21	1021092	-	15.8	2.25	3.31	1.50	1.53	5.25	1.28	6.38	7.21	9.16	3.63	1.42	0.13	0.25
1-1/2	30	1021110	1021129	18.8	2.38	3.62	1.62	1.63	5.75	1.39	6.88	7.73	10.00	3.88	1.53	0.13	0.25
1-3/4	40	1021138	1021147	33.8	2.88	4.19	2.25	2.00	7.00	1.75	8.81	9.33	12.34	5.00	1.84	0.13	0.25
2	55	1021156	1021165	49.9	3.25	4.81	2.40	2.25	7.75	2.00	10.16	10.41	13.68	5.75	2.08	0.13	0.25
2-1/2	85	1021174	1021183	103	4.12	5.81	3.12	2.75	10.50	2.62	12.75	13.58	17.90	7.25	2.71	0.25	0.25
3	120	1021192	-	162	5.00	6.50	3.63	3.25	13.00	3.00	14.62	15.13	21.50	7.88	3.12	0.25	0.25
3-1/2	150	1021218	-	268	5.25	8.00	4.38	3.75	14.63	3.75	17.02	17.62	24.88	9.00	3.62	0.25	0.25
4	175	1021236	-	332	5.50	9.00	4.56	4.25	14.50	4.00	18.00	20.37	25.68	10.00	4.00	0.25	0.25
7**	400	1021478	-	1200	8.25	14.00	7.25	7.00	22.50	6.50	26.00	28.68	40.25	13.00	6.00	0.25	0.25

G-2140E / S-2140E Crosby® Alloy Crosby® easy loc Shackles

Nominal Shackle Size (In.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (In.)											Tolerance +/-		
		G-2140E	S-2140E		A	B	C	D+/- .02	E	F	G	H	J	K	L	M	A	E
4-3/4	200	1021422	-	452	7.25	10.50	5.00	4.75	15.19	4.58	20.84	23.11	27.81	11.00	4.75	1.75	0.25	0.25
5**	250	1021442	-	594	8.50	12.00	5.63	5.00	18.50	4.48	23.63	24.28	32.63	13.00	5.00	1.75	0.25	0.25
6**	300	1021460	-	791	8.38	13.00	6.06	6.00	18.72	4.89	24.76	25.45	34.28	13.00	5.88	1.75	0.25	0.25

* Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Load is 4.5 times the Working Load Limit on 2 thru 21 metric tons. For sizes 30 thru 175 metric tons, Minimum Ultimate Load is 5.4 times the Working Load Limit for 200 thru 400 metric tons, Minimum Ultimate Load is 4. times the Working Load Limit. ** Cast Alloy Steel. † Furnished with Round Head Bolts with an eyebolt for handling.

Load Rated®

Fatigue Rated®



MAX TOUGH®

Crosby® Screw Pin Shackles



Screw Pin Anchor Shackles



G-209 / S-209

G-209 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271F Type IVA, Grade A, Class 2, except for those provisions required of the contractor.

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



Screw Pin Chain Shackles

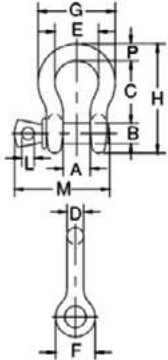


G-210 / S-210

G-210 Screw pin chain shackles meet the performance requirements of Federal Specification RR-C-271F, Type IVB, Grade A, Class 2, except for those provisions required of the contractor.

G-209 / S-209 Screw Pin Anchor Shackles

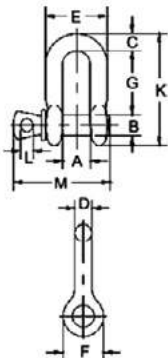
G-209 / S-209



Nominal Shackle Size (in.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (in.)											Tolerance +/-	
		G-209	S-209		A	B	C	D	E	F	G	H	L	M	P	C	A
3/16	1/3	1018357	-	0.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.14	.19	.06	.06
1/4	1/2	1018375	1018384	.10	.47	.31	1.13	.25	.78	.61	1.28	1.84	.19	1.43	.25	.06	.06
5/16	3/4	1018393	1018400	.18	.53	.38	1.22	.31	.84	.75	1.47	2.09	.22	1.71	.31	.06	.06
3/8	1	1018419	1018428	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.02	.38	.13	.06
7/16	1-1/2	1018437	1018446	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.37	.44	.13	.06
1/2	2	1018455	1018464	.72	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06
5/8	3-1/4	1018473	1018482	1.37	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06
3/4	4-3/4	1018491	1018507	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06
7/8	6-1/2	1018516	1018525	3.62	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	.50	4.50	.97	.25	.06
1	8-1/2	1018534	1018543	5.03	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	.56	5.13	1.06	.25	.06
1-1/8	9-1/2	1018552	1018561	7.41	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	.63	5.71	1.25	.25	.06
1-1/4	12	1018570	1018589	9.50	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	.69	6.25	1.38	.25	.06
1-3/8	13-1/2	1018598	1018605	13.53	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	.75	6.83	1.50	.25	.13
1-1/2	17	1018614	1018623	17.20	2.38	1.63	5.75	1.54	3.88	3.63	6.88	10.00	.81	7.33	1.62	.25	.13
1-3/4	25	1018632	1018641	27.78	2.88	2.00	7.00	1.84	5.00	4.19	8.86	12.34	1.00	9.06	2.25	.25	.13
2	35	1018650	1018669	45.00	3.25	2.25	7.75	2.08	5.75	4.81	9.97	13.68	1.22	10.35	2.40	.25	.13
2-1/2	55	1018678	1018687	85.75	4.13	2.75	10.50	2.71	7.25	5.69	12.87	17.84	1.38	13.00	3.13	.25	.13

G-210 / S-210 Screw Pin Chain Shackles

G-210 / S-210



Nominal Shackle Size (in.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (in.)											Tolerance +/-	
		G-210	S-210		A	B	C	D	E	F	G	K	L	M	G	A	
1/4	1/2	1019150	1019189	.11	.47	.31	.25	.25	.97	.62	.97	1.59	.19	1.43	.06	.06	
5/16	3/4	1019178	1019187	.17	.53	.38	.31	.31	1.15	.75	1.07	1.91	.22	1.71	.06	.06	
3/8	1	1019196	1019203	.28	.66	.44	.38	.38	1.42	.92	1.28	2.31	.25	2.02	.13	.06	
7/16	1-1/2	1019212	1019221	.43	.75	.50	.44	.44	1.63	1.06	1.48	2.67	.31	2.37	.13	.06	
1/2	2	1019230	1019249	.59	.81	.63	.50	.50	1.81	1.18	1.66	3.03	.38	2.69	.13	.06	
5/8	3-1/4	1019258	1019267	1.25	1.06	.75	.63	.63	2.32	1.50	2.04	3.76	.44	3.34	.13	.06	
3/4	4-3/4	1019276	1019285	2.63	1.25	.88	.8	.75	2.75	1.81	2.40	4.53	.50	3.97	.25	.06	
7/8	6-1/2	1019294	1019301	3.16	1.44	1.00	.97	.88	3.20	2.10	2.86	5.33	.50	4.50	.25	.06	
1	8-1/2	1019310	1019329	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	.56	5.13	.25	.06	
1-1/8	9-1/2	1019338	1019347	6.75	1.81	1.25	1.25	1.13	4.07	2.69	3.61	6.78	.63	5.71	.25	.06	
1-1/4	12	1019356	1019365	9.06	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	.69	6.25	.25	.13	
1-3/8	13-1/2	1019374	1019383	11.63	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	.75	6.53	.25	.13	
1-1/2	17	1019392	1019409	15.95	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	.81	7.33	.25	.13	
1-3/4	25	1019418	1019427	26.75	2.88	2.00	2.12	1.75	6.38	4.19	5.78	10.97	1.00	9.06	.25	.13	
2	35	1019436	1019445	42.31	3.25	2.25	2.36	2.10	7.25	5.00	6.77	12.74	1.13	10.35	.25	.13	
2-1/2	55	1019454	1019463	71.75	4.12	2.75	2.63	2.63	9.38	5.68	8.07	14.85	1.38	13.00	.25	.13	

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

Load Rated®

Fatigue Rated®



QUIC-CHECK®



MAX TOUGH®

Crosby® Wide Body Shackles

G-2160/S-2160 “Wide Body” Shackles



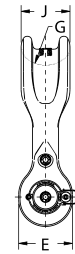
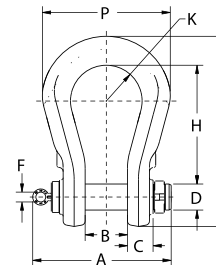
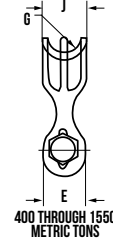
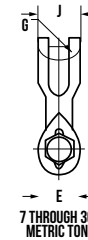
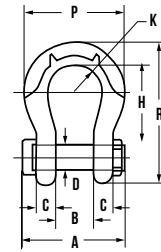
PATENTED

G-2160E



Crosby Easy-Loc®

- ▶ All sizes Quenched and Tempered for maximum strength.
- ▶ Forged alloy steel from 7 through 300 metric tons.
- ▶ Cast alloy steel from 400 through 1550 metric tons.
- ▶ Sizes 300 metric tons and smaller are proof tested to 2 times the Working Load Limit.
- ▶ Sizes 400 metric tons and larger are tested to 1.33 times Working Load Limit.
- ▶ All ratings are in metric tons, embossed on side of bow.
- ▶ G-2160, (7-55t), are Hot Dip Galvanized and pins are painted red.
- ▶ G-2160, (75t and larger), bows are furnished Dimetcoted, and pins are Dimetcoted, then painted red.
- ▶ S-2160 bows and pins are painted red.
- ▶ Shackles, 30t and larger, are RFID EQUIPPED.
- ▶ Can be used to connect HIGH STRENGTH Synthetic Web Slings, HIGH STRENGTH Synthetic Round Slings or Wire Rope Slings.
- ▶ Increase in shackle bow radius provides minimum 58% gain in sling bearing surface and eliminates need for a thimble.
- ▶ Increases usable sling strength minimum of 15% and greatly improves life of wire rope slings.
- ▶ Pin is non-rotating, with weld-on handles for easier use (75t and larger).
- ▶ Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- ▶ Bow and bolt are Certified to meet Charpy impact testing of 42 joules (31 ft-lbs.) min. ave. at -20 degree C (-4 degree F).
- ▶ All 2160 shackles are individually proof tested and magnetic particle inspected.
- ▶ Crosby certification available at time of order. F
- ▶ Shackles requiring ABS, Lloyds and other certifications are available upon special request and must be specified at time of order.
- ▶ Shackles 18t and larger have DNV Type Approval to Rules for Certification of Lifting Appliances, and are produced in accordance with DNV MSA requirements.
- ▶ Databook is provided that includes required documents.
 - Serialization / Identification
 - Material Testing (Physical / Chemical / Charpy)
 - Proof Testing
- ▶ Look for the Red Pin... the mark of genuine Crosby quality.



G-2160E / S-2160E Crosby® easy loc “Wide Body” Shackles

Working Load Limit (t)*	G-2160 Stock No.	S-2160 Stock No.	Weight Each (lbs)	Dimensions (in.)											
				A	B+/- .25	C	D+/-0.2	E	F	G	H	J	K	P	R
125	1021309	-	178	16.75	5.12	3.50	3.15	6.50	1.19	3.75	14.36	5.91	4.33	15.47	23.00
200	1021320	-	401	19.76	5.91	3.39	4.12	8.41	1.75	5.25	18.90	8.63	5.41	20.47	30.44
300	101330	-	777	23.05	7.38	5.63	5.25	10.50	1.75	6.13	23.63	10.38	6.31	23.83	37.51

Load Rated®



* 7t-300t Proof Load is 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit. 400t-1550t Proof Load is 1.33 times the Working Load Limit. Ultimate Load is 4.5 times the Working Load Limit.

G-2160 / S-2160 Crosby® “Wide Body” Shackles

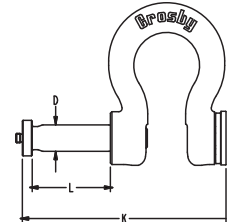
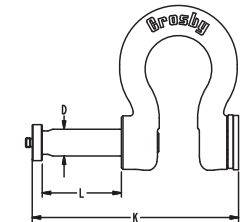
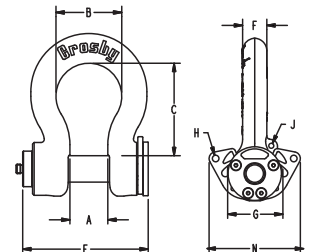
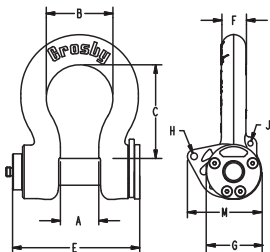
Working Load Limit (t)*	G-2160 Stock No.	S-2160 Stock No.	Weight Each (lbs)	Dimensions (in.)											
				A	B+/- .25	C	D+/-0.2	E	G	H	J	K	P	R	
7	1021256	1021548	4.0	4.14	1.25	.69	.88	1.82	1.25	3.56	1.60	1.25	4.10	5.87	
12.5	1021265	1021557	10	5.38	1.69	.92	1.13	2.38	1.37	4.63	2.13	1.63	5.51	7.63	
18	1021274	1021566	15	6.69	2.03	1.16	1.38	2.69	1.50	5.81	2.50	2.00	6.76	9.38	
30	1021283	1021575	25	7.69	2.37	1.38	1.63	3.50	1.75	6.94	3.13	2.50	8.50	11.38	
40	1021285	1021584	35	9.28	2.88	1.69	2.00	4.00	2.31	8.06	3.75	3.00	10.62	13.62	
55	1021287	1021593	71	10.36	3.25	2.00	2.25	4.63	2.63	9.36	4.50	3.50	12.26	15.63	
75	1021290	-	100	14.37	4.13	2.12	2.75	5.00	2.50	11.53	4.75	3.64	12.28	18.41	
125	1021307	-	178	16.51	5.12	2.56	3.15	5.71	3.15	14.36	5.91	4.33	14.96	22.65	
200	1021316	-	500	20.67	5.91	3.35	4.12	7.28	4.33	18.90	8.07	5.41	19.49	29.82	
300	1021325	-	835	24.20	7.38	4.00	5.25	9.25	5.38	23.63	10.38	6.31	23.38	37.26	
400	1021334	-	1103	30.27	8.66	5.16	6.30	11.81	6.30	22.64	12.60	7.28	27.17	38.78	
500	1021343	-	1433	33.35	9.84	5.73	7.09	13.39	6.69	24.81	13.39	8.86	31.10	42.72	
600	1021352	-	1897	36.02	10.83	6.23	7.87	15.50	7.28	27.56	14.57	9.74	34.06	47.24	
700	1021361	-	2585	38.91	11.81	6.59	8.46	14.80	7.87	28.94	15.75	10.63	37.01	50.18	
800	1021254	-	3075	41.66	12.80	7.30	9.06	16.54	8.27	29.53	16.54	10.92	38.39	52.09	
900	1021389	-	3720	43.73	13.78	7.78	9.84	16.93	8.66	29.82	17.32	11.52	40.35	54.04	
1000	1021370	-	4130	45.98	14.96	8.33	10.63	17.72	9.06	29.92	18.11	12.11	42.32	55.31	
1250	1021372	-	6310	49.86	16.93	9.15	11.81	21.00	10.43	36.61	20.87	12.70	46.26	65.35	
1550	1021281	-	8155	54.89	18.31	10.58	12.60	23.82	15.92	42.32	22.82	13.29	49.41	73.43	

Release & Retrieve ROV Shackle



CROSBY PRODUCTS

PRODUCTS



- Forged alloy bow with an industry best 6 to 1 performance design factor
- Patent pending captured bolt can withstand over 2,000 lbs. (907 kg) of pull-out force
- Galvanized bow with an API RP 17H color compliant coating
- Galvanized alloy bolt (Non-Threaded) (G-2110)
- On average, QUIC-Thread bolt requires only 3.5 rotations for full engagement (G-2100)
- Raised pad for serialization
- API RP 17H compliant 316 stainless steel handles available in T, D, F, and Eye models (sold separately)
- Built in eyelets for optional tether points
- Monkey fist(s) included

Load Rated



G-2100 ROV Release & Retrieve Shackle — QUIC-Threaded

Working Load Limit (t)*	Stock No.	Weight Each (lbs.)	Dimensions (in)											
			A	B	C	D	E	F	G	H	J	K	L	N
9.5	2038739	11.4	1.81	2.91	4.25	1.25	7.33	1.16	2.68	0.38	0.31	11.54	4.21	4.97
12	2038762	13.8	2.03	3.25	4.69	1.38	7.75	1.29	3.00	0.38	0.31	12.25	4.50	4.97
17	2038785	23.7	2.38	3.88	5.75	1.63	8.54	1.53	3.62	0.50	0.31	13.74	5.20	6.28
25	2038614	38.6	2.88	5.00	7.00	2.00	9.54	1.84	4.20	0.50	0.38	15.48	5.94	6.94
35	2038808	51.2	3.25	5.75	7.74	2.28	10.41	2.08	4.82	0.50	0.38	16.97	6.56	6.94
55	2038831	108	4.12	7.25	10.49	2.78	12.61	2.72	5.81	0.50	0.38	20.74	8.13	8.53
85	2038877	157	5.00	7.88	12.98	3.28	14.23	3.12	6.50	0.50	0.50	23.61	9.38	8.53

*Minimum Ultimate Load is 6 times the Working Load Limit in metric tons. *Note: Maximum Proof Loads are 2xWLL in metric tons.

G-2110 ROV Release & Retrieve Shackle — Non-Threaded

Working Load Limit (t)*	Stock No.	Weight Each (lbs.)	Dimensions (in)											
			A	B	C	D	E	F	G	H	J	K	L	N
9.5	2038740	11.4	1.81	2.91	4.25	1.25	7.33	1.16	2.68	0.38	0.31	11.54	4.21	4.97
12	2038763	13.8	2.03	3.25	4.69	1.38	7.75	1.29	3.00	0.38	0.31	12.25	4.50	4.97
17	2038786	23.7	2.38	3.88	5.75	1.63	8.54	1.53	3.62	0.50	0.31	13.74	5.20	6.28
25	2038621	38.6	2.88	5.00	7.00	2.00	9.54	1.84	4.20	0.50	0.38	15.48	5.94	6.94
35	2038809	51.2	3.25	5.75	7.74	2.28	10.41	2.08	4.82	0.50	0.38	16.97	6.56	6.94
55	2038832	108	4.12	7.25	10.49	2.78	12.61	2.72	5.81	0.50	0.38	20.74	8.13	8.53
85	2038878	157	5.00	7.88	12.98	3.28	14.23	3.12	6.50	0.50	0.50	23.61	9.38	8.53

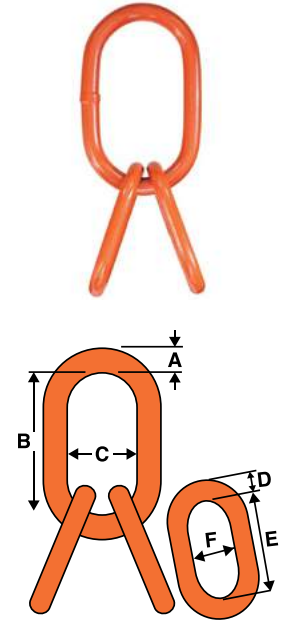
*Minimum Ultimate Load is 6 times the Working Load Limit in metric tons. *Note: Maximum Proof Loads are 2xWLL in metric tons.

William Hackett

DNV Master Links and Quad Assemblies

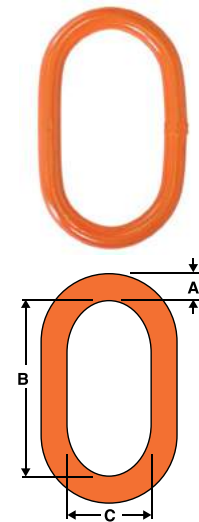
DNV Quad Assemblies DNV 2.7-1, EN 12079 & EN 1677-4

Part Code	Description	A	B	C	D	E	F	WLL t	Mass Kg
350.160	HA16QA	16	150	75	13	90	50	4.1	1.3
350.220	HA22QA	22	162	90	20	140	70	8.83	3.6
350.230	HA23QA	22	270	140	16	150	75	5.8	3.8
350.250	HA25QA	25	270	140	20	140	70	8.83	5.3
350.260	HA26QA	28	270	140	20	140	70	11.8	5.9
350.280	HA28QA	28	200	110	22	140	70	14.5	5.5
350.320	HA32QA	32	270	140	26	185	90	17.1	9.7
350.360	HA36QA	36	270	140	28	190	100	23	11.9
350.400	HA40QA	40	280	155	32	200	110	28.1	16.4
350.450	HA45QA	45	320	175	36	225	125	38.3	23.5
350.500	HA50QA	50	350	195	40	260	130	45	32.3
350.600	HA60QA	60	430	230	50	350	195	65	63.9
350.700	HA70QA	70	480	260	60	410	220	85	102.6
350.900	HA90QA	90	500	300	70	400	200	150	164.0



DNV Master Links DNV 2.7-1, EN 12079 & EN 1677-4

Part Code	Description	A mm	B mm	C mm	WLL t	Mass Kg
330.160	HA16ML	16	150	75	4.1	0.7
330.225	HA22MS	22	162	90	8.83	1.5
330.220	HA22ML	22	270	140	5.8	2.3
330.250	HA25ML	25	270	140	8.83	3.3
330.285	HA28MS	28	200	110	14.5	3.0
330.280	HA28ML	28	270	140	11.8	3.8
330.320	HA32ML	32	270	140	17.1	5.1
330.360	HA26ML	36	270	140	23.0	6.5
330.400	HA40ML	40	280	155	28.1	8.5
330.450	HA45ML	45	320	175	38.3	22.2
330.500	HA50ML	50	350	195	45.0	16.6
330.600	HA60ML	60	430	230	65.0	29.2
330.700	HA70ML	70	480	260	85.0	44.3
330.900	HA90ML	90	500	300	150.0	86.0
330.1200	HA120ML	120	610	410	250.0	197.0



Rigging Attachments and Fittings



RIGGING ATTACHMENTS AND FITTINGS

PRODUCTS



For more information on our suppliers, please visit <http://www.hhilifting.com/suppliers>

To meet the demands of our large and growing customer base, Holloway Houston manufactures and sources domestic and imported fittings, attachments, and accessories of the highest quality. For swaged end terminations, HHI maintains four presses: 500-, 800, and 1500-ton presses, plus a 5000-ton press, the largest swaged press in the western hemisphere.

- Alloy Chain Fittings
- Blocks Container
- Deck Lashing Fittings
- Eye Bolts
- Eye Nuts
- Hand Swaging Tools/Sleeves
- Hoists
- Hooks
- Latch Assemblies
- Links
- Load Binders
- Master Links
- Pad Eyes
- Quick Release Hooks
- Rings
- Shackles
- Snakes
- Sockets
- Swage Fittings
- Swivel Hoist Rings
- Swivels
- Thimbles
- Turnbuckles
- Web Sling Fittings
- Wedge Sockets
- Wire Rope Clips
- Wire Rope Cutters
- Wire Rope Grips
- Wire Rope Pullers
- And more...





Rigging Attachments and Fittings

RIGGING ATTACHMENTS AND FITTINGS

PRODUCTS





Rental Products

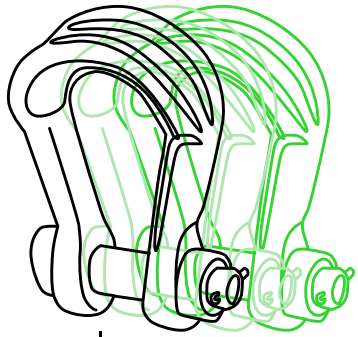
- ▶ MORBAR Rigging Rentals
- ▶ Load Measuring Equipment & Calibration

Holloway rents a broad selection of rigging equipment. Available with flexible rental periods and competitive pricing, our rental rigging equipment is certified and maintained to the highest standards, so it's always ready when you are.

Need professional measuring and calibration services? Holloway's team of trained and experienced technicians offer turnkey water bag load testing, specialty weighing services and equipment, center of gravity calculations, calibration services, and more.



Spreader Bars & Rental Slings



Holloway Houston's MORBAR Spreader Bar and Rigging Rental Division engineers, manufactures, and assembles spreader bars, wire rope slings, and associated rigging for clients worldwide.

- ▶ **Spreader Bars & Rental Slings**
- ▶ **Jumper Lifting Beams**
- ▶ **Rental Hardware**

Ideal for:

- ▶ Construction companies, industrial fabricators, marine contractors, petrochemical facilities.
- ▶ One-time engineered lifts
- ▶ Remote location lifts.

Eliminates:

- ▶ Initial time and expense of locating and purchasing equipment.
- ▶ Possible backorder delays.
- ▶ Storage and maintenance expense before and after the lift.

Advantages:

- ▶ Saves time and expense involved in locating and purchasing equipment.
 - ▶ Prevents backorder delays.
- No storage or maintenance expenses before or after the lift.



Spreader Bars & Rental Slings



MORBAR
RIGGING RENTALS

Wide selection of rigging equipment available:

- ▶ Slings (single leg, 9-part, HHIperLift™ synthetics)
- ▶ Wide body shackles
- ▶ Link plates and master links
- ▶ 150-ton rolling blocks
- ▶ Load measuring devices
- ▶ ROV shackles & hooks
- ▶ Swivels
- ▶ Deadweight
- ▶ Trilinks from up 1500 ton

Value-added features:

- ▶ All systems are pre-rigged to save downtime.
- ▶ All lifts include a full rigging drawing for prior approval, per your request.
- ▶ All MORBAR spreader bar lifting links are proof-tested.
- ▶ 9-part slings are tested as one unit, under a full test load.
- ▶ Our slings are manufactured to the tightest measured length tolerances in the world.



MORBAR Rigging Rentals

HOLLOWAY
HOUSTON, INC.

MORBAR RIGGING RENTALS

RENTAL PRODUCTS



Jumper Lifting Beams



HHI stocks three jumper lifting beam sizes with lengths up to 180', plus all accessories.

HHI offers certified and customized jumper lifting beams systems to hoist and deploy subsea equipment.

Custom-designed systems include cost-effective rental rigging, lift drawings, and field support.

HHI stocks three jumper lifting beam sizes with lengths up to 180', plus all accessories.



MORBAR RIGGING RENTALS

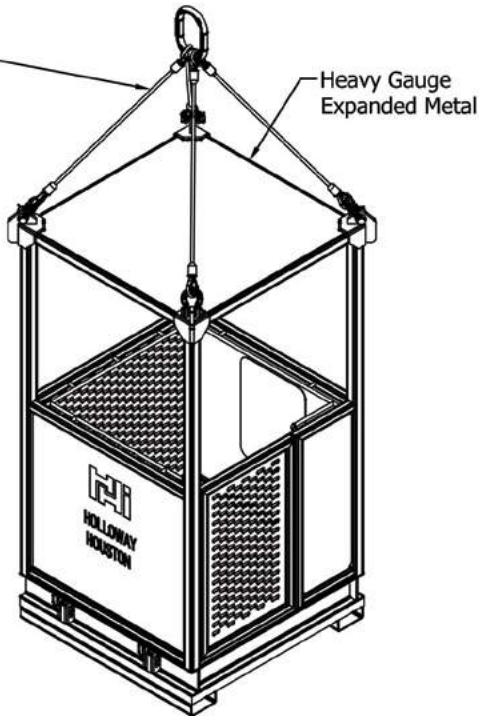
RENTAL PRODUCTS



Baskets & Skip Pans

RP-HHI 4 X 4 PB-1

- (1) 1 1/4" MASTER LINK
CAPACITY: 39,100 LBS
- (4) 5/8" x 4' WIRE ROPE SLING
CAPACITY: 3.9T ea.
- (4) 7/8" BOLT TYPE SHACKLE
CAPACITY: 6.5T ea.

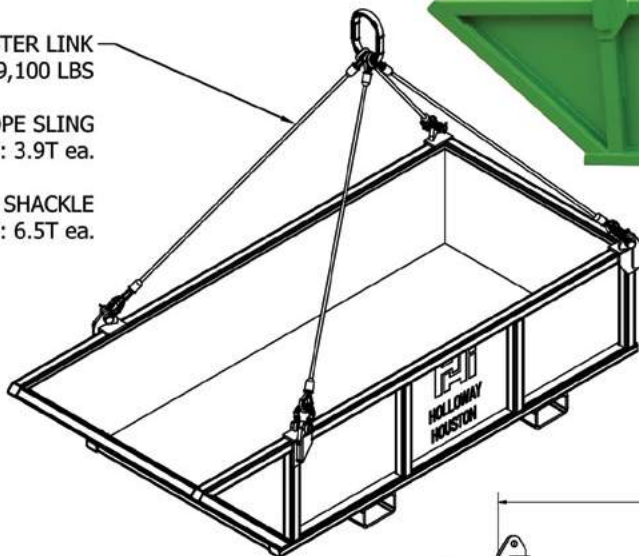


ISOMETRIC VIEW

TOTAL WEIGHT:	2,350 LBS
TEST WEIGHT:	1,400 LBS
BASKET WEIGHT:	1,220 LBS
BASKET CAPACITY:	1,000 LBS

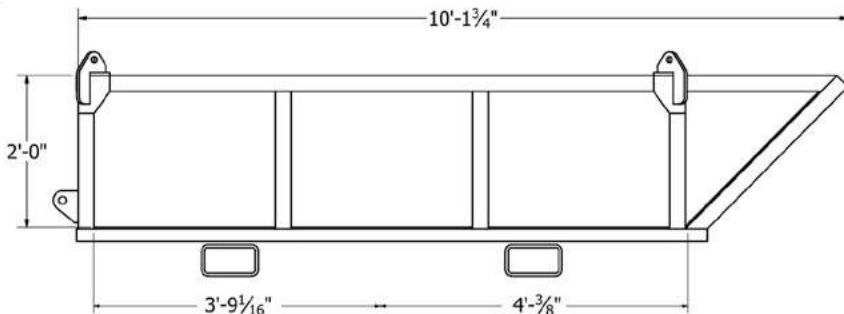
RP-HHI 4 X 8 HDSP-1

- (1) 1 1/4" MASTER LINK
CAPACITY: 39,100 LBS
- (4) 5/8" x 6' WIRE ROPE SLING
CAPACITY: 3.9T ea.
- (4) 7/8" BOLT TYPE SHACKLE
CAPACITY: 6.5T ea.



ISOMETRIC VIEW

TARE WEIGHT:	1,850 LBS
RATED CAPACITY:	4,000 LBS



1550 M Ton Telemetry Load Shackle

World's Largest Telemetry Load Shackles: Up To 1550 M Ton

Rental load cells range from 0.25 t to 1550 t in tension.

5 t to 750 t in compression.

Cabled, telemetry, and data acquisition packages for rent or sale.

Load cell calibrated to ASTM E-4 standards of better than +/- 1 % of applied load.

The telemetry package range is approximately 300 feet for load link/shackle. Special calibrations available upon request.

Optional data logging.



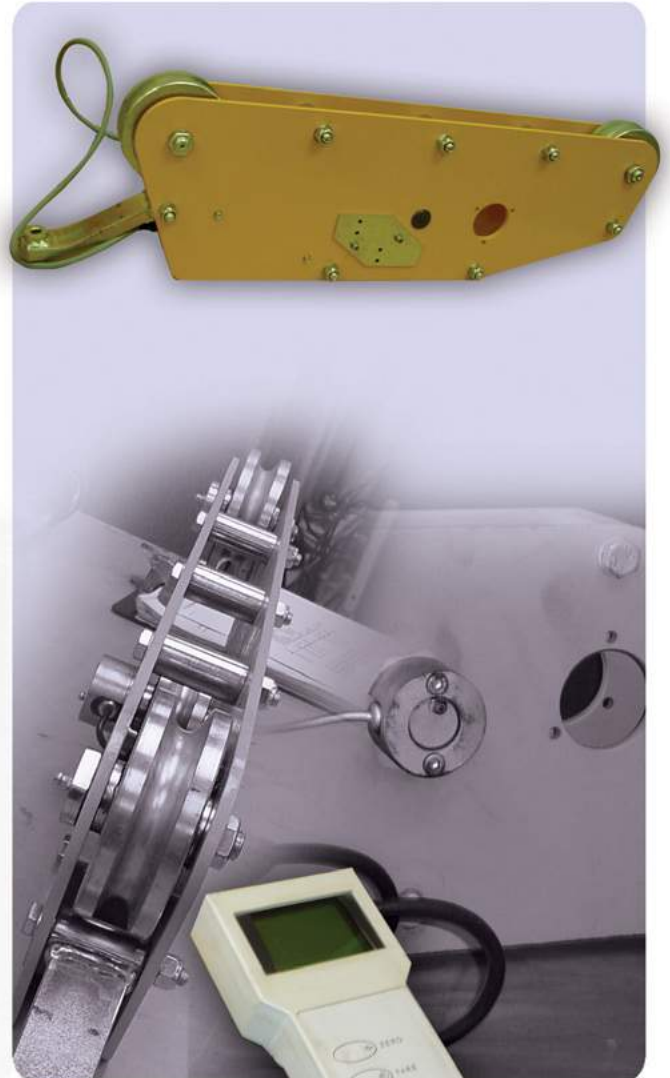
Engineered by a team with extensive experience in measuring loads in hostile marine/offshore environments, Scotload's running line tension monitor offers high accuracy and corrosion-free durability.

Calibrated load pins ensure reliable readings across the entire measurement range.

Proximity sensors optionally track speed and distance for accurate line pay-out/pay-in readings.

Available to suit a variety of wire rope sizes and loads

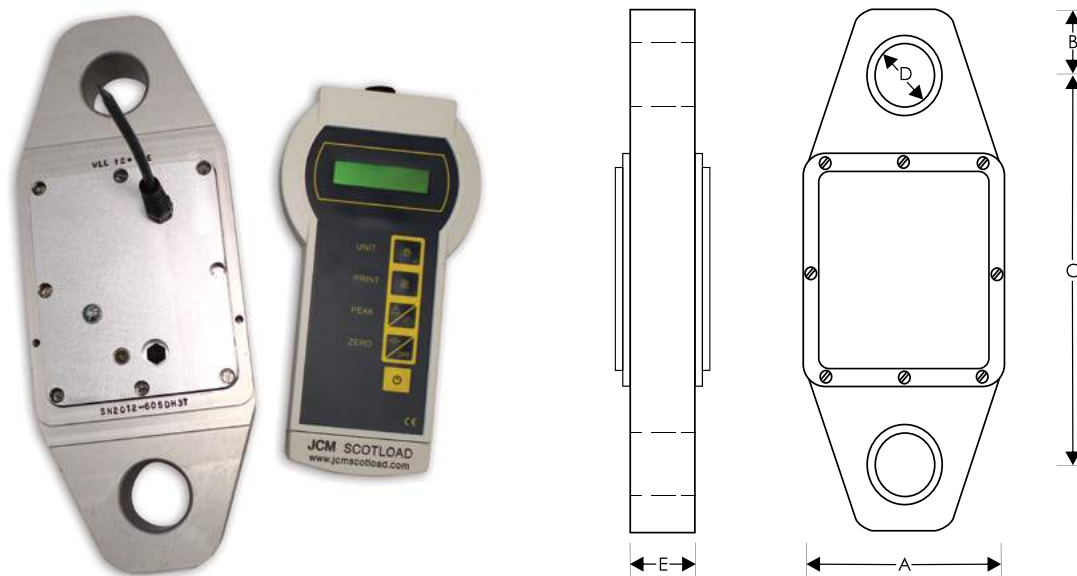
5-roller system maximizes accuracy and repeatability



ROBWAY
SAFETY SYSTEMS LTD
3 SHEAVE
TENSIO-METER
ENSURE CORRECT SIZE
ROPE SHEAVES ARE FITTED



Telemetry Load Cell



Load Capacity (Tonne)	A		B		C		D		E		Shackle Size (Tonne)	Approx Weight (Kgs)
	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches		
5	130	5.118	32.5	1.28	243	9.567	27	1.063	32	1.26	6.5	3.0
12.5	130	5.118	44	1.732	256	10.086	40	1.576	50	1.97	13.5	4.5
25	136	5.122	70	2.758	290	11.426	55	2.167	61	2.421	25	6.5
35	138	5.433	65	2.561	310	12.214	62	2.443	70	2.758	35	11
50	170	6.698	88	3.467	304	11.978	75	2.955	85	3.349	55	16
75	180	7.092	98	3.861	304	11.978	85	3.349	100	3.940	85	17
100	188	7.407	100	3.940	404	15.918	100	3.940	120	4.728	120	28
150	248	9.771	130	5.122	420	16.548	120	4.728	130	5.122	150	36
200	292	11.496	174	6.85	412	16.220	130	5.118	150	5.906	200	70
250	340	13.386	190	7.48	440	17.323	145	5.709	150	5.906	250	100
300	405	15.94	202.5	7.97	595	23.425	160	6.299	150	5.906	300	148
400	405	15.94	202.5	7.97	595	23.425	180	7.087	150	5.906	400	148

Typical Specification

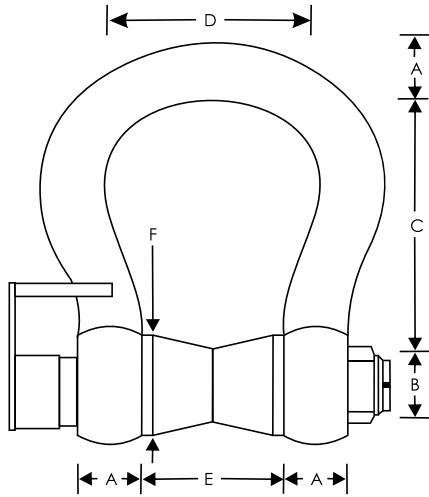
Rated Load	5 to 400 tonne
Proof Load	200% of rated load up to 25 tonne x 1.22 + 20 above 25 tonne
Ultimate Load	500% of rated load
Zero Balance	< +/- 0.05%
Bridge Resistance	700 ohm
Insulation Resistance	10G Ohm @ 100V
Accuracy	+/- 0-2%*

Non-Repeatability	+/- 0.05%
Operating Temperature	-20 to + 60 °C
Compensated Temperature	0 to 60 °C
Environmental Protection	IP66
Output (optional)	RS232
Telemetry Output (optional)	433 Mhz

Note: T24 Data-logging handset also available.

* Cabled version available

Telemetry Load Shackle



SWL (Tonne)	A mm	B mm	E mm	C mm	D mm	F mm	WEIGHT Kgs
25	45	50	74	178	126	87	15
35	50	57	83	178	126	94	21
55	65	70	105	254	185	107	41
85	75	80	127	330	190	130	63
110	80	82	127	330	200	134	70
120	89	95	150	381	238	-	110
140	90	95	133	381	238	-	105
150	102	108	170	400	275	174	160
175	102	108	140	400	250	-	150
200	120	125	180	500	290	208	235
250	125	140	200	540	305	210	285
300	135	150	200	600	305	232	340
400	165	175	225	650	325	280	560
500	175	185	250	700	350	-	685
600	195	205	275	700	375	-	880
700	205	300	300	700	400	-	980
800	210	220	300	700	400	-	1100
900	220	230	320	700	420	-	1280
1000	230	240	340	700	420	-	1460

Typical Specification

Rated Load	25 to 1000 tonnes
Proof Load	200% of rated load
Ultimate Load	400%
Recommended Excitation Voltage	10V
Maximum Excitation Voltage	15V
Zero Balance	< +/- 0.05%
Bridge Resistance	700 ohm

Insulation Resistance	>2G Ohm @ 100V
Accuracy	+/- 1% of reading*
Repeatability	+/- 0.25% of reading
Sensitivity	2.0mV/V
Zero Temperature Co-Efficient	< +/- 0.005%
Span Temperature Co-Efficient	< +/- 0.003%
Operational Temperature Range	-10 to +50°C

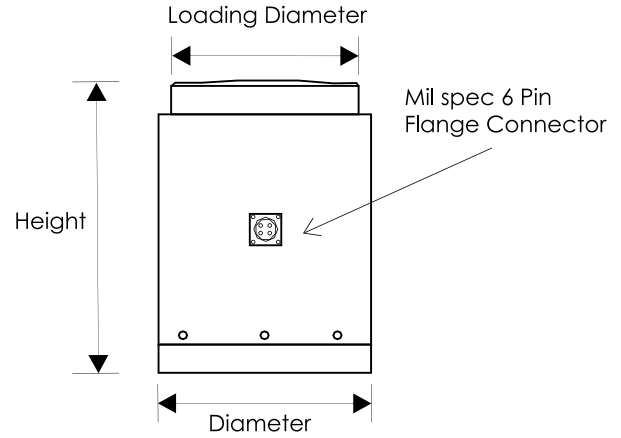
Electrical Connection	Red +ve Supply, Green +ve Signal Blue -ve Supply, Yellow -ve Signal
Environmental Protection	IP67
Telemetry Range	300 m

*As calibrated in a BS1610 grade 1 test machine, traceable National Standards

Note: T24 Data-logging handset also available

* Cabled version available

Compression Load Cells



Cell Type	Nominal Rated Load	Height	Diameter	Loading Dia.	Base Diameter	B.H.	Swivel Top Dia.	S.T.H.
Comp 50	50	110	76	60	130 Dia	40	65	10
Comp 100	100	150	100	80	150 Dia	50	100	20
Comp 200	200	180	127	110	150 Dia	50	127	30
Comp 300	300	180	150	130	200 Dia	50	150	30
Comp 500	500	300	203	170.5	265 Dia	50	203	50
Comp 1000	1000	425	290	250	400 Dia	75	290	50

Typical Specification

Rated Load	5 to 400 tonne
Proof Load	150% of rated load
Ultimate Load	500% of rated load
Rated Output	1.5mV/V +/- 0.5%
Recommended Excitation Voltage	10V
Maximum Excitation Voltage	20V
Zero Balance	< +/- 1%
Bridge Resistance	700 Ohm
Insulation Resistance	>2G Ohm @ 100V

Accuracy	< +/- 1%
Non-Repeatability	< +/- 0.2%
Zero Temperature Co-efficient	< +/- 0.005%
Span Temperature Co-efficient	< +/- 0.003%
Compensated Temperature Range	-10 to + 40°C
Electrical Connection	Red +ve Supply. Green +ve Signal. Blue -ve Supply. Yellow -ve Signal.
Environmental Protection	IP67

Note: T24 Data-logging handset also available

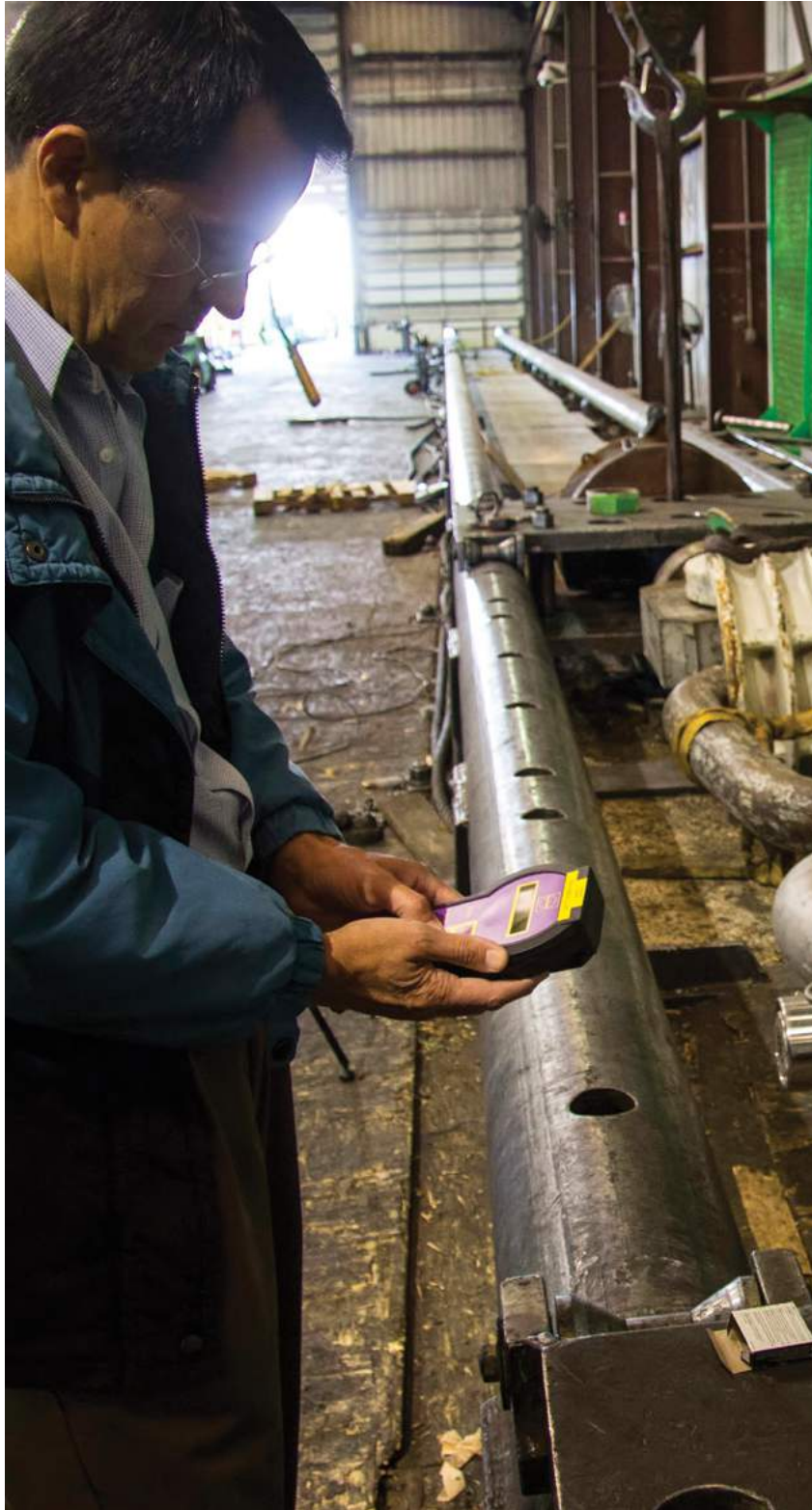


Hydraulic Cylinders

- ▶ Rental hydraulic cylinders (10,000 psi) from 20 ton to 1,000 ton.
- ▶ Rental hydraulic pumps, hoses, PSI gauges, & dial gauges available.
- ▶ Data acquisition package available.
- ▶ Calibration for special requirements available.
- ▶ Complete package with load cells also available.



Load Measuring Equipment & Calibration



HHI uses quality equipment from Scotload, Tractel, Simplex, Enerpac, Robson, and other leading manufacturers and offers unmatched service for:

- ▶ **Load Cells**
- ▶ **Strain-Gauging**
- ▶ **Load Shackles**
- ▶ **Hydraulic Jacks**
- ▶ **Anti 2 Block Systems**
- ▶ **Running Line Monitors**
- ▶ **Running Line Tensioners**





Setting the Standard
in Lifting Solutions

HHI

HOLLOWAY
HOUSTON, INC.

www.hhilifting.com



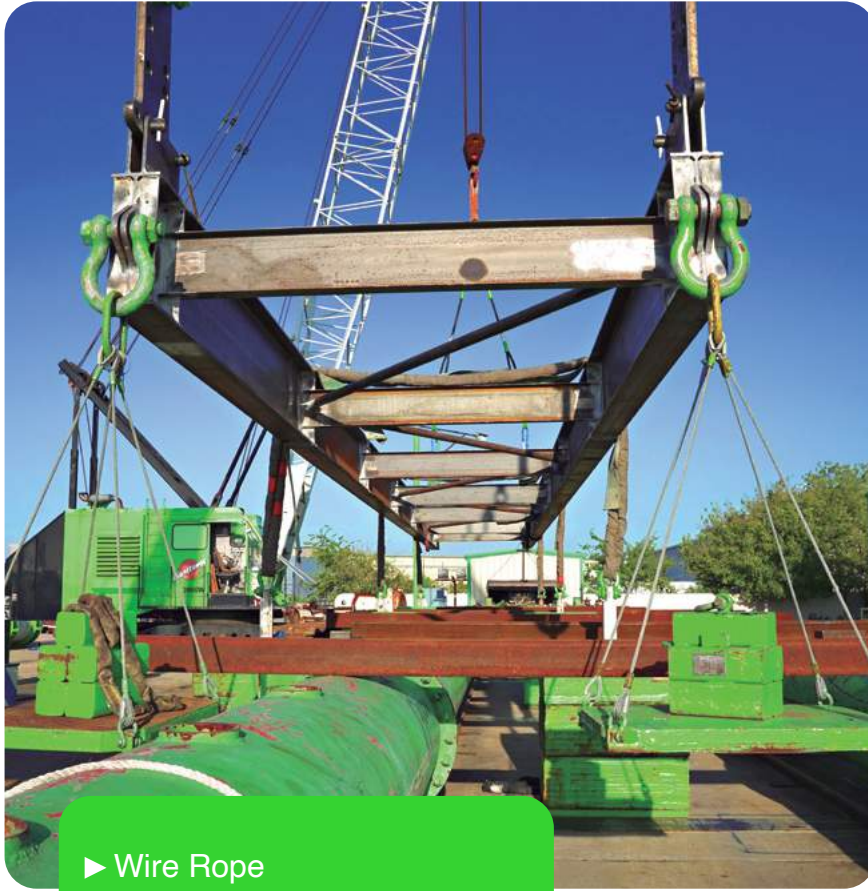
Services

- ▶ Testing Services
- ▶ Weighing Services
- ▶ Inspection & Repair
- ▶ Rigging Training
- ▶ Multimedia Services
- ▶ Technical Services
- ▶ Fabrication Services

Holloway complements its broad product line with a wide array of professional services, including testing, inspection, repair, multimedia, technical, and fabrication services.

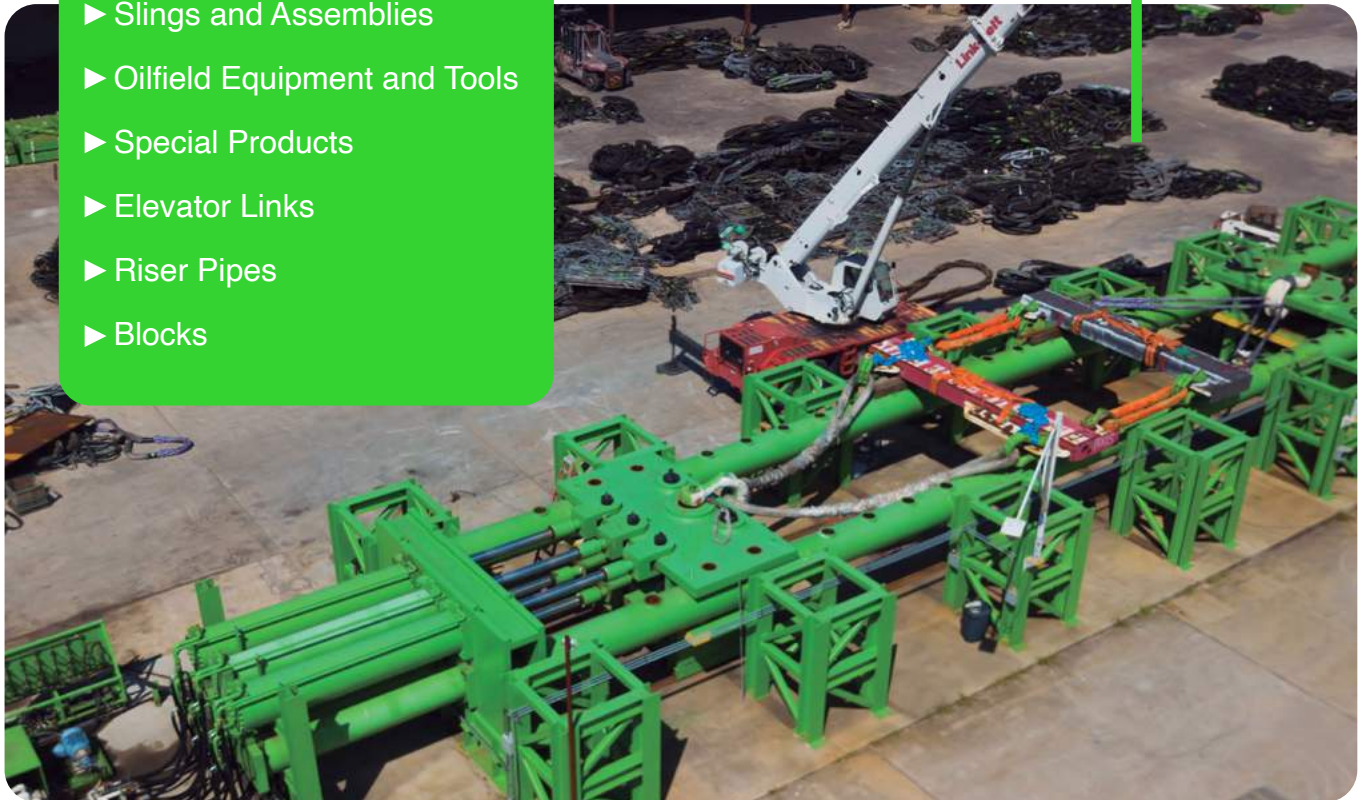


HOLLOWAY
HOUSTON, INC.
Setting the Standard in Lifting Solutions



With over 13 test beds on premises, **Holloway Houston's Testing Department** is equipped to offer an array of testing options for lifting components of up to **10,000 tons**. HHI's testing department is also equipped to provide reports on fatigue performance, stress data, elongation, te perature, and continuity.

- ▶ Wire Rope
- ▶ Synthetic Rope
- ▶ Slings and Assemblies
- ▶ Oilfield Equipment and Tools
- ▶ Special Products
- ▶ Elevator Links
- ▶ Riser Pipes
- ▶ Blocks





Holloway Houston’s Testing Department performs cyclic testing which, in addition to measuring the capacity of new products, tracks performance over time with a thorough analysis of wear, corrosion, and other variables.

HHI’s Big 3 Cyclic Test Beds

Capacity	Width	Length
550 ton Test Bed	4’ 3”	45’
3000 ton Test Bed	9’	200’
5000 ton Test Bed	9’6”	160’

Environmental Testing

Test specimens can be submerged in a representative working environment, such as salt or dirty water, as well as subjected to the effects of commonly associated equipment and materials, such as fairleaders, sheaves, and lubricants.

Temperature Monitoring

All temperature data is recorded digitally.

Video Recording

All video is recorded digitally.

Proof Load and Break Testing

Testing Services Division:

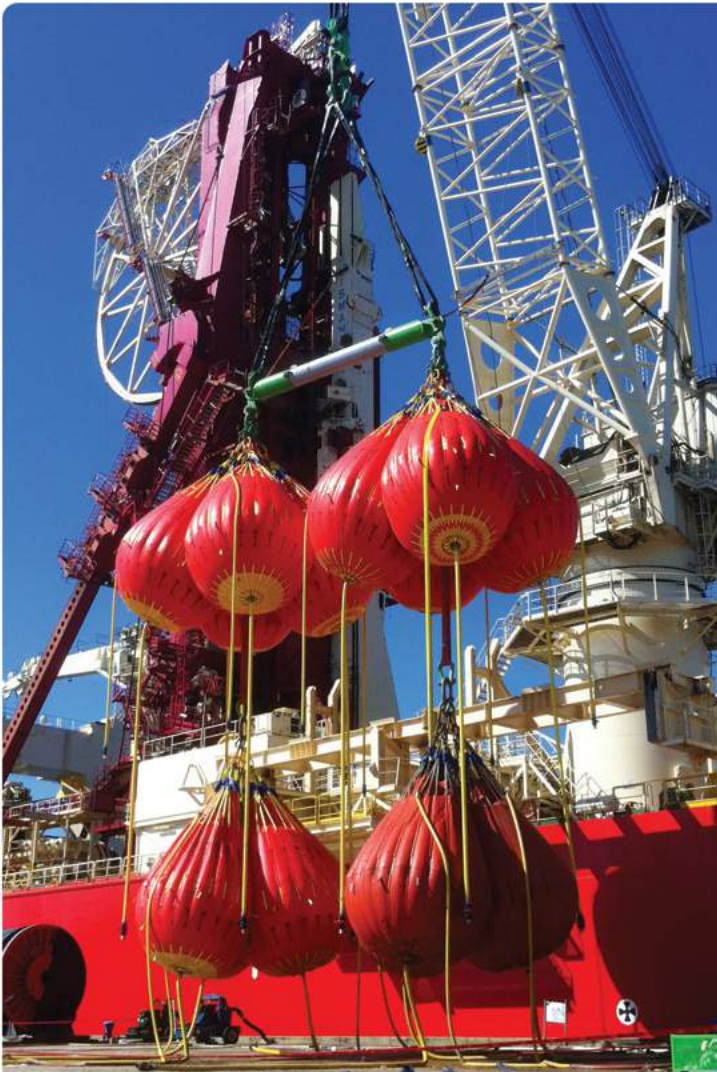
HHL maintains one of the world's largest and most complete assortment of load measurement and testing equipment, as well as an expert staff dedicated to keeping customers in a wide variety of industries safe, productive, and profitable.



TESTING SERVICES

SERVICES

Water Bag Proof Load Testing



An economical alternative to solid weight testing when ample water supplies are available, Holloway's water bag testing reduces transportation, handling, and storage costs while saving time.

Auxiliary Rigging and Accessories



Further services include:

- ▶ Full complement of auxiliary rigging and accessories
- ▶ Certified ASTM E-4 and AWWA C701 specifications
- ▶ Calibrated measuring equipment
- ▶ In-house technical services
- ▶ Fully trained technicians
- ▶ Transportation to your site

Solid Weight Proof Load Testing

TESTING SERVICES



Modular Solid Weights



SERVICES

Holloway Houston supplies modular solid weights for the proof load testing of:

- ▶ Mobile Cranes
- ▶ Overhead Cranes
- ▶ Maritime Cranes
- ▶ Spreader Beams
- ▶ Jumper Lifting Beams
- ▶ Man Lifts
- ▶ Special Heavy Lift Equipment
- ▶ Winches
- ▶ Overboarding Equipment and More
- ▶ Solid Weights up to 780 Tons

Dead Weight Baskets

100 t

150 t

280 t

400 t

Services Include:

- ▶ Certified ASTM E-4 specifications
- ▶ Full compliment of auxiliary
- ▶ rigging accessories
- ▶ Offshore transportability
- ▶ In house technical services
- ▶ Calibrated measuring equipment
- ▶ Full range of auxiliary rigging accessories
- ▶ In-house technical services



Holloway's testing professionals leverage years of experience and a large inventory of hydraulic jacks, load shackles, running line monitors, anti-two block systems, and other measuring equipment to deliver unmatched infield services at your site or ours.

Infield services include:

- ▶ Tension Measurement
- ▶ Onboard Weighing
- ▶ Center of Gravity Calculations
- ▶ Calibration Services
- ▶ Specialty Weighing
- ▶ Crane Testing
- ▶ Pad Eye Pulling
- ▶ Field Socketing
- ▶ Field Testing of Sockets



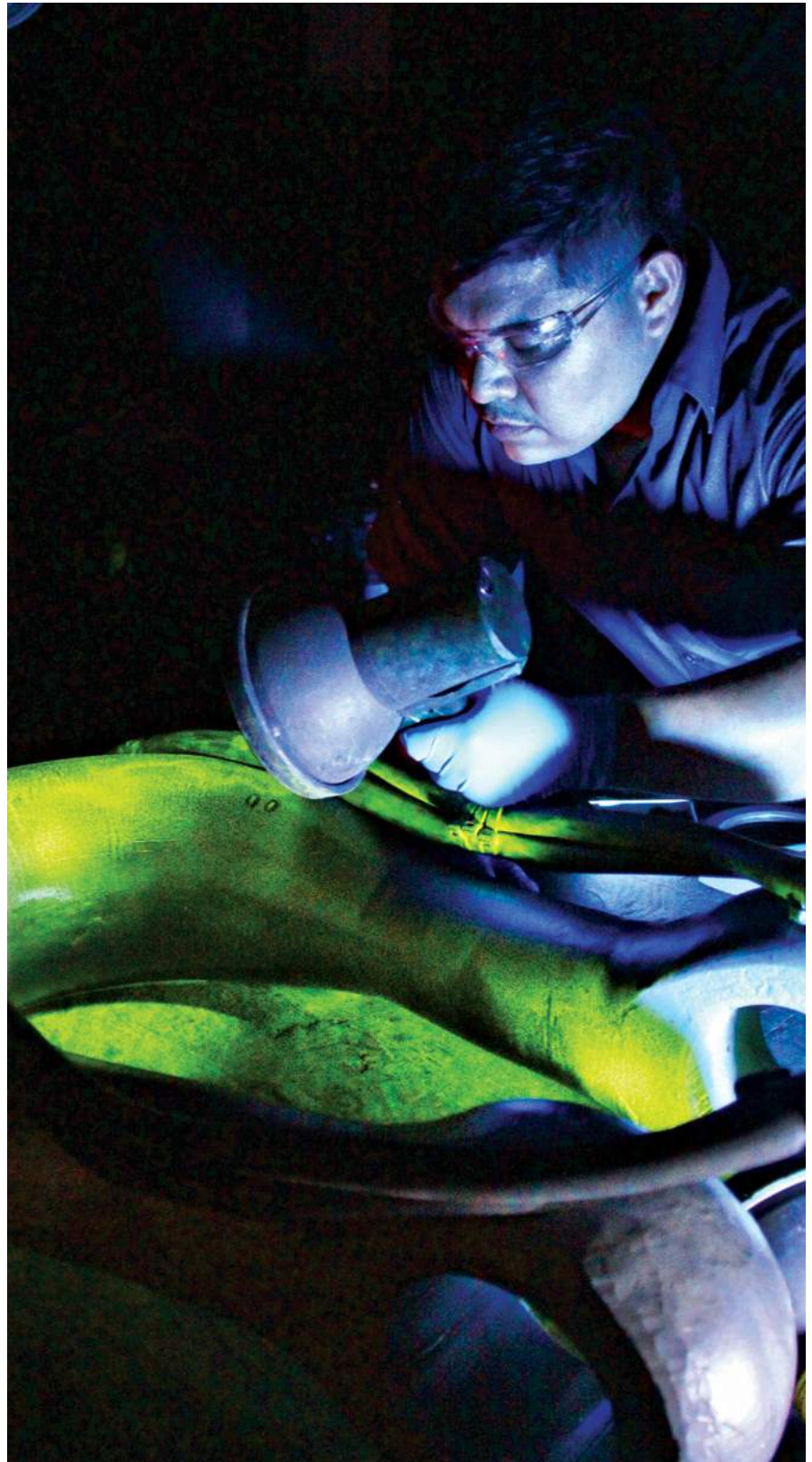
Holloway's inspection and repair experts offer full-range repairs and removal testing for a wide variety of equipment. We also inspect most types of lifting equipment, including chains, slings, plate clamps, chain falls, come-alongs, load cells, blocks, and more. Other services include:

- ▶ **Liquid Penetrant Testing**
- ▶ **Wet or Dry Magnetic Particle Inspection**
- ▶ **Ultrasonic Testing**
- ▶ **Pad Eye Visual Inspection & Proof Testing Sling Inspection and Recertification**
- ▶ **Sandblasting and Welding**
- ▶ **In-House Machining & Fabrication**
- ▶ **Experienced, Certified Welders**

Holloway's certified and experienced technicians perform visual inspections and other nondestructive testing on shackles, blocks, elevator links, pad eyes, spreader bars, and many other products and assemblies.

Holloway also provides annual and semi-annual inspections and recertification in accordance with applicable regulatory agency and company guidelines.

NDT inspectors maintain Level II certifications in accordance with the SNT-TC-1A standard.



Nondestructive Testing



HHI's NDT specialists evaluate and analyze the performance of structural components, reliably pinpointing flaws, discontinuities, and defects that can affect structural integrity, equipment longevity, and worker safety.

Available onsite or in our labs, HHI nondestructive testing employs the latest NDT equipment and proven procedures and testing methods.

At HHI, we pride ourselves on providing round-the-clock NDT testing and quick turnaround to minimize customer downtime.

With HHI nondestructive testing, you get premium service and results at a competitive price, reducing your testing costs, increasing the useful life of your equipment, and ensuring the safest possible work environment for your employees.



Rigging Inspection Services

INSPECTION & REPAIR



HHI is committed to provide thorough and cost-effective rigging inspection services that comply with all procedures recommended by ASME, OSHA, and manufacturers. Staffed by a team of engineers with extensive knowledge and an outstanding industry reputation, our Rigging Inspection Department works with you during every step of your operation to ensure that your rigging meets the highest standards of integrity and safety.

Our technicians thoroughly evaluate each and every component in your rigging system, including:

- ▶ Hooks
- ▶ Chains
- ▶ Hoist rings
- ▶ Shackles
- ▶ Eyebolts
- ▶ Load blocks
- ▶ Turn buckles

We also inspect all sling types, including:

- ▶ Wire rope
- ▶ Synthetic
- ▶ Web
- ▶ High Performance Slings
- ▶ Below-the-hook lifting devices

All HHI rigging inspections come complete with a detailed visual report on rigging conditions. If we note defects in standard or custom rigs, we'll also offer repair recommendations and action steps to improve safety and comply with applicable regulations. For more information on HHI rigging inspection services, please contact a knowledgeable HHI representative today.

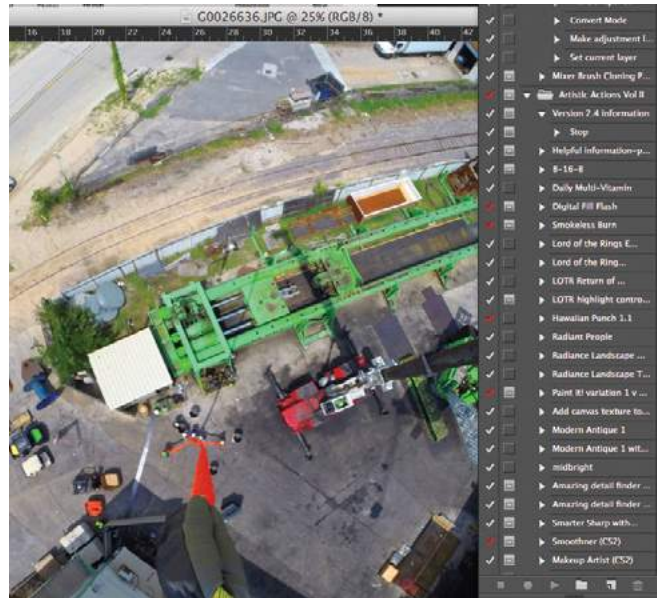
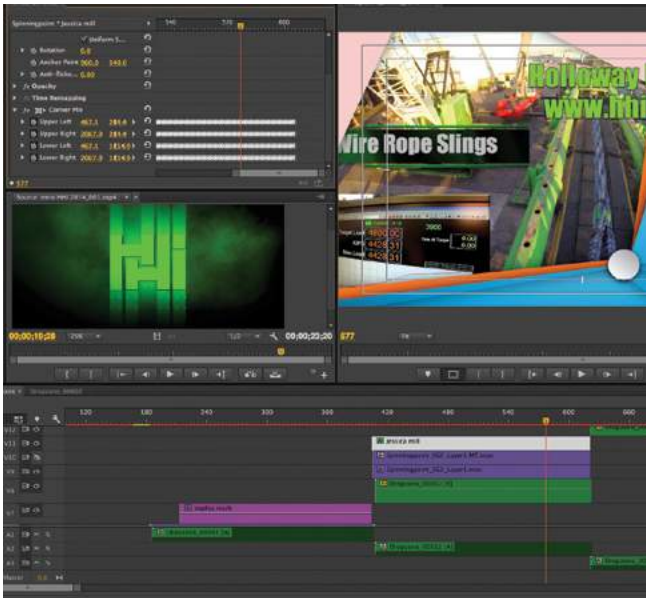
SERVICES

As part of our Value-Added proposition, Holloway Houston provides “Fundamentals of Rigging Safety” training seminars at NO COST to either existing or prospective clients. We see it as an investment in people’s knowledge in order to promote a “risk management culture.” Our goal is to provide you and your employees with a better understanding of how to properly select, inspect and use rigging gear. These training seminars are available at our facilities, in English or Spanish.

A typical seminar covers 4-hours and each attendee will receive the following items.

- ▶ **16-Panel Crosby “Users Guide for Lifting” Rigging Card (ASME)**
- ▶ **ASME / OSHA Based Product Application Seminar Workbook (Crosby)**
- ▶ **Holloway Houston , INC. Products Catalog**
- ▶ **The Crosby Group General Products Catalog**
- ▶ **Holloway Houston Certificate of Attendance**
- ▶ **Tour of Holloway Houston Facilities (optional)**





HHI's multimedia team specializes in break test footage, high-definition photos, and other documentation of testing, repair, and other services, as well as onsite footage and promotional videos. For more information about our affordable multimedia packages and services and how you can boost business with promotional video, please speak to your HHI sales representative.



► **Spreader Bar & Lifting Beam**

Design & Certification

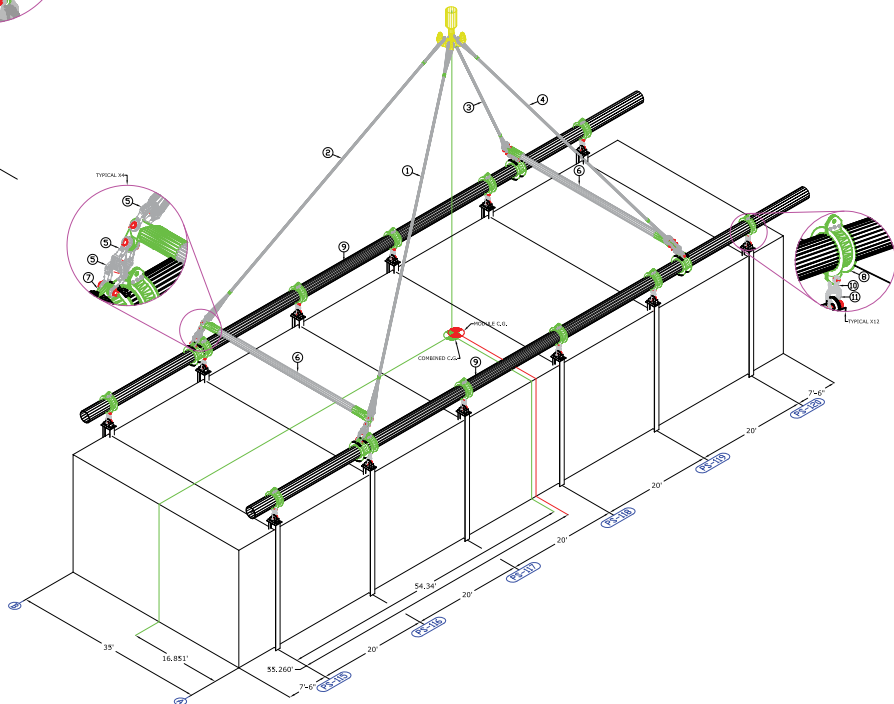
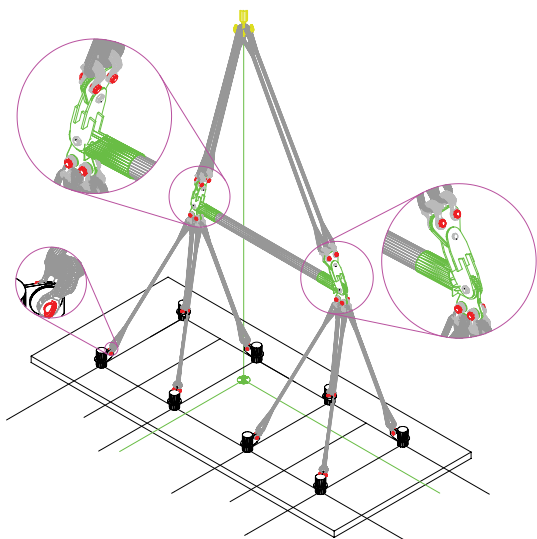
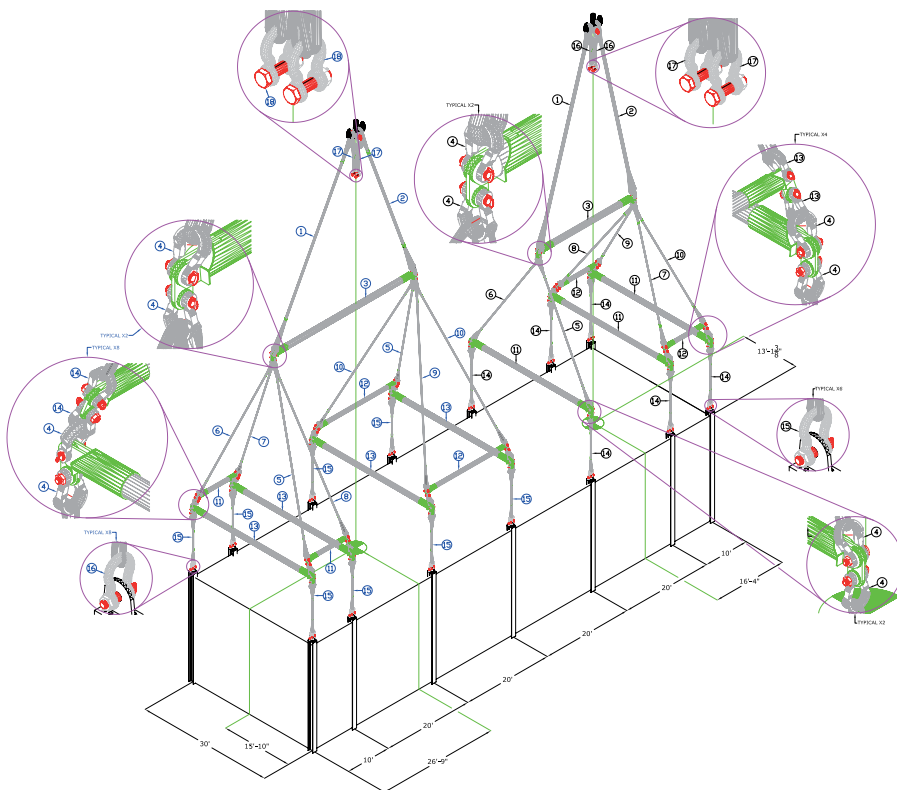
► **Rigging Packages & Consulting**

Services for Any Size Project

► **Specialty Testing**

► **2D & 3D Technical**

Drawings Available



TECHNICAL SERVICES

SERVICES

Technical Services

Holloway Houston installs strain gauges and thermocouples in a wide range of onsite environments. To capture and record strain gauge data, we employ a variety of data acquisition, handling, and software systems.

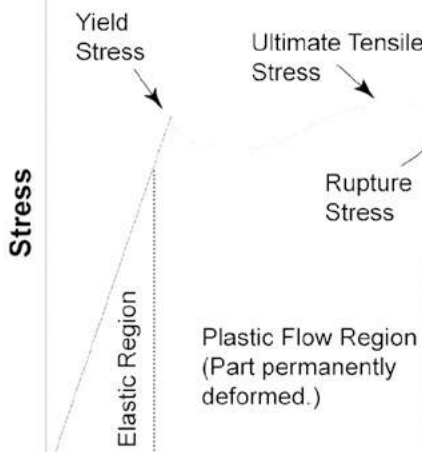
HHI also offers in-house strain gauge and thermocouple services, and all installations are performed according to recommended procedures and practices.

FEATURES:

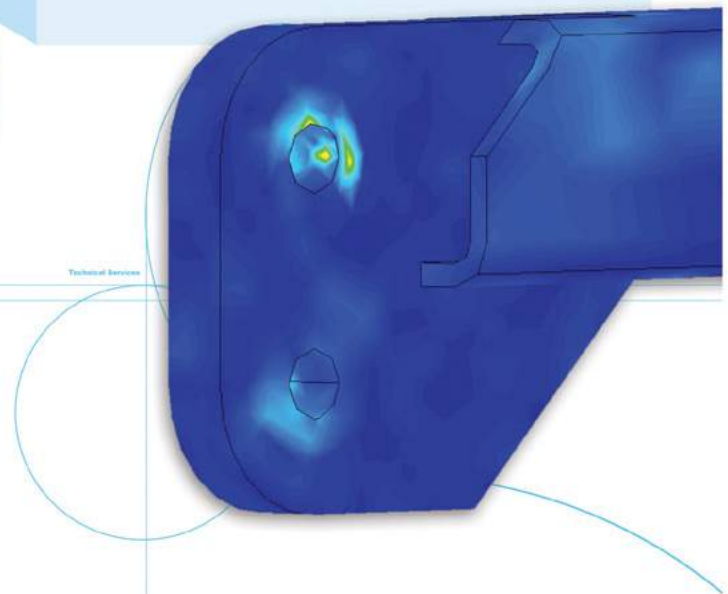
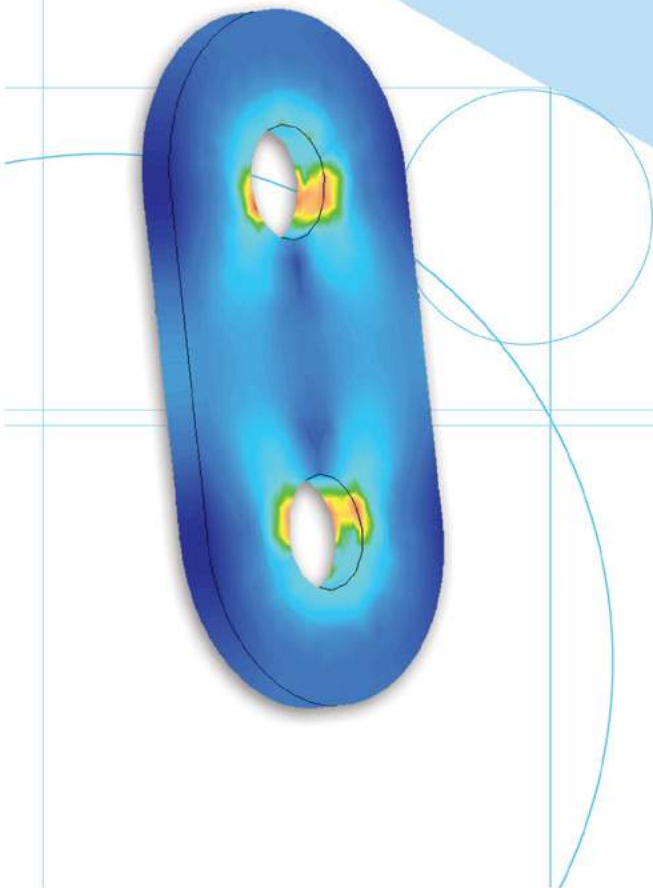
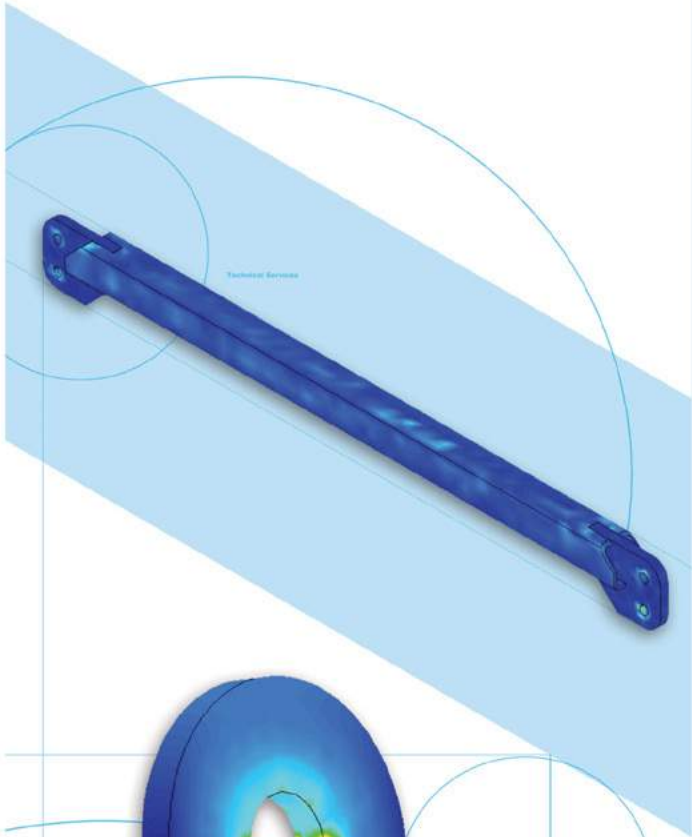
- ▶ Stable, accurate, low-noise signal conditioning
- ▶ +/-0.5% measurement accuracy
- ▶ 0.5 microstrain measurement resolution
- ▶ Individual input cards for strain gauge and strain gauge-based transducers, sensors with high-level voltage outputs, and linear variable displacement transducers
- ▶ Built-in, electronically selectable bridge completion for 120-, 350-, and 1000-ohm strain gauges
- ▶ Maximum scan rate of 2048 samples per second
- ▶ Self-calibration traceable to NIST standard
- ▶ Simultaneous samples with anti-aliasing filter and analog-to-digital conversion for each channel



Stress Strain Curve Steel



Holloway Houston now uses ALGOR, a general-purpose finite element analysis software package that provides high-performance solutions for structural design. Because ALGOR is part of the widely used Autodesk digital prototyping solution, HHI can easily incorporate 3D AutoCAD design drawings into ALGOR. ALGOR virtual testing and visualization provides HHI experts deeper insight into products and facilitates lifting product designs (spreader bars, lifting beams, tri-links, etc.) that reliably meet the industry's stringent requirements.



Long considered a leader in rigging equipment sales and rentals, Holloway also fabricates a variety of custom, competitively priced equipment and components, including:

- ▶ Spreader Bars
- ▶ Lifting Beams
- ▶ Lifting Frames
- ▶ Lifting Links
- ▶ ROV-Modified
- ▶ Hooks & Shackles
- ▶ Specialty Load Cells
- ▶ T-Cups
- ▶ And Much More

* Welders are qualified to AWS D1.1 standard.



Holloway Houston's fabrication facility is equipped with a variety of specialty machinery to manufacture custom equipment to your specifications.

Ultra-high pressure water jet precision cutter.



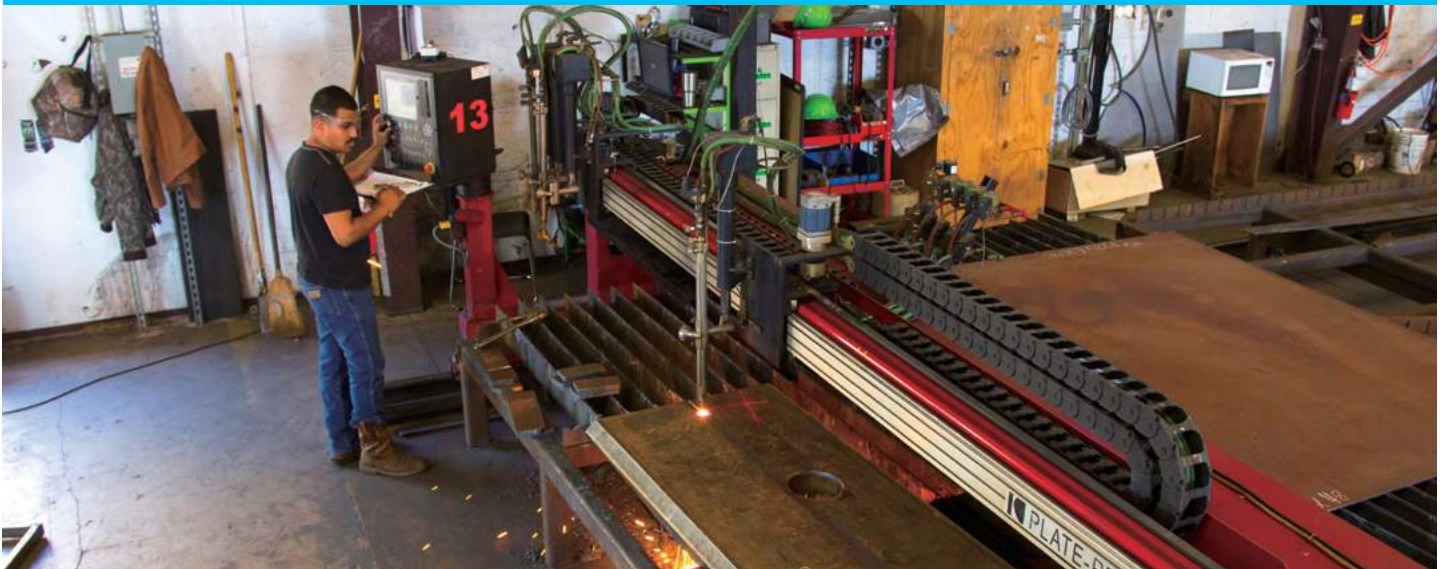
FABRICATION SERVICES



Semi-Automatic Bandsaw

- 43¼" cutting capacity in rounds and squares at 90°
- 43¼" x 51¼" cutting capacity in rectangles at 90°
- 33" cutting capacity in rounds and squares at 60°
- 43¼" x 33" cutting capacity in rectangles at 60°
- 25¼" cutting capacity in rounds and squares at 45°
- 43¼" x 25¼" cutting capacity in rectangles at 45°

Precision cutting up to 8 inches • Bandsaw capabilities over 40 inches



SERVICES

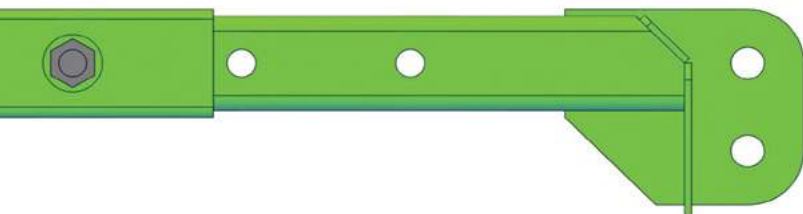
MORBAR Quick Shot Spreader Bars

HHI offers custom-fabricated lifting beams, spreader bars, tri-links, equalizer bars, lifting frames, and other lifting hardware in any quantity, and all hardware meets ASME, DNV, API, and other requirements. HHI also offers turnkey lifting solutions designed, deployed, and serviced by lifting industry experts.

HHI Fabricated Equipment Features:

- ▶ Fabricated to take Crosby G2130 & G2160 shackles for crown and drop connections.
- ▶ Proof-tested to 125%/150% of SWL (minimum).
- ▶ Standard coating: sandblasted to near white, primed, and painted with two coats of urethane enamel.

Includes data book containing all mill certs, NDE reports, proof-test certs, weld certs, etc., as applicable.



Note:

1. Spreader bars can be proof-tested to increased load, painted to different specs, etc., as required.
2. For even quicker delivery, HHI stocks pre-fabricated, adjustable-length telescopic spreader bars.



hhilifting.com/shop



GET THE APP

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App Store

www.hhilifting.com/hhi-lifting-app

Setting the Standard in Lifting Solutions

5833 Armour Dr.
Houston TX 77020



PHONE
713-674-5631



PRIMARY FAX
713-674-8352



International
international@hollowayhouston.com



Main
wirerope@hollowayhouston.com



www.hhilifting.com

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