

PRODUCTS



Wire Rope Slings

Wire Rope

Wire Rope Inspection Procedures

Synthetic Slings

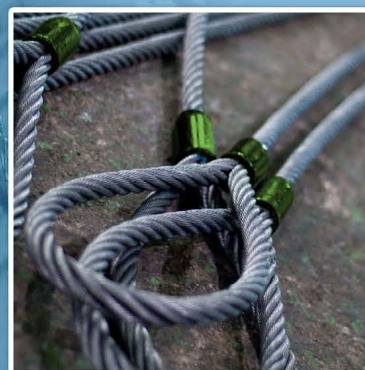
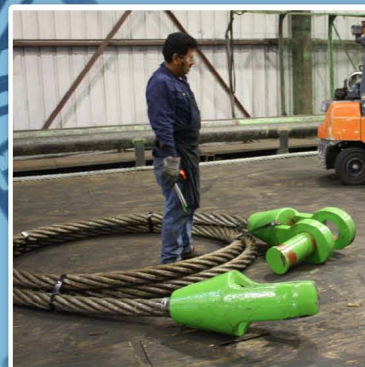
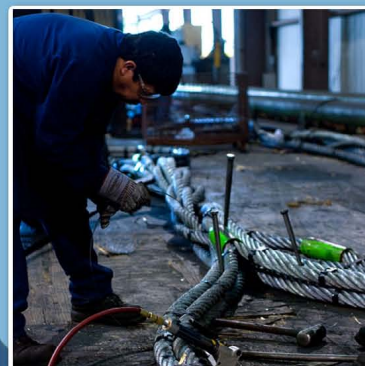
Alloy Chain Slings

Chain & Accessories

Crosby Shackles

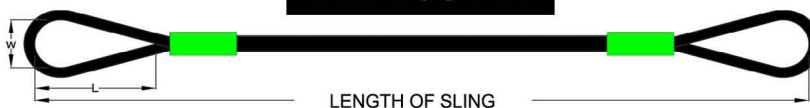
Rigging Attachments and Fittings

Wire Rope Slings



Eye & Eye Wire Rope Slings

HH-105-EE



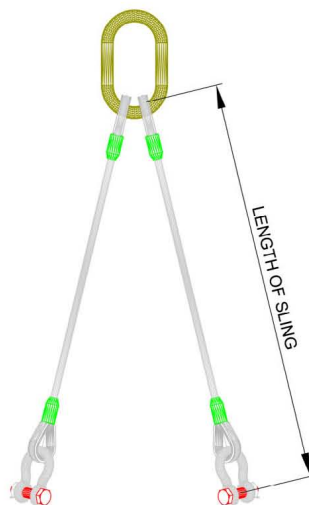
Wire Rope Dia. (inches)	Rated Capacities in Tons			Standard Eye Dimensions W"x L" (inches)		G-414 Heavy Duty Thimble Eye Dimensions W"x L" (inches)		Minimum Eye & Eye Sling Length
	Vertical Hitch	Choker Hitch	Vertical Basket Hitch*					
1/4"	0.65	0.48	1.3	2"	4"	7/8"	1-5/8"	1'-6"
5/16"	1	0.74	2	2-1/2"	5"	1-1/16"	1-7/8"	1'-9"
3/8"	1.4	1.1	2.8	3"	6"	1-1/8"	2-1/8"	2'
1/2"	2.5	1.9	5	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	56	14"	28"	4-1/2"	9"	8'
2"	37	28	74	16"	32"	6"	12"	9'
2-1/4"	44	35	88	18"	36"	7"	14"	10'
2-1/2"	54	42	108	20"	40"			11'
2-3/4"	65	51	130	22"	44"			12'
3"	77	60	154	24"	48"			13'
3-1/2"	102	79	204	28"	56"			16'-6"
3-3/4"	115	90	230	30"	60"			18"
4"	130	98	260	32"	64"			20'
4-1/2"	160	120	320	36"	72"			24'
6"	250	187	500	48"	96"			30'

*RATED CAPACITIES OF BASKET HITCHES ARE CALCULATED BASED ON 40 TIMES THE WIRE ROPE DIAMETER FOR SLINGS 1/4" THROUGH 1" IN DIAMETER, AND 25 TIMES FOR SLINGS 1-1/8" AND LARGER. 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

2 Leg Bridle Slings

HH-202-TTS



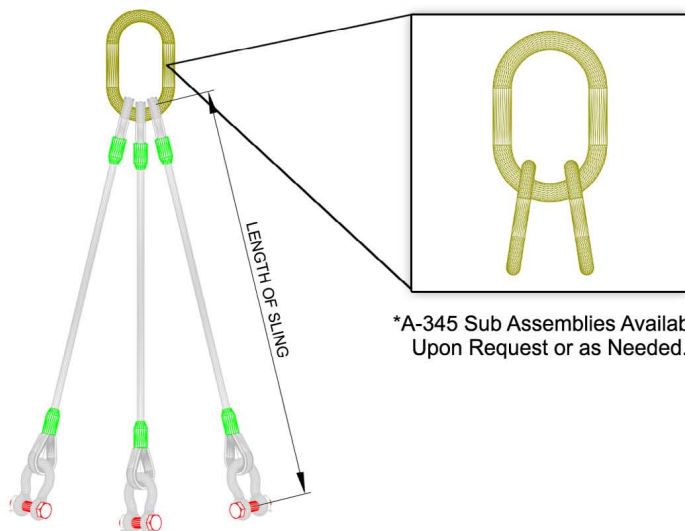
Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Crosby A-342 Alloy Oblong Master Link*			Crosby G-2130 Shackle	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	W"x L" (inches)		Nominal Size (inches)	
1/4"	1.1	0.92	0.65	1/2"	2.5"	5"	3/8"	1'-3"
3/8"	2.4	1.9	1.4	5/8"	3"	6"	1/2"	1'-8"
1/2"	4.3	3.5	2.5	3/4"	2.75"	5.5"	5/8"	2'
5/8"	6.8	5.5	3.9	1"	3.5"	7"	3/4"	2'-4"
3/4"	9.7	7.9	5.6	1"	3.5"	7"	7/8"	2'-9"
7/8"	13.2	10.7	7.5	1-1/4"	4.38"	8.75"	1"	3'-3"
1"	17	13.9	9.8	1-1/2"	5.25"	11.5"	1-1/8"	3'-6"
1-1/8"	21	17	12	1-1/2"	5.25"	11.5"	1-1/4"	4'
1-1/4"	26	21	15	1-3/4"	6"	12"	1-3/8"	4'-6"
1-3/8"	31	25	18	2"	7"	14"	1-1/2"	5'
1-1/2"	36	30	21	2"	7"	14"	1-1/3"	5'-6"
1-3/4"	48	40	28	2-1/4"	8"	16"	2"	6'-6"
2"	64	52	37	2-1/2"	8"	16"	2-1/2"	8'
2-1/4"	74	62	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 COULD BE APPROPRIATE.

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

3 Leg Bridle Slings

HH-303-TTS



*A-345 Sub Assemblies Available Upon Request or as Needed.

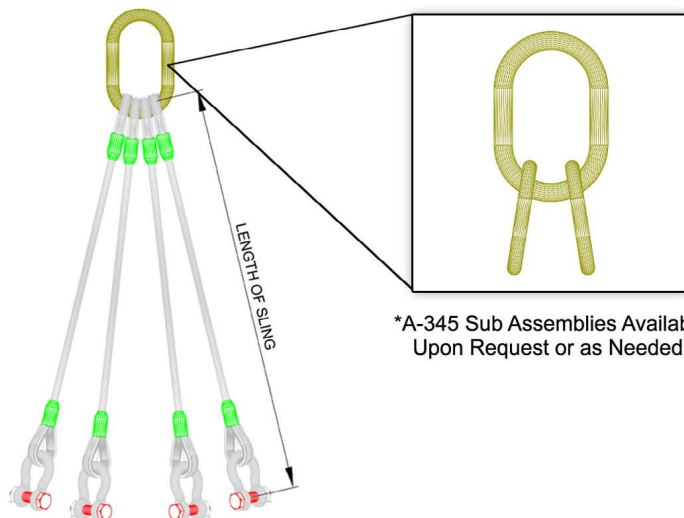
Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Crosby A-342 Alloy Oblong Master Link*			Crosby G-2130 Shackle	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	W"x L" (inches)		Nominal Size (inches)	
1/4"	1.69	1.38	0.98	1/2"	2.5"	5"	3/8"	1'-3"
3/8"	3.6	3.0	2.1	3/4"	2.75"	5.5"	1/2"	1'-8"
1/2"	6.5	5.3	3.8	1"	3.5"	7"	5/8"	2'
5/8"	10.1	8.3	5.9	1"	3.5"	7"	3/4"	2'-4"
3/4"	14.5	11.9	8.4	1-1/4"	4.38"	8.75"	7/8"	2'-9"
7/8"	19.7	16.1	11.4	1-1/4"	5.25"	10.5"	1"	3'-3"
1"	25.5	20.8	14.7	1-3/4"	6"	12"	1-1/8"	3'-6"
1-1/8"	31	25	18.0	2"	7"	14"	1-1/4"	4'
1-1/4"	39	32	23.0	2-1/4"	8"	16"	1-3/8"	4'-6"
1-3/8"	47	38	27.0	2-1/4"	8"	16"	1-1/2"	5'
1-1/2"	55	45	32.0	2-3/4"	9.5"	16"	1-1/3"	5'-6"
1-3/4"	73	59	42.0	2-3/4"	9.5"	16"	2"	6'-6"
2"	96	78	56.0	3-1/4"	10"	20"	2-1/2"	8'
2-1/4"	114	93	66.0	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 COULD BE APPROPRIATE.

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

4 Leg Bridle Slings

HH-404-TTS



*A-345 Sub Assemblies Available Upon Request or as Needed.

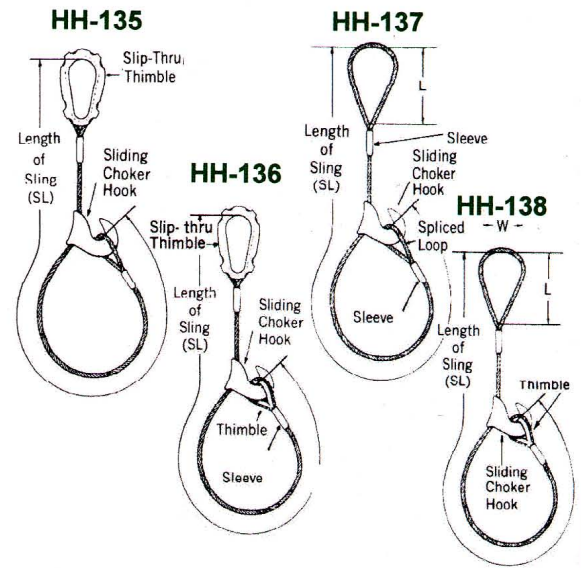
Wire Rope Diameter (inches)	EIPS Capacities In Tons Angle With Horizontal			Crosby A-342 Alloy Oblong Master Link*			Crosby G-2130 Shackles	Minimum Sling Length
	60 Deg	45 Deg	30 Deg	Dia. (inches)	W"x L" (inches)		Nominal Size (inches)	
1/4"	2.25	1.84	1.3	5/8"	3"	6"	3/8"	1'-3"
3/8"	4.8	4	2.8	1"	3.5"	7"	1/2"	1'-8"
1/2"	8.7	7.1	5.0	1-1/4"	4.38"	8.75"	5/8"	2'
5/8"	13.5	11	7.8	1-1/2"	5.25"	10.5"	3/4"	2'-4"
3/4"	19.4	15.8	11.2	1-1/2"	5.25"	10.5"	7/8"	2'-9"
7/8"	26.3	21.5	15.2	1-3/4"	6"	12"	1"	3'-3"
1"	33.9	27.7	19.6	2"	7"	14"	1-1/8"	3'-6"
1-1/8"	41.5	33.9	24.0	2-3/4"	9.5"	16"	1-1/4"	4'
1-1/4"	52	42	30.0	2-3/4"	9.5"	16"	1-3/8"	4'-6"
1-3/8"	62	51	36.0	3-1/2"	12"	24"	1-1/2"	5'
1-1/2"	73	59	42.0	3-1/2"	12"	24"	1-1/3"	5'-6"
1-3/4"	97	79	56.0	3 **	9"	18"	2"	6'-6"
2"	128	105	74.0	3-3/4"	10"	20"	2-1/2"	8'
2-1/4"	152	124	88.0	4"	10"	20"	2-1/2"	8'-9"

*ALL MASTER LINKS ARE SIZED TO ACCOMODATE HEAVY DUTY THIMBLES. IF THIMBLES ARE NOT REQUIRED, A SMALLER MASTER LINK COULD BE APPROPRIATE.

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

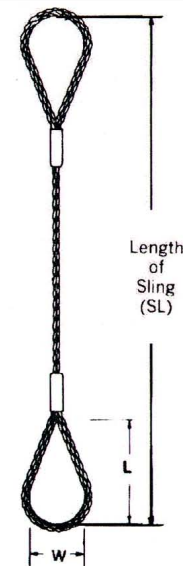
HH-135 Thru 138 Single Leg Slings with Sliding Choker Hooks

Diameter of Rope (Inches)	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



HH-108-C Cable-Laid Slings With Single Rope Legs

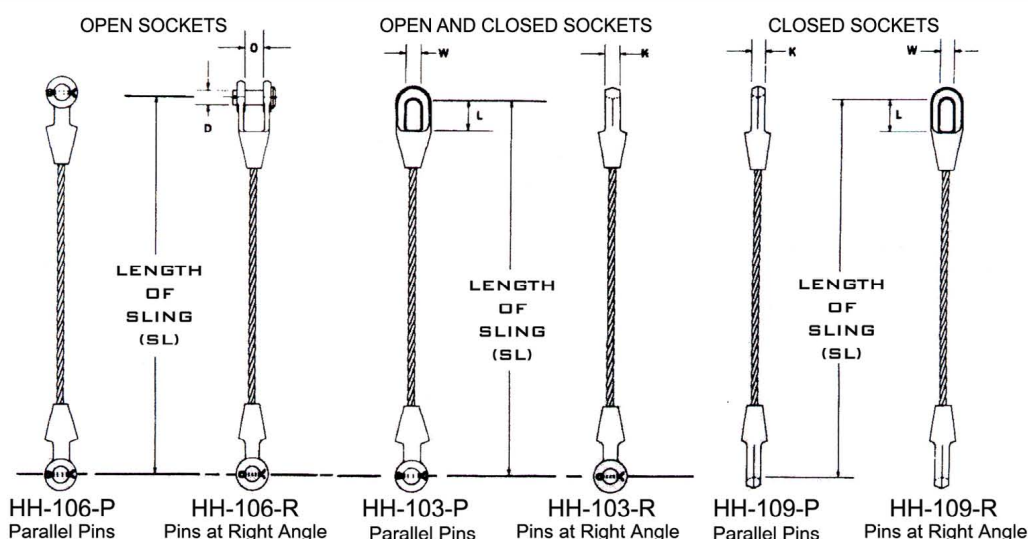
Diameter of Rope (Inches)	Choker Capacity In Tons	Eye Dimensions W"x L"		Minimum Sling Length
3/8"	0.9	3"	6"	2'
1/2"	1.4	4"	8"	2'6"
5/8"	2.2	5"	10"	3'
3/4"	3.1	6"	12"	3'6"
7/8"	4.2	7"	14"	4'
1"	5.5	8"	16"	4'6"
1-1/8"	7	9"	18"	5'
1-1/4"	8.5	10"	20"	5'6"
1-1/2"	12	12"	24"	7'



NOTE: RATED CAPACITIES OF CHOKER HITCHES APPLY WHEN THE ANGLE OF CHOKE IS GREATER THAN 120 DEGREES.

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

Precision Spelter Socket Assemblies



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"
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"	1.5"
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"
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"
2-1/2"	5'9"	60.40	5"	4.75"	5.5"	10.62"	4.5"
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"
4"	8'6"	142.60	7.5"	7"	8.5"	14"	7"

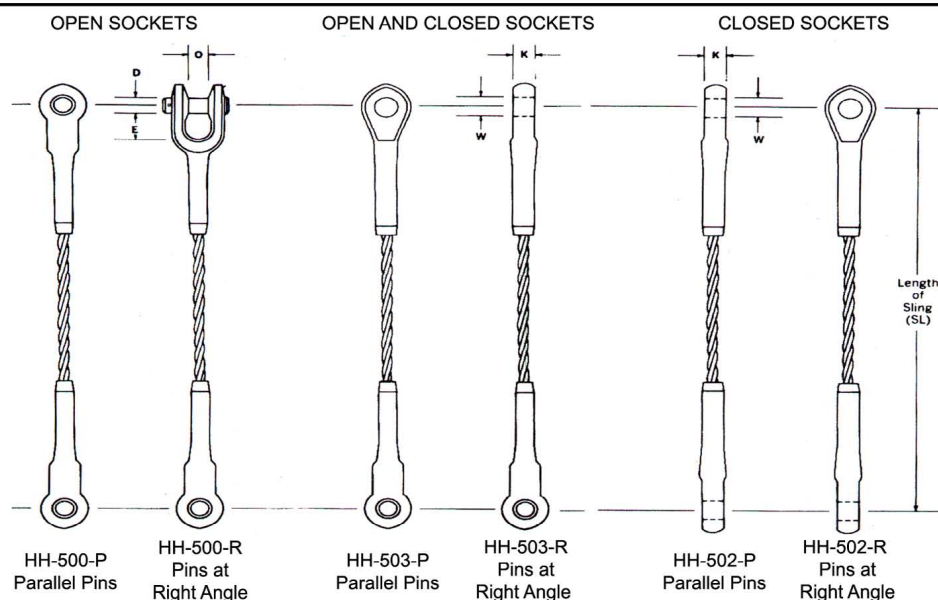
SOCKET ASSEMBLIES ARE TO EXACT LENGTH +/- 1/4". ALL ASSEMBLIES ARE PROOF TESTED TO 40% OF CATALOG BREAKING STRENGTH.

ALL CAPACITIES ARE BASED ON EXTRA IMPROVED PLOW STEEL (EIPS).

ENHANCED CAPACITY BASED ON EXTRA EXTRA IMPROVED PLOW STEEL (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



Diameter of Wire Rope (inches)	Minimum Length of Sling	Rated Capacity In Tons of 2,000 Lbs.	Dim. O (Inches)	Open Sockets		Closed Sockets	
				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'	3.36	1.25"	1.19"	1.65"	1.13"	1.25"
5/8"	2'	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'	15.98	2.5"	2.5"	3.5"	2.25"	2.56"
1-3/8"	4'5"	19.20	2.5"	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 $\pm 1/4"$. ALL ASSEMBLIES ARE PROOF TESTED TO 40% OF CATALOG BREAKING STRENGTH. CAPACITIES ARE BASED ON EXTRA IMPROVED PLOW STEEL (EIPS). ENHANCED CAPACITY BASED ON EXTRA EXTRA IMPROVED PLOW STEEL (EEIPS) IS ALSO AVAILABLE UPON REQUEST.

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

3 Part High Capacity Slings with Parallel Eyes



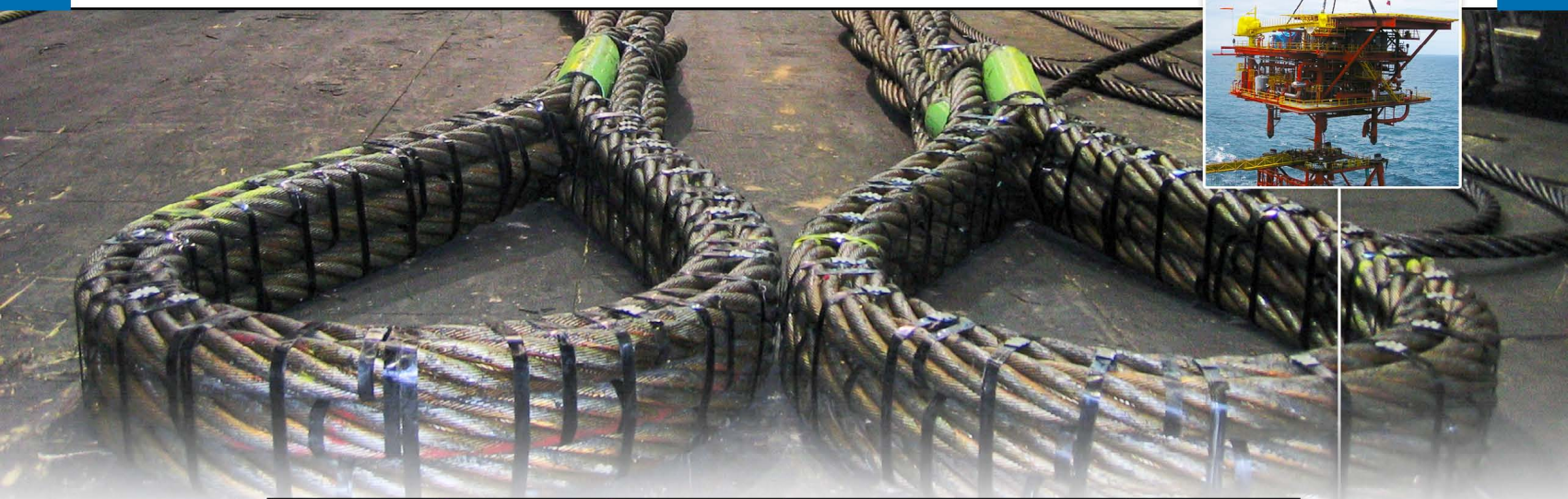
Component Wire Rope Diameter	Vertical Capacity	Sling Body Diameter	Eye Length	Approx. Weight in Lbs. per Foot
(Inches)	Ton	(Inches)	(Inches)	
3/4"	14.0	1-1/2"	20"	4.2
7/8"	19.0	1-3/4"	24"	5.7
1"	24.8	2"	28"	7.4
1-1/8"	31.2	2-1/4"	32"	9.4
1-1/4"	38.4	2-1/2"	36"	11.6
1-3/8"	46.0	2-3/4"	40"	14.0
1-1/2"	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

9 Part EIPS Slings



Component Wire Rope Diameter	Vertical Capacity	Vertical Capacity	Finished Wire Rope Diameter	Standard* Eye Length	Bearing Area of Eye Width
(Inches)	Ton	M Ton	(Inches)	(Inches)	(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"

BASKET RATINGS ALSO AVAILABLE UPON REQUEST.

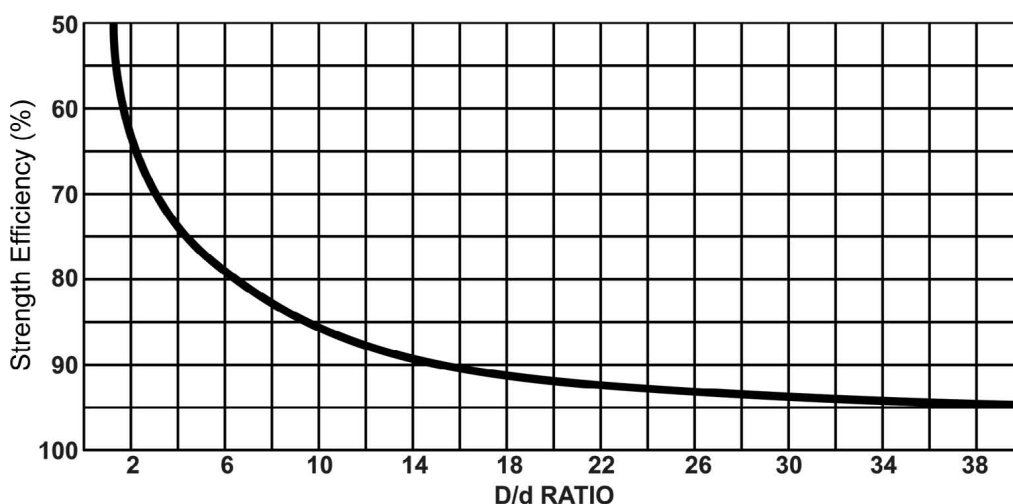
ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1

High Capacity Low Headroom Wire Rope Slings

To obtain the full rated capacity, the pin that the eye of the sling passes over must be a minimum of 1:1D/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.



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 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 trunions:

- 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.

High Capacity Low Headroom Wire Rope Slings

Phase 1 Grommet (Single Part) (Working Load Limits are in Tons [2,000 Lbs.]

Working Load Limit @ 5:1 Design Factor

Rope Dia. Inches	Diameter of pin, Shackle bale, Trunnion, etc.														
	1.50	2.00	2.50	3.00	3.50	4.00	4.50	6.00	8.00	10.00	12.00	16.00	20.00	24.00	30.00
1-1/2"	21	23	25	27	28	29	29	32	32	33	35	36	37	37	38
1-3/4"		31	32	34	36	37	38	40	42	43	45	47	48	49	50
2"			40	43	45	48	49	52	56	56	58	61	64	64	66
2-1/4"			45	48	51	54	57	60	64	66	67	70	73	76	77
2-1/2"			54	57	60	64	67	72	77	81	82	86	90	90	94
2-3/4"				67	70	74	77	86	90	95	98	100	104	108	112
3"				77	81	85	89	100	105	110	116	118	122	128	132
3-1/2"					102	106	111	124	136	141	147	154	156	162	170
4"						130	135	150	169	176	182	195	198	205	208
4-1/2"							160	176	197	212	219	233	241	244	254
6"								257	282	309	334	351	368	386	391

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1



High Capacity Low Headroom Wire Rope Slings

Phase 2 Grommet (Two Part) (Working Load Limits are in Tons [2,000 Lbs.] Working Load Limit @ 5:1 Design Factor

Rope Dia. Inches	Diameter of pin, Shackle bale, Trunnion, etc.														
	1.50	2.00	2.50	3.00	3.50	4.00	4.50	6.00	8.00	10.00	12.00	16.00	20.00	24.00	30.00
1-1/2"	42	46	50	55	56	57	59	63	64	67	70	72	73	75	76
1-3/4"		62	63	68	73	74	76	81	85	86	89	93	97	98	100
2"			80	85	91	96	98	104	111	112	117	123	127	128	132
2-1/4"			91	97	103	109	114	120	128	133	134	140	147	152	153
2-1/2"			108	114	121	127	134	145	153	162	164	171	179	181	187
2-3/4"				134	141	148	155	171	181	190	196	200	208	217	224
3"				154	162	169	177	200	211	221	231	235	245	256	265
3-1/2"					204	213	222	247	271	283	294	308	313	325	340
4"						260	270	299	338	351	364	390	395	411	416
4-1/2"							320	352	395	423	437	466	483	489	508
6"								514	565	617	668	703	737	771	781

ALL SLINGS ARE PROOF TESTED TO 2 TIMES WORKING LOAD LIMIT. DESIGN FACTOR IS 5:1



Wire Rope

HHI is an Authorized Wire Rope Distributor for Bridon American Wire Rope, Wire Rope Works, Inc. (Bethlehem Wire Rope) and imported wire rope. Our vast wire rope inventory consists of the following:

- 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



Wire Rope Works, Inc.
manufacturer of Bethlehem Wire Rope®

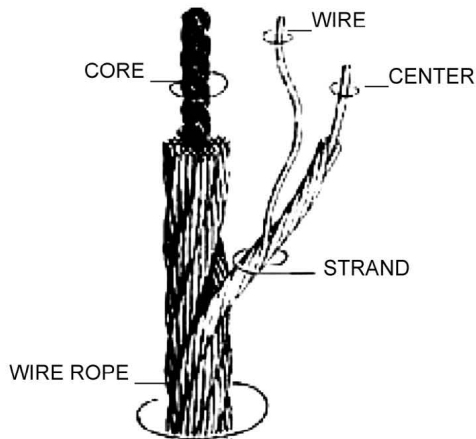
Authorized Wire Rope Works Distributor

BRIDON

Authorized Bridon Wire Rope Distributor



Wire Rope Inspection Procedure



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

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



Type 3 & 4 Heavy Duty Eye & Eye Web Slings

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, and 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 Heavy Duty Endless Web Slings

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
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
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
4"	EN1-94	12,400	9,920	24,800
	EN2-94	22,000	17,600	44,000
	EN3-94	34,000	27,520	68,800
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

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



Common Slings Hitches

Vertical Hitch



Choker Hitch



Basket Hitch



Slings are available in nylon and 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.



SEE SYNTHETICS APPLICATION
AND WARNING INFORMATION

Type 6 Reversed Eye Web Slings

Web Width	Part No.	Rated Capacities in Lbs.			Eye Length
		Vertical	Choker	V. Basket	
2"	RE1-61	3,600	2,880	7,200	9"
	RE1-91	4,600	3,680	9,200	9"
	RE2-61	5,800	4,640	11,600	12"
	RE2-91	7,700	6,160	15,400	12"
3"	RE1-615	5,500	4,640	11,000	12"
	RE1-915	6,900	5,920	13,800	12"
	RE2-615	8,700	6,720	17,400	12"
	RE2-915	11,600	9,120	23,200	12"
4"	RE1-62	6,800	5,440	13,600	12"
	RE1-92	8,600	6,880	17,200	12"
	RE2-62	11,000	8,800	22,000	12"
	RE2-92	14,500	11,600	29,000	18"
	RE3-92	20,400	16,320	40,800	18"
	RE4-92	23,000	18,400	46,000	18"
6"	RE1-63	10,000	8,000	20,000	14"
	RE1-93	12,000	9,600	24,000	14"
	RE2-63	14,000	11,200	28,000	18"
	RE2-93	17,400	13,920	34,800	18"
	RE3-63	20,000	16,000	40,000	20"
	RE3-93	26,500	21,200	53,000	20"
	RE4-63	24,800	19,800	49,600	24"
	RE4-93	34,000	27,200	68,000	24"



Abrasion resistant Cordura wear pads cover the eyes and sides of the body giving an extra protection to prevent wear.

Slings are available in nylon and 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.



Type 1 Choker Sling With Metal Fittings

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
	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	8,600	6,880	17,200
	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
	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
	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
	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
12"	CHS1-912	N/A	18,600	14,880	37,200
	CHS2-912	N/A	33,000	26,400	66,000



Slings with metal hardware prolong the life of slings prone to damage on the end of the sling.

Slings are available in nylon, and 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 With Fittings

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
	BHS4-92	N/A	12,400	24,800
3"	BHS1-93	BHA1-93	4,650	9,300
	BHS2-93	N/A	8,600	17,200
	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
	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
	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
	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
12"	BHS1-912	N/A	18,600	37,200
	BHS2-912	N/A	33,000	66,000



Fittings available in forged aluminum or alloy steel.

Slings are available in nylon and polyester webbing.

Minimum 5:1 design factor.

Do not exceed rated capacities.



Eye & Eye Roundslings (HHEER)

Rated Capacities in Lbs.								
Part No.	Color Code	Vertical	Choker	Vertical Basket	Minimum Length	Standard Eye Length	Body Width	Approx. Weight Per Foot
HHEER1	Purple	2,600	2,100	5,200	3'	10"	2.25"	0.4 LB
HHEER2	Green	5,300	4,200	10,600	3'	10"	2.5"	0.5 LB
HHEER3	Yellow	8,400	6,700	16,800	4'	12"	2.5"	0.6 LB
HHEER4	Tan	10,600	8,500	21,200	4'	12"	3.5"	0.7 LB
HHEER5	Red	13,200	10,600	26,400	5'	14"	3.5"	1.0 LB
HHEER6	White	16,800	13,400	33,600	7'	16"	3.5"	1.1 LB
HHEER7	Blue	21,200	17,000	42,400	7'	16"	4.25"	1.6 LB
HHEER8	Orange	25,000	20,000	50,000	8'	18"	4.5"	1.9 LB
HHEER9	Orange	31,000	24,800	62,000	8'	18"	4.75"	2.2 LB
HHEER10	Orange	40,000	32,000	80,000	8'	24"	5.00"	2.9 LB
HHEER11	Orange	53,000	42,400	106,000	8'	24"	5.25"	3.8 LB
HHEER12	Orange	66,000	52,800	132,000	8'	24"	5.25"	3.8 LB
HHEER13	Orange	90,000	72,000	180,000	9'	36"	5.5"	4.7 LB
HHEER14	Orange	100,000	80,000	200,000	9'	36"	6.00"	6.4 LB



For extra protection and increased durability, Eye and Eye Roundslings are fabricated by encasing the body of an Endless Sling, with a heavy-duty tubular Cordura sleeve.



Eye and Eye Roundslings

Endless Roundslings (HHERS)

Rated Capacities in Lbs.							
Part No.	Color Code	Vertical	Choker	Vertical Basket	Minimum Length	Diameter (No load)	Approx. Weight Per Foot
HHERS1	Purple	2,600	2,100	5,200	3'	0.625"	0.3 LB
HHERS2	Green	5,300	4,200	10,600	3'	0.875"	0.4 LB
HHERS3	Yellow	8,400	6,700	16,800	3'	1.125"	0.5 LB
HHERS4	Tan	10,600	8,500	21,200	3'	1.125"	0.6 LB
HHERS5	Red	13,200	10,600	26,400	3'	1.375"	0.8 LB
HHERS6	White	16,800	13,400	33,600	6'	1.75"	0.9 LB
HHERS7	Blue	21,200	17,000	42,400	6'	1.625"	1.3 LB
HHERS8	Orange	25,000	20,000	50,000	6'	1.750"	1.6 LB
HHERS9	Orange	31,000	24,800	62,000	6'	2.125"	2.0 LB
HHERS10	Orange	40,000	32,000	80,000	6'	2.350"	2.6 LB
HHERS11	Orange	53,000	42,400	106,000	8'	3.150"	3.4 LB
HHERS12	Green	66,000	52,800	132,000	8'	3.950"	4.3 LB
HHERS13	Green	90,000	72,000	180,000	8'	4.800"	5.9 LB
HHERS14	Green	100,000	80,000	200,000	8'	5.500"	6.5 LB



HHERS Roundslings offer a lightweight non-marring sling, with exceptional strength, and adaptability, to handle all sizes and types of loads. The constant rotation of the bearing points will increase the life of the sling in all hitch configurations.



Endless Roundslings

Braided Roundslings

6 Part Braids								
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								
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



Braided Roundslings will achieve higher working load limits, while maintaining the lighter weight and flexibility properties available in our entire Roundsling line.



Inspection, Care & Use of Synthetic Slings

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, which are 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 from sharp corners, sharp edges, protrusions, or abrasive surfaces.
8. Slings shall not be dragged on the floor, or over an abrasive surface.
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. Personnel, including portions of the human body, shall be kept from between the sling and the load, and 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 so that the rated capacity of the sling is adequate when the angle of the legs is taken into consideration. (See load chart.)

23. Place blocks 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 de-grades 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 designated person to ensure that the correct sling is being used, as well as 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

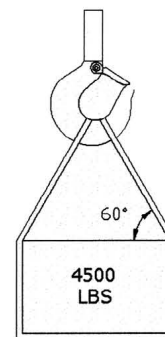
C. Periodic Inspection

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. This 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 on sling is used to pull at an angle, in a basket hitch or for multi-legged bridle slings. This data is only for equally loaded sling legs. Sling angles of less than 30 degrees are not recommended.



Actual sling capacity = Factor
x rated capacity

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

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



HHIperLift High Capacity Roundslings

The HHIperLift family of roundslings made with Honeywell Spectra® fibers is a part of a series of new generation lifting tools utilizing “Space Age Materials”, and high technology design methodologies.

- **Excellent Fatigue Resistance**
- **Excellent Damping Characteristics (Vibration, Shock, and Impact)**
- **High Specific Modulus. Excellent for Lifting and Mooring in Ultra Deep Water**
- **High Chemical Resistance**
- **Good UV Resistance**
- **Highly Cut Resistant**
- **Prolonged Emersion in Saltwater**
- **Made in America**
- **Enhanced Durability**
- **100% Proof Tested and More**

HHIperLift Spectra® Roundslings General and Technical Data

High Contact Rigging Efficiency (HCRE)

HHIperLift Spectra® roundslings offers superior rigging efficiency compared to conventional materials such as wire rope, braided rope and traditional roundslings that generally require fairly large and fixed diameters in regard to the amount of lifting potential achieved.

HHIperLift's advantage over braided rope, or helically laid stranded yarn is made possible by its use of a special oversized triple cover with parallel laid yarn inside. This cover allows the user to re-shape the sling to better fit the load bearing surface that is available.

In doing so, HHIperLift Spectra® slings provide more contact of the lifting fibers with the pin, and can actually allow for the use of a smaller size shackle to accomplishing the lift. This is done while maintaining the required 3:1 D/d ratio because the thickness of the fiber bundle in contact with the lifting area has been reduced.

Ratings and Design Factors:

HHIperLift Spectra® roundslings are rated in tonnes. The design factor is 5:1 (Ultimate = 5 x rated load). Exceeding rated capacity is not recommended.

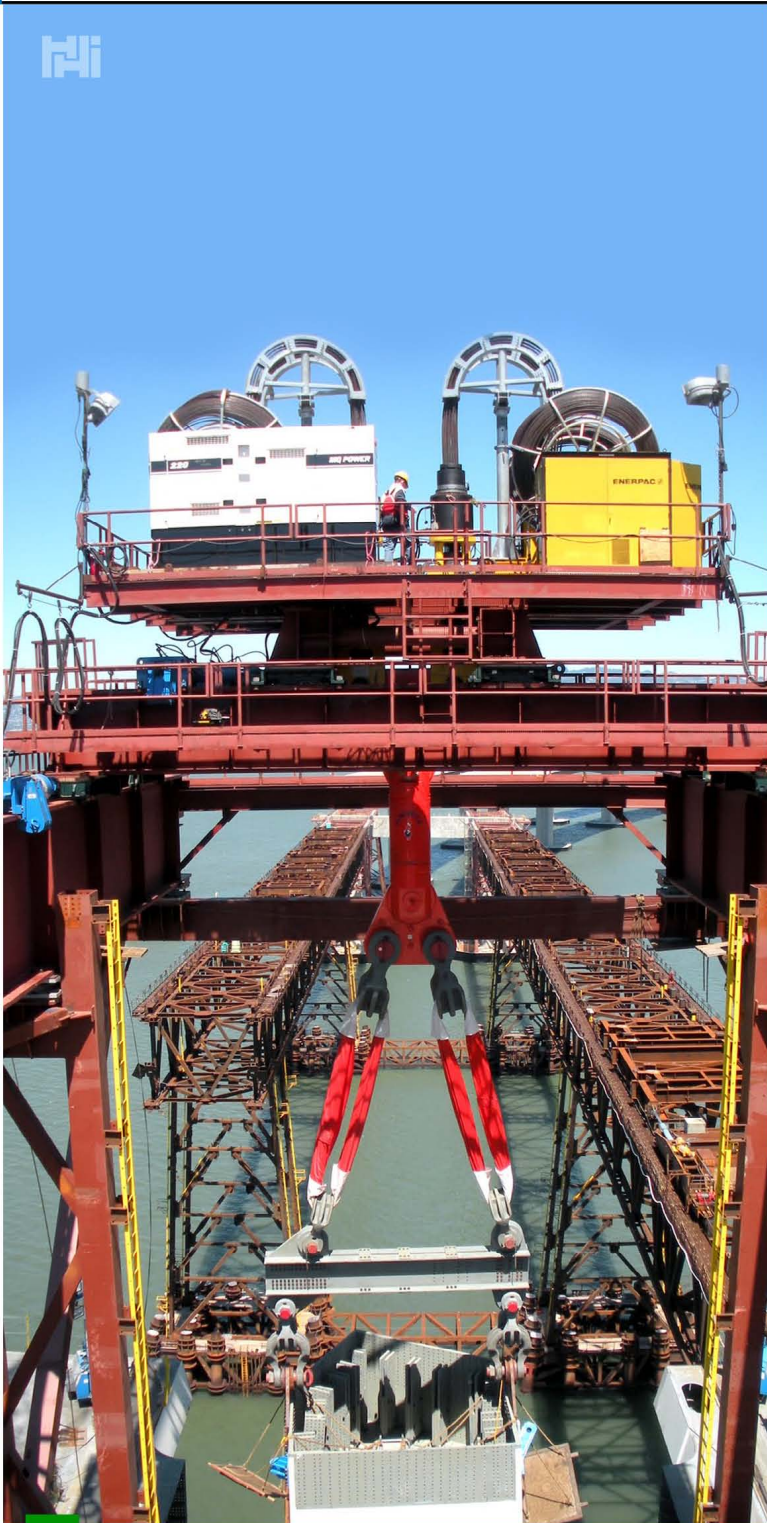
Cross Sectional Area:

The cross sectional area, measured in square inches, is the area occupied by the Spectra® load bearing wraps at its rated capacity when pulled down around a pin. Using the HH-75T-SP 75 tonne again as an example, the cross sectional area is an exceptional 4.40 inches² when compared to other sling materials that have a fixed cross section area.

D/d Ratios:

In order for the Spectra® sling system to properly achieve the loads it was designed for, it is necessary to maintain a minimum of a 3:1 D/d ratio. This means that the pin size the sling is going around must have at least 3 times the diameter of the sling at the bearing point.

HHIperLift High Capacity Roundslings



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 ROV's (a vertical 15' 75 ton sling weighs less than 75 pounds).
- **Reduced Elongation:** Maximum of 3.8% at breaking load.
- **Flotation Properties:** Lightweight, with 0.97 g/cc density. Tends to remain in fairly stationary position in deep water.
- **Prolonged Emersion in Saltwater:** Honeywell Spectra® testing indicates no reduction in lifting capacity after 6 months of emersion and only 1-2% loss after 12 months in seawater.
- **Excellent fatigue resistance.**
- **Excellent 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 the cover materials are made in the U.S. The fabrication and load testing of the slings are performed at HHI's Houston, Tx facility.
- **API-Q1 standards of design, calculation, large sample testing, and general use of scientific methods were utilized in the development of Spectra® Roundslings.**

HHIperLift High Capacity Roundslings



HHI Proof Tests and Certifies 100% of our slings before delivery:

- All slings are serialized with copies of certification maintained by HHI and available on HHI's website.
- Enhanced durability is produced through the use of HHI's specially developed triple cover system designed to reduce both fiber to 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

HHIperLift Spectra® Roundslings should be used in accordance with the accepted OSHA guidelines used for all roundslings. Keep in mind that while Spectra® fibers are extremely resistant to cuts, the 3 cover layers (nylon, cordura and polyester) can be cut much more easily.

- **Optional Spectra® Cover Material** is available in lieu of the traditional 3 material cover for use in areas prone to extreme abrasion and/or sharp edges. This Spectra® cover offers highly increased cut and abrasion resistance.

HHIperLift

High Performance Roundslings

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.)	Cross Sectional Surface Area	Recommended G-2160 Wide Body Shackle		
							G-2160 Wide Body Shackles	Bow Diam. (inches)	Inside Width (inches)
HH-18T-SP	HH-18T-SPE	18t	14.4t	36t	1.24	1.1	30t	3.13"	5"
HH-25T-SP	HH-25T-SPE	25t	20t	50t	1.65	1.47	30t	3.13"	5"
HH-50T-SP	HH-50T-SPE	50t	40t	100t	3.31	2.93	55t	4.5"	7"
HH-75T-SP	HH-75T-SPE	75t	60t	150t	4.96	4.4	75t	4.75"	7.28"
HH-100T-SP	HH-100T-SPE	100t	80t	200t	6.61	5.87	125t	5.91"	8.66"
HH-125T-SP	HH-125T-SPE	125t	100t	250t	8.27	7.34	125t	5.91"	8.66"
HH-150T-SP	HH-150T-SPE	150t	120t	300t	9.92	8.8	200t	8.07"	10.82"
HH-175T-SP	HH-175T-SPE	175t	140t	350t	11.57	10.27	200t	8.07"	10.82"
HH-200T-SP	HH-200T-SPE	200t	160t	400t	13.23	11.74	200t	8.07"	10.82"
HH-225T-SP	HH-225T-SPE	225t	180t	450t	14.88	13.2	300t	10.38"	12.62"
HH-250T-SP	HH-250T-SPE	250t	200t	500t	16.53	14.67	300t	10.38"	12.62"
HH-275T-SP	HH-275T-SPE	275t	220t	550t	18.19	16.14	300t	10.38"	12.62"
HH-300T-SP	HH-300T-SPE	300t	240t	600t	19.84	17.6	300t	10.38"	12.62"
HH-350T-SP	HH-350T-SPE	350t	280t	700t	23.15	20.54	400t	12.6"	14.56"
HH-400T-SP	HH-400T-SPE	400t	320t	800t	26.46	23.47	400t	12.6"	14.56"
HH-450T-SP	HH-450T-SPE	450t	360t	900t	29.76	26.41	500t	13.39"	17.72"
HH-500T-SP	HH-500T-SPE	500t	400t	1,000t	33.07	29.34	500t	13.39"	17.72"

*Larger Capacities Available Upon Request

Made with Honeywell Spectra® Fibers.

4 Layer DuraFab® Cover w/Parallel laid Yarn, High Contact Rigging Efficiency, Rated Capacity & 5 to 1 Design Factor, Maximum 3.8% Elongation, Excellent Fatigue & Cut Resistance, Good UV Resistance, Traceability also available with HHIperLift Clear® Inspectable Cover.



Endless Roundslings

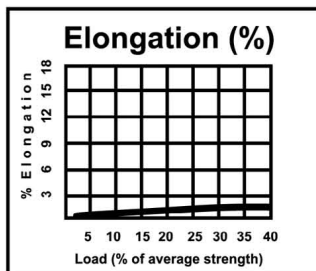


Eye and Eye Roundslings

Plasma Rope Slings

Made with Honeywell Spectra® Fibers using Puget Sound Rope's Patented Recrystallization Process.

Plasma Eye & Eye Slings



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 data supplied by the fiber manufacturer for new, dry fiber

Tensile Strengths are determined in accordance with Cordage Institute 1500, Test Methods for Fiber Rope. Weights are calculated at linear density under standard preload (200d²) plus 4%.

Spliced Ultra High Performance 12 Strand Grommets

Design Factor 5:1
Minimum D/d Ratio 3:1



	Nominal Diameter		Size # (Circ.)	Approx. Wgt per Foot	Working Load Limit
	Inches	mm	Inches	(Lbs)	(Lbs)
12 Strand	5/8"	16	2"	0.22	10,280
	3/4"	18	2-1/4"	0.27	13,700
	7/8"	22	2-3/4"	0.39	18,250
	1"	24	3"	0.47	22,000
	1-1/8"	28	3-1/2"	0.64	29,400
	1-1/4"	30	3-3/4"	0.72	33,000
	1-5/16"	32	4"	0.83	39,200
	1-1/2"	36	4-1/2"	1.03	44,200
	1-5/8"	40	5"	1.31	58,200
	1-3/4"	44	5-1/2"	1.57	62,800
12 X 12 Strand	2"	48	6"	1.83	71,000
	2-1/8"	52	6-1/2"	2.18	85,600
	2-1/4"	56	7"	2.44	96,200
	2-1/2"	60	7-1/2"	2.96	106,000
	2-5/8"	64	8"	3.34	119,200
	2-3/4"	68	8-1/2"	3.74	132,000
	3"	72	9"	4.28	156,000
	3-1/8"	76	9-1/2"	4.7	170,000
	3-1/4"	80	10"	5.22	188,000
	3-5/8"	88	11"	6.48	250,000
	4"	96	12"	7.88	304,000

HHI Part Number	Nominal Diameter		Size # (Circ.)	Approx. Wgt per Foot	Working Load Limit		Minimum Tensile Strength	
	Inches	mm	Inches	(Lbs)	(Lbs)	(Kg)	(Lbs)	(Kg)
HH-11-GP	7/16"	11	1-1/4"	0.08	6,930	3,143	34,650	154.1
HH-12-GP	1/2"	12	1-1/2"	0.13	10,329	4,685	51,645	229.7
HH-14-GP	9/16"	14	1-3/4"	0.16	12,507	5,673	62,535	278.2
HH-16-GP	5/8"	16	2"	0.22	16,962	7,694	84,810	377.3
HH-18-GP	3/4"	18	2-1/4"	0.27	22,605	10,253	113,025	502.8
HH-22-GP	7/8"	22	2-3/4"	0.39	30,558	13,861	152,790	679.6
HH-24-GP	1"	24	3"	0.47	36,300	16,465	181,500	807.4
HH-28-GP	1-1/8"	28	3-1/2"	0.64	48,510	22,004	242,550	1,078.9
HH-30-GP	1-1/4"	30	3-3/4"	0.72	54,450	24,698	272,250	1,211.0
HH-32-GP	1-5/16"	32	4"	0.83	64,680	29,338	323,400	1,438.6
HH-36-GP	1-1/2"	36	4-1/2"	1.03	72,930	33,081	364,650	1,622.0
HH-40-GP	1-5/8"	40	5"	1.31	96,030	43,559	480,150	2,135.8
HH-44-GP	1-3/4"	44	5-1/2"	1.57	103,620	47,001	518,100	2,304.6
HH-48-GP	2"	48	6"	1.83	117,150	53,138	585,750	2,605.5
HH-52-GP	2-1/8"	52	6-1/2"	2.18	141,240	64,065	706,200	3,141.3
HH-56-GP	2-1/4"	56	7"	2.44	158,730	71,999	793,650	3,530.3
HH-60-GP	2-1/2"	60	7-1/2"	2.96	174,900	79,333	874,500	3,890.0
HH-64-GP	2-5/8"	64	8"	3.34	196,680	89,213	932,400	4,374.4
HH-68-GP	2-3/4"	68	8-1/2"	3.74	217,800	98,793	1,089,000	4,844.1
HH-72-GP	3"	72	9"	4.28	257,400	116,755	1,287,000	5,724.9
HH-76-GP	3-1/8"	76	9-1/2"	4.7	280,500	127,233	1,402,500	6,238.6
HH-80-GP	3-1/4"	80	10"	5.22	310,200	140,705	1,551,000	6,899.2
HH-88-GP	3-5/8"	88	11"	6.48	412,500	187,107	2,062,500	9,174.5
HH-96-GP	4"	96	12"	7.88	501,600	227,522	2,508,000	11,156.1



A New Generation of Lifting Tools.

Highest Strength Synthetic Rope Available.

Polyurethane Finish Spliced For Easy Handling.

Excellent Abrasion Resistance.

Excellent Fatigue Resistance.

High Specific Modulus (Low Stretch)

Alloy Chain Slings

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 marking: 3, 30 or 300 is placed on the chain links every foot or so. Not to be used for overhead lifting.

Grade 40 High Test Chain

A higher strength chain used for years in the trucking industry for tie downs that meet DOT specifications. Made from a higher carbon steel, its strength surpasses proof coil working load limits, size for size, by a factor of 2 to 1. The manufacturer's symbol and grade marking: 4, 40, 43 or 400 is placed on the chain links approximately every foot. Not be used for overhead lifting.

Grade 70 Transport Chain

As its name implies, Transport Chain is used primarily to tie down loads on over-the-road equipment. Made from heat-treated carbon steel, it has about 25% more strength than high test chains. The manufacturer's symbol and grade marking: 7, 70 or 700 is placed on the chain links approximately every foot. Not to be used for overhead lifting.

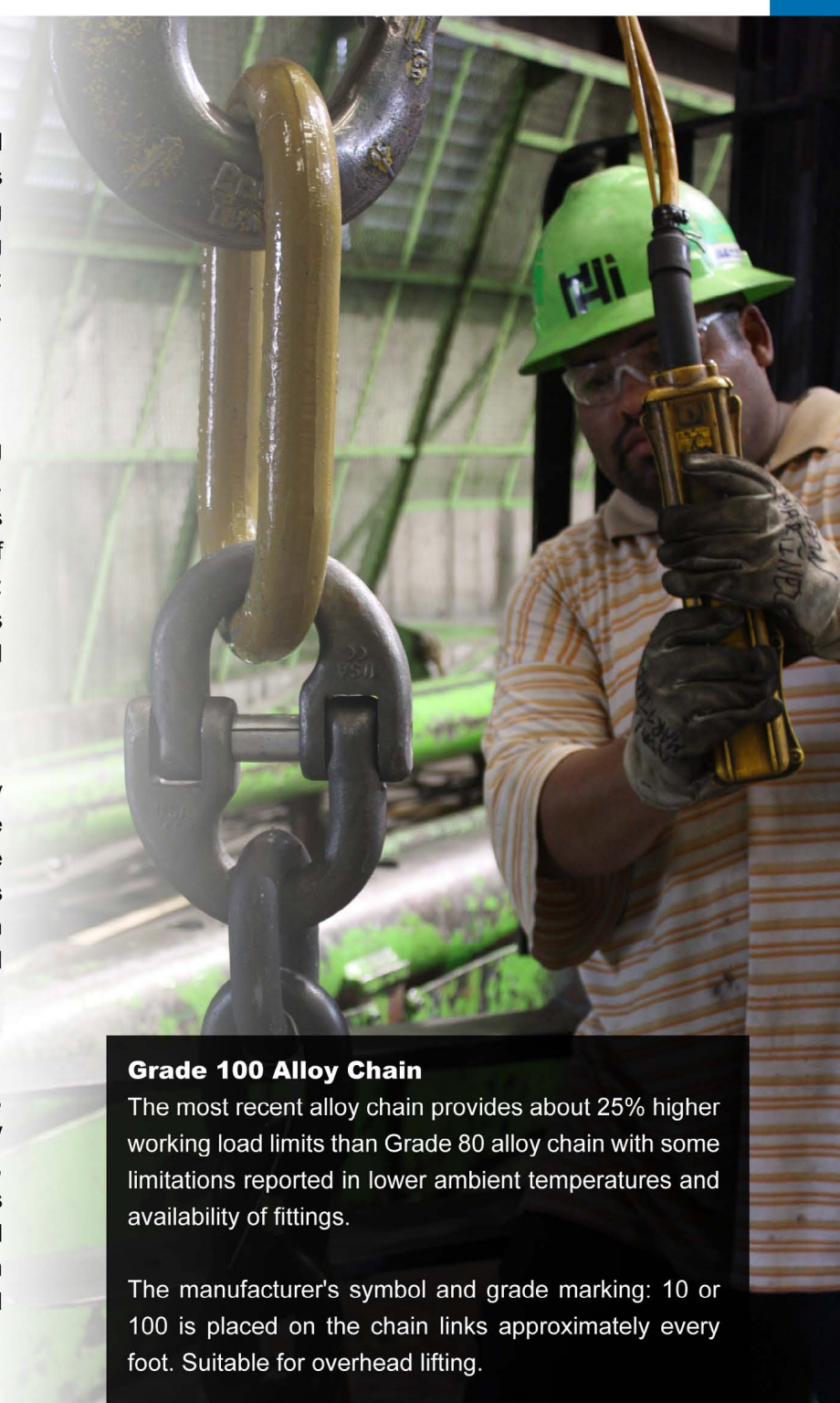
Grade 80 Alloy Chain

Designed to stretch a minimum of 15% before it breaks, alloy chain is the only grade of chain approved by OSHA and other agencies for overhead lifting. Its alloy, heat-treated steel makes it ideal for making lifting slings and heavy duty tow chains. The manufacturer's symbol and grade marking: 8, 80 or 800 is placed on the chain links approximately every foot. Suitable for overhead lifting.

Grade 100 Alloy Chain

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 approximately every foot. Suitable for overhead lifting.



Chain Ratings

SPECTRUM 8® ALLOY CHAIN



- Alloy Steel.
- Heat Treated.
- Finish - Black Thermadep Coating.
- Permanently embossed with CG (Crosby Group) and 8 (Grade).
- Proof Tested to 2 times the Working Load Limit with certification.

Crosby



GRADE 80 ALLOY CHAIN recommended for overhead lifting applications.

Chain Size (in.)	Spec.8 Drum Stock No.	Feet Per Drum	Material Size (in.)	Working Load Limit (lbs.)*	Maximum Inside Length (in.)	Minimum Inside Width (in.)	Maximum Length 100 Links (in.)	Weight Per 100 Ft. (lbs.)
9/32 (1/4)	273527	500	.276	3500	.87	.42	90	72
5/16	273536	500	.343	4500	1.01	.49	100	114
3/8	273545	500	.394	7100	1.23	.58	125	148
1/2	273554	300	.512	12000	1.57	.77	164	243
5/8	273563	200	.630	18100	1.93	.90	202	351
3/4	273572	100	.787	28300	2.42	1.14	252	584
7/8	273581	100	.866	34200	2.66	1.26	277	705

* Proof Loaded at 2 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit.

Grade 100 Chain Sling Components

WORKING LOAD LIMIT - 4 TO 1 DESIGN FACTOR

Crosby

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	103400	84400	59700	155100	126000	89550
1-1/4	32	90400	156600	127800	90400	234900	191700	135600

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook does not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 10 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) 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. NOTE: This will require the sling's rated capacity to be no greater than the load rating of Grade 80 chain (or the weakest component).



Products



Crosby®

Fittings and Chain

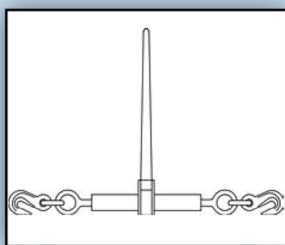
- WIRE ROPE END FITTINGS
- SHACKLES
- SLING SAVER FITTINGS
- HOOKS & SWIVELS
- RIGGING ACCESSORIES
- CHAIN & ACCESSORIES
- McKISSICK BLOCKS
- WESTERN & MARINE BLOCKS
- CROSBY LIFTING CLAMPS
- SPECIAL PRODUCTS
- RIGGING INFORMATION
- RIGGING TRAINING

Holloway Houston is the World's Largest Crosby Distributor since 1989 and stocks a broad assortment of fittings and accessories for "in stock" pick up or delivery.

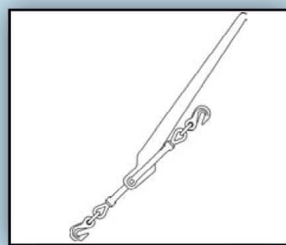
Cargo Securement

Holloway Houston stocks and sells a wide variety of cargo securement equipment for the trucking and shipping industries.

- **Crosby Lebus Lever Type Load Binders**
- **Lebus Ratchet Type Load Binders**
- **Crosby Lebus Walking Load Binders**
- **Crosby Snubbing and Midget Binders**
- **Crosby High Test & Grade 7 Tie Down Chains**
- **Crosby Alloy Boomer Chains & Winchline Tail Chains**
- **Web & Ratchet Assemblies**
- **Cargo Control Accessories & Ship Lashings**
- **Container Lift Slings**
- **Spreader Bars**
- **Lifting Beams, Frames & Bars**
- **Lifting Lugs**



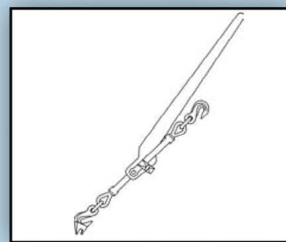
Ratchet Type



Lever Type



Lever Snubbing Type



Lever Walking Type

Illustration 1

Instructions - Lever Type Load Binders

Hook load binder to chain so you can operate it while standing on the ground. Position load binder so its handle can be pulled downward to tighten chain (see Illustration 1). Be aware of ice, snow, rain, oil, etc. that can affect your footing. Make certain your footing is secure.

- The Crosby Group, Inc. specifically recommends AGAINST the use of a handle extender (cheater pipe). If sufficient leverage cannot be obtained using the lever type load binder by itself, a ratchet type binder should be used.

- If the above recommendation is disregarded and a cheater pipe is used, it must closely fit the handle and must slide down the handle until the handle projections are contacted. The pipe should be secured to the handle, for example, by a pin, so that the pipe cannot fly off the handle if you loose control and let go. The increased leverage, by using a cheater pipe, can cause deformation and failure of the chain and load binder.

- During and after tightening chain, check load binder handle position. Be sure it is in the locked position and that its bottom side touches the chain link.

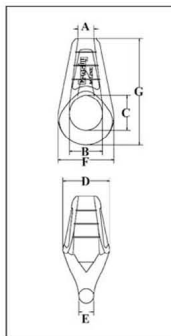
- Chain tension may decrease due to load shifting during transport. To be sure the load binder remains in proper position: Secure handle to chain by wrapping the loose end of chain around the handle and the tight chain, or tie handle to chain with soft wire.

- When releasing load binder, remember there is a great deal of energy in the stretched chain. This will cause the load binder handle to move very quickly with great force when it is unlatched. Move handle with caution. It may whip - Keep body clear.

- Never use a cheater pipe or handle extender to release handle. Use a steel bar and pry under the handle and stay out of the path of handle as it moves upward.

Mooring Sockets

G-517 "M-Line" Mooring Sockets



Wire Rope Size		Ultimate Load (t)	G-517 Stock No.	Weight Each (lbs.)	Dimensions (in.)						
(in.)	(mm)				A	B	C	D	E	F	G
1-1/4 - 1-3/8	32-35	113	1004943	17	1.63	3.09	3.63	4.45	1.44	5.13	10.89
1-1/2 - 1-5/8	38-41	136	1004961	30	1.95	3.69	4.32	5.43	1.60	6.31	13.00
1-3/4 - 1-7/8	44-48	181	1004989	43	2.23	4.16	4.53	6.30	1.84	7.22	14.11
2 - 2-1/8	50-54	227	1005002	57	2.50	4.75	5.26	7.02	2.09	8.25	16.02
2-1/4 - 2-3/8	57-60	277	1005020	76	2.78	5.25	5.78	7.72	2.31	9.16	17.90
2-1/2 - 2-5/8	64-67	363	1005048	106	3.05	5.88	6.71	8.53	2.69	10.13	19.89
2-3/4 - 2-7/8	70-73	454	1005066	138	3.33	6.50	7.13	9.35	3.00	11.09	21.63
3 - 3-1/8	76-79	544	1005084	193	3.50	7.25	7.74	10.30	3.25	12.31	23.50
3-1/4 - 3-3/8	82-86	635	1005105	229	3.81	7.62	8.80	10.94	3.50	13.13	25.75
3-1/2 - 3-5/8	88-92	735	1005123	279	4.15	8.00	9.06	11.72	3.69	13.96	27.25
3-3/4 - 4	95-102	907	1005141	384	4.39	8.75	10.50	12.91	3.69	15.88	30.13



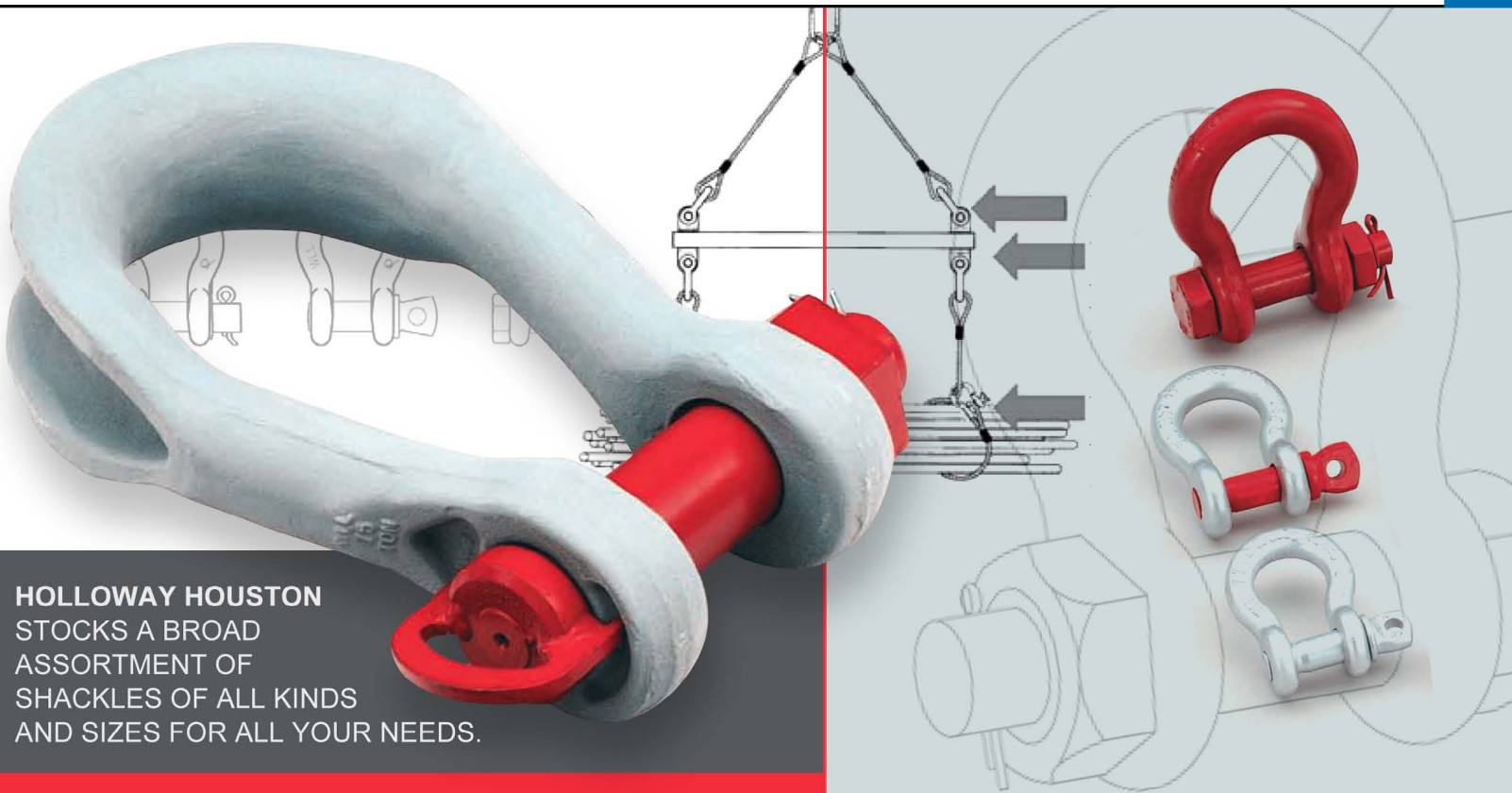
G-517

- Wide range of sizes available:
 - 1-1/4" thru 4" Wire Line
- "M-Line" socket terminations have a 100% efficiency rating, based on the catalog strength of the wire rope.
- Galvanized finish
- Designed for today's higher strength classes of wire rope.
- Design of bail allows for easy connection to shackles and other connecting links.
- Socket design utilizes features to keep cone from rotating.
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope. Ratings are based on recommended use with 6 x 7, 6 x 19, or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC, or IWRC wire rope.

NOTICE: All Cast Mooring Sockets are Individually Magnetic Particle Inspected and Ultrasonic Inspected.



“Crosby: There is No Equal”



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

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-213 S-213
Round pin anchor
shackles meet the
performance
requirements of
Federal Specification
RR-C-271D Type IVA,
Grade A, Class 1,
except for those
provisions required of
the contractor.



G-2130 S-2130
Bolt-type anchor
shackles meet the
performance
requirements of
Federal Specification
RR-C-271D Type IVA,
Grade A, Grade A,
Class 3, except for
those provisions
required of the
contractor.



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



G-215 S-215
Round pin chain
shackles meet the
performance
requirements of
Federal Specification
RR-C-271D Type IVB,
Grade A, Class 1,
except for those
provisions required of
the contractor.



G-2150 S-2150
Bolt-type chain
shackles meet the
performance
requirements of
Federal Specification
RR-C-271D Type IVB,
Grade A, Class 3,
except for those
provisions required of
the contractor.



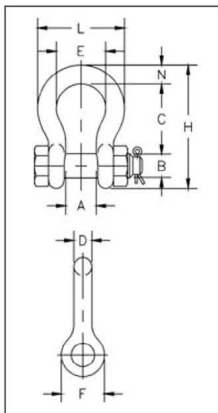
Crosby® Bolt Type Shackles

BOLT TYPE ANCHOR SHACKLES

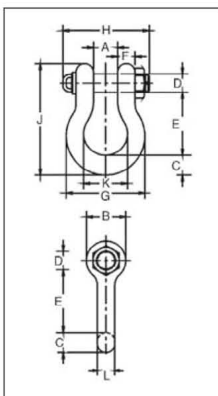


G-2130 S-2130

Bolt Type Anchor shackles with thin head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271D Type IVA, Grade A, Class 3, except for those provisions required of the contractor. For additional information, see page 391.



G-2130 S-2130



G-2140 / S-2140

- Capacities 1/3 thru 150 metric tons.
- Working Load Limit permanently shown on every shackle.
- Forged — Quenched and Tempered, with alloy pins.
- Hot Dip galvanized or Self Colored.
- Fatigue rated (1/3t - 55t).
- Shackles 25t and larger are **RFID EQUIPPED**.
- Crosby products meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Shackles 55 metric tons and smaller can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification when requested at time of order.
- Shackles 85 metric tons and larger can be provided as follows.
 - Non Destructive Tested
 - Serialized Pin and Bow
 - Material Certification (Chemical) Certification must be requested at time of order.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.



G-2140 / S-2140 ALLOY BOLT TYPE ANCHOR SHACKLES



G-2140 meets the performance requirements of Federal Specification RR-C-271D, Type IVA, Grade B, Class 3, except for those provisions required of the contractor. For additional information, see page 391.

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	1.16	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	.13	.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	
1-3/8	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	1019659	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	

Nominal Shackle Size (in.)	Working Load Limit (t)*	Stock No.		Weight Each (lbs.)	Dimensions (in.)										Tolerance +/-		
		G-2140	S-2140		A	B	C	D	E	F	G	H	J	K	L	A	E
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	.13	.25
1-3/4	40	1021138	1021147	33.9	2.88	4.19	2.25	2.00	7.00	1.75	8.81	9.33	12.34	5.00	1.84	.13	.25
2	55	1021156	1021165	52.0	3.25	4.81	2.40	2.25	7.75	2.00	10.16	10.41	13.68	5.75	2.08	.13	.25
2-1/2	85	1021174	1021183	96.0	4.12	5.81	3.12	2.75	10.50	2.62	12.75	13.58	17.90	7.25	2.71	.25	.25
3	120	1021192	-	178.0	5.00	6.50	3.63	3.25	13.00	3.00	14.62	15.13	21.50	7.88	3.12	.25	.25
3-1/2	† 150	1021218	-	265.0	5.25	8.00	4.38	3.75	14.63	3.75	17.02	17.62	24.88	9.00	3.62	.25	.25
4	† 175	1021236	-	338.0	5.50	9.00	4.56	4.25	14.50	4.00	18.00	20.37	25.68	10.00	4.00	.25	.25
4-3/4**	† 200	1021414	-	450.0	7.25	10.50	6.00	4.75	15.63	3.75	21.00	21.21	29.25	11.00	4.50	.25	.25
5 **	† 250	1021432	-	600.0	8.50	12.00	6.50	5.00	20.00	3.88	24.50	22.68	35.00	13.00	4.50	.25	.25
6 **	† 300	1021450	-	775.0	8.38	12.00	6.75	6.00	19.50	4.75	25.00	25.06	35.25	13.00	5.00	.25	.25
7 **	† 400	1021478	-	1102.0	8.25	14.00	7.25	7.00	22.50	6.50	26.00	28.68	40.25	13.00	6.00	.25	.25

* Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit on 200 thru 400 metric Tons. For sizes 30 thru 175 metric Tons, Minimum Ultimate Load is 5.4 times the Working Load Limit.

** Cast Alloy Steel.

† Furnished with Round Head Bolts with welded handle.

For Working Load Limit reduction due to side loading applications, see page 74.

Load Rated

Fatigue Rated



MAXTOUGH



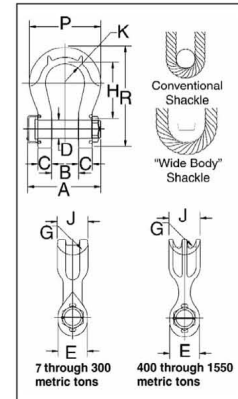
Crosby® Wide Body Shackles

G-2160/S-2160 "WIDE BODY" SHACKLES



Patented

- 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 Dimetcoated, and pins are Dimetcoated, then painted red.
- S-2160 bows and pins are painted red.
- Shackles, 30t and larger, are **RFID EQUIPPED**.
- Greatly improves life of wire rope slings.
- 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%.
- Pin is non-rotating, with weld-on handles for easier use (75t and larger).
- All 2160 shackles are individually proof tested and magnetic particle inspected. Crosby certification available at time of order.
- Crosby products meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- 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



Working Load Limit (t*)	G-2160 Stock No.	S-2160 Stock No.	Weight Each (lbs.)	Dimensions (in.)										
				A	B +/- .25	C	D +/- .02	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	1021272	-	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

* 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.
† Available in Forged and Cast Alloy Steel.

Load Rated



Rigging Attachments and Fittings

Holloway Houston is committed to providing our large and expanding customer base with the quality fittings, attachments and accessories they need and demands. For swaged end terminations, HHI uses one of their 4 presses: 500 ton, 800 ton, 1500 ton and the largest swage press in the western hemisphere, 5000 ton. To meet those demands HHI supplies domestic and imported products from leading manufacturers around the world.

- 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...

