Crane Quick Facts 2009

WEB SLING CAPACITY GUIDE

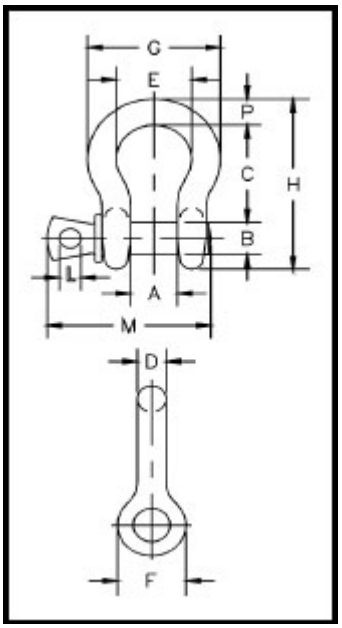
NYLON OR POLYESTER

RATED CAPACITY IN POUNDS FOR GRADE 1600 WEB - 3/16" PLY THICKNESS												
	TYPE 1 (TC), TYPE 2* (TT), TYPE 3 & TYPE 4 (EE)						TYPE 5 (EN)					
SLING WIDTH IN INCHES	VERT.	CHOKE	BASKET	75°	60°	45°	VERT.	CHOKE	BASKET	75°	60°	45°
TWO PLY												
1	3,200	2,500	6,400	6,180	5,540	4,520	6,200	4,900	12,400	11,970	10,730	8,760
2	6,400	5,000	12,800	13,360	11,080	9,050	12,200	9,800	24,400	23,560	21,130	17,250
3	8,600	6,900	17,200	16,610	14,890	12,160	16,300	13,000	32,600	31,480	28,230	23,050
4	11,500	9,200	23,000	22,210	19,910	16,260	20,700	16,500	41,400	39,980	35,850	29,270
5	13,600	10,900	27,200	26,270	23,550	19,230	24,500	19,600	49,000	47,320	42,430	34,640
5 **	14,000	11,200	28,000	27,040	24,240	19,790	-------	-------	-------	-------	-------	-------
6	16,300	13,000	32,600	31,480	28,230	23,050	28,600	23,000	57,200	55,240	49,530	40,440
6 **	16,800	13,400	33,600	32,450	29,090	23,750	-------	-------	-------	-------	-------	-------
8	19,200	15,400	38,400	37,090	33,250	27,150	30,700	24,500	61,400	59,300	53,170	43,410
8 **	22,400	17,900	44,800	43,270	38,790	31,670	-------	-------	-------	-------	-------	-------
10	22,400	17,900	44,800	43,270	38,790	31,670	33,600	26,800	67,200	64,900	58,190	47,510
10 **	28,000	22,400	56,000	54,090	48,490	39,590	-------	-------	-------	-------	-------	-------
12	26,900	21,500	53,800	51,960	46,590	38,040	37,600	30,000	75,200	72,630	65,120	53,170
12 **	33,600	26,800	67,200	64,900	58,190	47,510	Horizontal sling angles of less than 30° shall not be used.					

* Type 2 (TT) can not be used in a choker hitch. ** Capacities for Type 1 (TC) & Type 2 (TT).

Shackle Specifications

Nominal 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		.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.12	.19	.06	.06
1/4	1/2	1018375	1018384	.10	.47	.31	1.13	.25	.78	.61	1.28	1.84	.19	1.38	.25	.06	.06
5/16	3/4	1018393	1018400	.19	.53	.38	1.22	.31	.84	.75	1.47	2.09	.22	1.66	.31	.06	.06
3/8	1	1018419	1018428	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.03	.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	2.38	.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	5.07	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	5.59	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	6.16	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	6.84	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	7.35	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	9.08	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	10.34	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	.25



In rigging box 2009	each
2- 1 1/8” shackles	7.47 lbs
2- 1 ¼” shackles	9.5 lbs
6- 1 3/8” alloy shackles	13.25 lbs
6- 1 ¾” shackles	27.78 lbs
4- 5’- 40,000 lb endless	11 lbs
4-10’- 40,000 lb endless	22 lbs
4- 20’- 40,000 lb endless	44 lbs
4- 30’- 40,000 lb endless	66 lbs
2-10’- 21,000 lb endless	13 lbs

Blocks & Balls In ESS Fleet

50-475	McKissick 30 ton 480 lbs, ball Johnson 7 ton 162 lbs
50-476	McKissick 25 ton 520 lbs
50-477	Johnson 55 ton 1020 lbs, ball McKissick 7 ton 321 lbs
50-479	Johnson 75 ton 1379 lbs, ball McKissick 7 ton 321 lbs
50-482	Johnson 15 ton 380 lbs
50-483	Johnson 50 ton 660 lbs, ball Johnson 8.5 ton 357 lbs
50-487	McKissick 55 ton 1120 lbs, ball McKissick 10 ton 365 lbs
50-488	Johnson 50 ton 1221 lbs, ball McKissick 10 ton 365 lbs
50-490	Rope block 110 ton 2940 lbs, ball Johnson 15 ton 757 lbs

Wire Rope Specifications

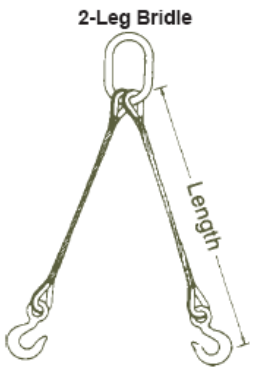
FIBER CORE				IWRC			
Diameter (in.)	Approx. wt./ft. (lbs.)	Minimum Breaking Force (tons of 2000 lbs.) IPS	XIP®	Approx. wt./ft. (lbs.)	Minimum Breaking Force (tons of 2000 lbs.) IPS	XIP®	XXIP®
3/16	0.059	1.55	1.71	--	--	--	--
1/4	0.105	2.74	3.02	0.116	2.94	3.40	--
5/16	0.164	4.26	4.69	0.18	4.58	5.27	--
3/8	.0236	6.10	6.72	0.26	6.56	7.55	8.30
7/16	0.32	8.27	9.10	0.35	8.89	10.2	11.2
1/2	0.42	10.7	11.8	0.46	11.5	13.3	14.6
9/16	0.53	13.5	14.9	0.59	14.5	16.8	18.5
5/8	0.66	16.7	18.3	0.72	17.9	20.6	22.7
3/4	.095	23.8	26.2	1.04	25.6	29.4	32.4
7/8	1.29	32.2	35.4	1.42	34.6	39.8	43.8
1	1.68	41.8	46.0	1.85	44.9	51.7	56.9
1 1/8	2.13	52.6	57.8	2.34	56.5	65.0	71.5
1 1/4	2.63	64.6	71.1	2.89	69.4	79.9	87.9
1 3/8	3.18	77.7	85.5	3.50	83.5	96.0	106
1 1/2	3.78	92.0	101	4.16	98.9	114	125

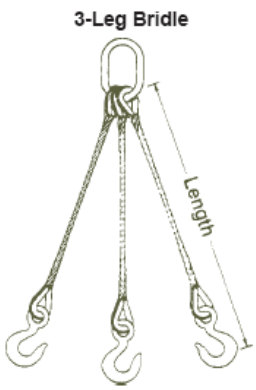
Safety factor for running wire rope is 3.5 to 1.
Safety factor for wire rope slings is 5 to 1.

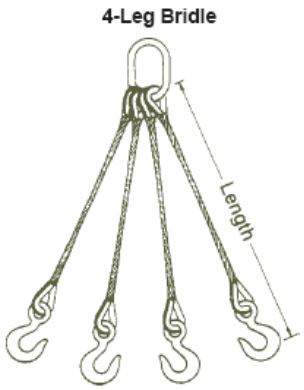
Concrete Girder minimum weight without haunching	Area	Wt. L.F.
2’ 8” Concrete I-Girder Type 2	311.5 sq. in.	324 lbs
3’3” Concrete I-Girder Type 3	382.5 sq. in.	398 lbs
3’ 9” Concrete I-Girder Type 4	429.5 sq. in.	447 lbs
4’ 6” Concrete I-Girder Type 6	644.1 sq. in.	671 lbs
5’ 3 ½” Concrete Bulb Tee Girder	733.4 sq. in.	764 lbs
6’ ½” Concrete Bulb Tee Girder	787.44 sq. in.	820 lbs
35” NU 900mm Concrete Girder	648.1 sq. in.	676 lbs
43” NU 1100mm Concrete Girder	694.6 sq. in.	724 lbs
53” NU 1350mm Concrete Girder	752.7 sq. in.	785 lbs
63” NU 1600mm Concrete Girder	810.8 sq. in.	845 lbs
70” NU 1800mm Concrete Girder	857.3 sq. in.	894 lbs
78” NU 2000mm Concrete Girder	903.8 sq. in.	942 lbs
94” NU 2400mm Concrete Girder	996.8 sq. in.	1039 lbs

Wire Rope Bridle Specifications

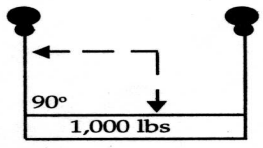
Permaloc
Bridle Slings
(With Single Part Body)



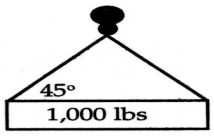




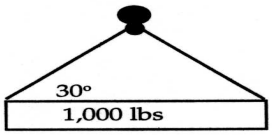
	Rope Dia. (in.)	[2] Min. Sling Length	Eye Hook Cap. (tons)	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.	[1] Rated Capacity (tons)* 60°	45°	30°	Oblong Link Stock Dia.
6 x 19 EIP, IWRC	1/4	1' 3"	1	1.1	.91	.65	1/2	1.7	1.4	.97	1/2	2.2	1.8	1.3	1/2
	5/16	1' 6"	1	1.7	1.4	1.0	1/2	2.6	2.1	1.5	1/2	3.5	2.8	2.0	3/4
	3/8	1' 8"	1 1/2	2.5	2.0	1.4	1/2	3.7	3.0	2.2	3/4	5.0	4.1	2.9	3/4
	7/16	1' 10"	2	3.4	2.7	1.9	3/4	5.0	4.1	2.9	3/4	6.7	5.5	3.9	1
	1/2	2'	3	4.4	3.6	2.5	3/4	6.6	5.4	3.8	1	8.8	7.1	5.1	1
	9/16	2' 2"	4 1/2	5.5	4.5	3.2	3/4	8.3	6.8	4.8	1	11	9.0	6.4	1 1/4
	5/8	2' 4"	4 1/2	6.8	5.5	3.9	1	10	8.3	5.9	1 1/4	14	11	7.8	1 1/2
	3/4	2' 9"	7	9.7	7.9	5.6	1 1/4	15	12	8.4	1 1/2	19	16	11	1 3/4
	7/8	3' 3"	11	13	11	7.6	1 1/4	20	16	11	1 1/2	26	21	15	2
	1	3' 6"	11	17	14	9.8	1 1/2	26	21	15	1 3/4	34	28	20	2 1/4
	1 1/8	4'	15	21	17	12	1 1/2	31	26	18	1 3/4	42	34	24	2 3/4
6x37 EIP, IWRC	1 1/4	4' 6"	15	26	21	15	1 3/4	38	31	22	2	51	42	30	2 3/4
	1 3/8	5'	22	31	25	18	1 3/4	46	38	27	2 1/4	-	-	-	-
	1 1/2	5' 6"	22	37	30	21	2	55	45	32	2 1/4	-	-	-	-
	1 3/4	6' 6"	30	49	40	28	2 1/4	-	-	-	-	-	-	-	-
	2	8'	37	63	52	37	2 3/4	-	-	-	-	-	-	-	-



Load on each sling
500 lbs.



Load on each sling
707 lbs.



Load on each sling
1,000 lbs.

Sling Angle	Load Angle Factor
90°	1.000
85°	1.004
80°	1.015
75°	1.035
70°	1.064
65°	1.104
60°	1.155
55°	1.221
50°	1.305
45°	1.414
40°	1.555
35°	1.742
30°	2.000
25°	2.364
20°	2.924
15°	3.861
10°	5.747
5°	11.49

Common Weights		
Delmag 19-42 with tripping device, cap & guide = 11,640 lbs	Box leads 115 lbs per foot	80’ leads = 9,200 lbs
Berminghammer B-300 with tripping device & cap = 11,042 lbs	Box lead 115 lbs per foot	80’ leads = 9,200 lbs
1 ½ cy concrete bucket empty = 776 lbs	Concrete = 4,000 lbs per cy or 150 lbs per cf	Bucket with concrete = 6776 lbs
¾ “ BB Plyform = 75 lbs per sheet	Bundle of 44 = 3300 lbs	
16’ 2x4 = 20.5 lbs each	Bundle of 294 = 6021 lbs	
H-Beam piling,	10”x 7/16”= 42 lbs per ft 12”x 7/16”= 53 lbs per ft 14”x 1/2”= 73 lbs per ft	50’ = 2100 lbs 50’ = 2650 lbs 50’ = 3650 lbs
Sheet piling	PZ-27 = 42 lbs per ft PZC-18 = 51 lbs per ft	30’ = 1260 lbs 30’ = 1530 lbs
Crane mat 1’x 4’ x 24’ = 5000 lbs	8 mats to 48’ flat trailer	
12’ 6” precast barrier curb = 5200 lbs	8 barriers to 48’ drop trl	
Steel = 496 lbs per cubic foot Rebar→ = 3.44 lbs per cubic inch	1/2”#4 = .668 lbs per ft 5/8”#5 = .1.043 lbs per ft 3/4”#6 = 1.502 lbs per ft 7/8”#7 = 2.044 lbs per ft 1” #8 = 2.670 lbs per ft 11/8”#9 = 3.4 lbs per ft	20’ = 13.36 lbs 20’ = 20.86 lbs 20’ = 30.04 lbs 20’ = 40.88 lbs 20’ = 53.4 lbs 20’ = 68 lbs

Endless Polyester Sling Specifications

Part No.	Color	Rated Capacity (lbs.)* Vertical	Choker	Basket	Minimum Length (ft.)	Approximate Measurements Weight (lbs. / ft.)	Body Dia. Relaxed (in.)	Width at Load (in.)	Minimum Hardware Dia. ** (in.)
EN30	Purple	2,600	2,100	5,200	1 1/2	.2	5/8	1 1/8	1/2
EN60	Green	5,300	4,200	10,600	1 1/2	.3	7/8	1 1/2	5/8
EN90	Yellow	8,400	6,700	16,800	3	.5	1 1/8	1 7/8	3/4
EN120	Tan	10,600	8,500	21,200	3	.6	1 1/8	2 1/8	7/8
EN150	Red	13,200	10,600	26,400	3	.8	1 3/8	2 1/4	1
EN180	White	16,800	13,400	33,600	3	.9	1 3/8	2 1/2	1
EN240	Blue	21,200	17,000	42,400	3	1.3	1 3/4	3	1 1/4
EN280	Orange	25,000	20,000	50,000	3	1.5	2	3 1/4	1 1/4
EN360	Grey	31,000	24,800	62,000	3	1.7	2 1/4	3 3/4	1 1/2
EN460	Orange	40,000	32,000	80,000	3	2.2	2 1/2	4 1/8	1 3/4
EN600	Brown	53,000	42,400	106,000	8	2.8	2 3/4	4 5/8	1 3/4
EN800	Olive	66,000	52,800	132,000	8	3.4	3 1/8	5 1/4	2
EN1000	Black	90,000	72,000	180,000	8	4.3	3 5/8	6	2 1/2

LiftAlloy SINGLE CHAIN SLINGS

Chain Size (in.)	[1]Rated Capacity* Vertical (lbs.)		Approx. Weight 5 foot Reach Type SOS (lbs.)
	Grade 80	Grade 100	
7/32	2,100	2,700	4
9/32	3,500	4,300	5
3/8	7,100	8,800	10
1/2	12,000	15,000	18
5/8	18,100	22,600	27
3/4	28,300	35,300	44
7/8	34,200	-	58
1	47,700	-	79
1 1/4	72,300	-	121

Note: 1. Also referred to as "Working Load Limit".

SOS Sling Hook | SOG Grab** Hook | SOF Foundry Hook | SOL‡ Latch Hook | CO Oblong Link

**Cradle grab hooks are standard, non-cradle hooks available on request.

LiftAlloy DOUBLE CHAIN SLINGS

Chain Size (in.)	[1]Rated Capacity* @ 60° (lbs.)		Approx. Weight 5 foot Reach Type DOS (lbs.)
	Grade 80	Grade 100	
7/32	3,600	4,700	8
9/32	6,100	7,400	10
3/8	12,300	15,200	17
1/2	20,800	26,000	32
5/8	31,300	39,100	51
3/4	49,000	61,100	74
7/8	59,200	-	99
1	82,600	-	134
1 1/4	125,200	-	211

Note: 1. Also referred to as "Working Load Limit".

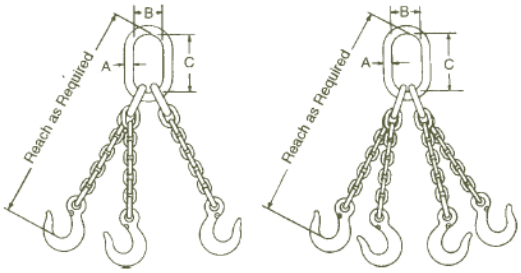
DOS Sling Hook | DOG Grab** Hook | DOF Foundry Hook | DOL‡ Latch Hook

**Cradle grab hooks are standard, non-cradle hooks available on request.

LiftAlloy TRIPLE AND QUAD CHAIN SLINGS

Chain Size (in.)	[1]Rated Capacity* @ 60° (lbs.)		Approx. Weight 5 foot Reach Type TOS (lbs.)	Approx. Weight 5 foot Reach Type QOS (lbs.)
	Grade 80	Grade 100		
7/32	5,450	7,000	12	16
9/32	9,100	11,200	16	19
3/8	18,400	22,900	28	36
1/2	31,200	39,000	53	63
5/8	47,000	58,700	81	100
3/4	73,500	91,700	116	140
7/8	88,900	-	154	187
1	123,900	-	209	250
1 1/4	187,800	-	358	406

Note: 1. Also referred to as "Working Load Limit".



TOS Sling Hook | QOS Sling Hook