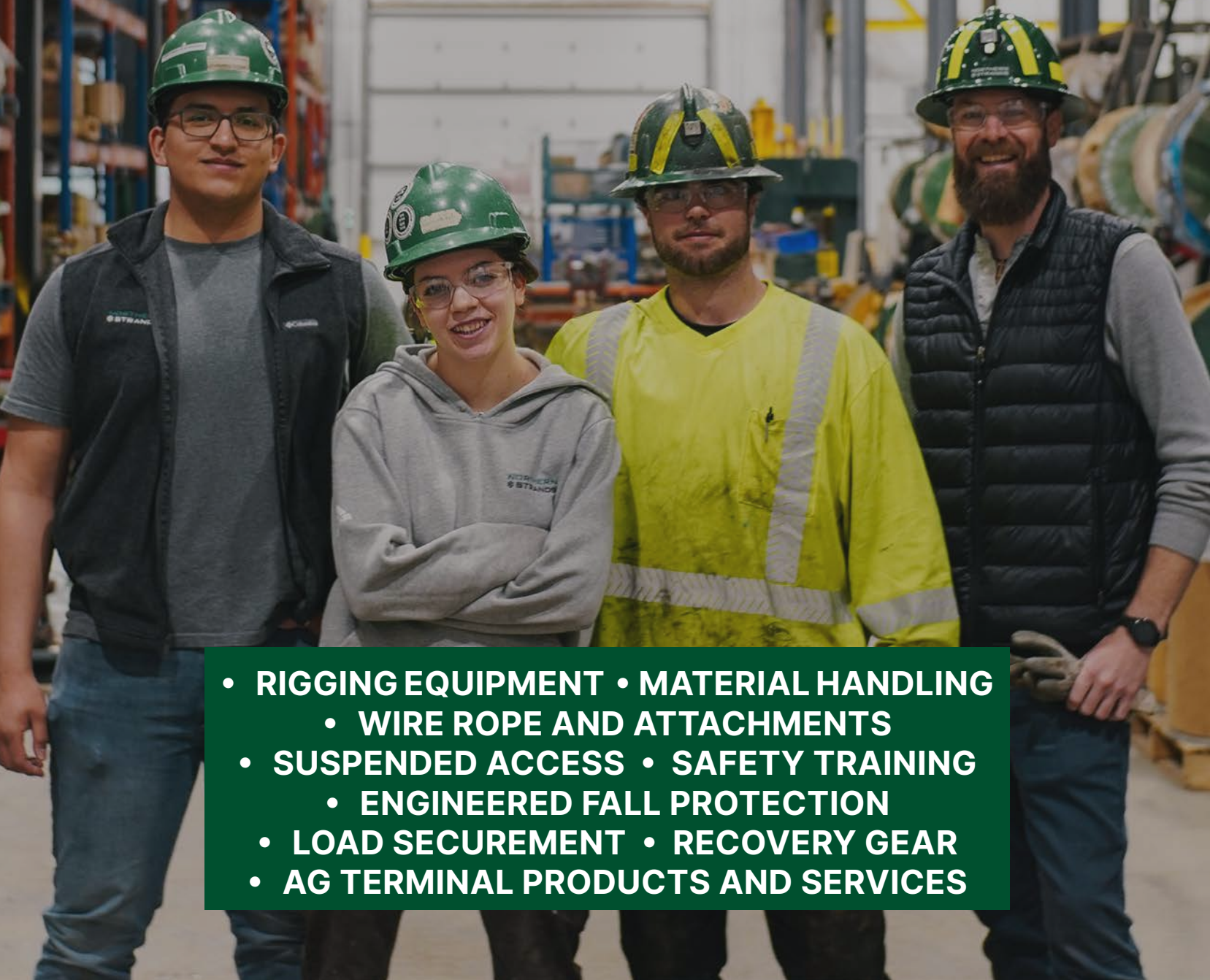


NORTHERN STRANDS

PRODUCTS AND SERVICES CATALOGUE



- RIGGING EQUIPMENT • MATERIAL HANDLING
 - WIRE ROPE AND ATTACHMENTS
- SUSPENDED ACCESS • SAFETY TRAINING
 - ENGINEERED FALL PROTECTION
- LOAD SECUREMENT • RECOVERY GEAR
- AG TERMINAL PRODUCTS AND SERVICES

NORTHERN STRANDS

ABOUT US

Northern Strands supplies various industries and has evolved into six major divisions. Northern Strands offers the essential tools and technical expertise necessary for mine hoisting and attachments, general rigging, engineered fall protection, suspended access, agriculture terminal maintenance, and training services.



NORTHERN
STRANDS

PROUDLY PART OF THE
NORTHERN STRANDS
GROUP OF COMPANIES





CAPABILITIES

- Wire Rope, Attachments & Equipment
- Rigging, Equipment & Lifting Supplies
- Material Handling Equipment
- Engineered Fall Protection
- Suspended Access
- Agricultural Products And Services
- Safety Training
- Load Securement Equipment
- Recovery Gear
- Pipe Stands

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- Maxi-Lift
- OCEANSIDE
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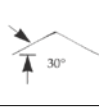

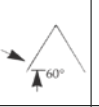

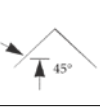
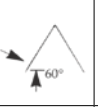
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RIGGING CHART

RATED CAPACITY IN POUNDS

				BASKET AND 2 LEG BRIDLES			3 LEG BRIDLES				EYE DIMENSIONS (APPROXIMATE)	
											WIDTH INCHES	LENGTH INCHES
DIA.	VERTICAL	CHOKER HITCH	VERTICAL BASKET	30°	45°	60°	VERTICAL	30°	45°	60°	A	B
1/4"	1,300	960	2,600	1,300	1,820	2,200	3,800	1,940	2,800	3,400	2"	4"
5/16"	2,000	1,480	4,000	2,000	2,800	3,400	6,000	3,000	4,200	5,200	2 1/2"	5"
3/8"	2,800	2,200	5,800	2,800	4,000	5,000	8,600	4,400	6,000	7,400	3"	6"
7/16"	3,800	2,800	7,800	3,800	5,400	6,800	11,600	5,800	8,200	10,000	3 1/2"	7"
1/2"	5,000	3,800	10,200	5,000	7,200	8,800	15,200	7,600	10,800	13,200	4"	8"
9/16"	6,400	4,800	12,800	6,400	9,000	11,000	19,200	9,600	13,600	16,600	4 1/2"	9"
5/8"	7,800	5,800	15,600	7,800	11,000	13,600	24,000	11,800	16,600	20,000	5"	10"
3/4"	11,200	8,200	22,000	11,200	15,800	19,400	34,000	16,800	24,000	30,000	6"	12"
7/8"	15,200	11,200	30,000	15,200	22,000	26,000	46,000	22,000	32,000	40,000	7"	14"
1"	19,600	14,400	40,000	19,600	28,000	34,000	58,000	30,000	42,000	52,000	8"	16"
1 1/8"	24,000	18,200	48,000	24,000	34,000	42,000	72,000	36,000	52,000	62,000	9"	18"
1 1/4"	30,000	22,000	60,000	30,000	42,000	52,000	88,000	44,000	62,000	76,000	10"	20"
1 3/8"	36,000	26,000	72,000	36,000	50,000	62,000	106,000	54,000	76,000	92,000	11"	22"
1 1/2"	42,000	32,000	84,000	42,000	60,000	74,000	126,000	64,000	90,000	110,000	12"	24"
1 5/8"	48,000	36,000	98,000	48,000	70,000	84,000	146,000	74,000	104,000	126,000	13"	26"
1 3/4"	56,000	42,000	114,000	56,000	80,000	98,000	170,000	84,000	120,000	148,000	14"	28"
2"	74,000	56,000	146,000	74,000	104,000	126,000	220,000	110,000	156,000	190,000	16"	32"
2 1/4"	88,000	70,000	178,000	88,000	126,000	154,000	266,000	134,000	188,000	232,000	18"	36"
2 1/2"	108,000	84,000	218,000	108,000	154,000	188,000	326,000	164,000	230,000	282,000	20"	40"
2 3/4"	130,000	102,000	260,000	130,000	184,000	226,000	390,000	194,000	276,000	338,000	22"	44"
3"	154,000	120,000	306,000	154,000	216,000	266,000	460,000	230,000	324,000	398,000	24"	48"

NOTE: FACTOR OF SAFETY = 5:1 WARNING: DO NOT EXCEED RATED CAPACITIES

RATED CAPACITIES BASKET HITCH BASED ON D/D RATIO OF 25/1.

RATED CAPACITIES BASED ON PIN DIAMETER NO LARGER THAN 1/2 NATURAL EYE WIDTH OR LESS THAN THE NOMINAL SLING DIAMETER. HORIZONTAL SLING ANGLES LESS THAN 30 DEGREES SHALL NOT BE USED.

RATED CAPACITIES SHOWN APPLY ONLY TO 6 X 19 AND 6 X 37 EXTRA IMPROVED PLOW STEEL (EIPS) IWRC CLASSIFICATION WIRE ROPE. ALWAYS REFER TO ASME B30.9 IN REGARDS TO PROPER INSPECTION AND REJECTION CRITERIA FOR SLINGS.

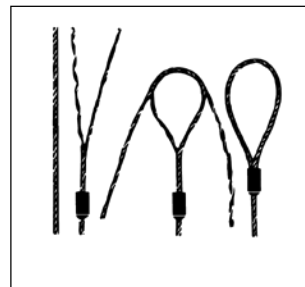
WARNING!

WIRE ROPE WILL FAIL IF WORN-OUT, OVERLOADED, MISUSED, DAMAGED, IMPROPERLY MAINTAINED OR ABUSED. WIRE ROPE FAILURE MAY CAUSE SERIOUS INJURY OR DEATH! PROTECT YOURSELF AND OTHERS. ALWAYS INSPECT WIRE ROPE FOR WEAR, DAMAGE OR ABUSE BEFORE USE. NEVER USE WIRE ROPE THAT IS WORN-OUT, DAMAGED OR ABUSED, NEVER OVERLOAD A WIRE ROPE.

INFORM YOURSELF:

READ AND UNDERSTAND MANUFACTURER'S LITERATURE OR "WIRE ROPE AND WIRE ROPE SLING SAFETY BULLETIN". REFER TO APPLICABLE CODES, STANDARDS AND REGULATIONS FOR INSPECTION REQUIREMENTS AND REMOVAL CRITERIA.

* FOR ADDITIONAL INFORMATION OR THE BULLETIN, ASK YOUR EMPLOYER OR WIRE ROPE SUPPLIER.



FLEMISH
EYE SPLICE

WIRE ROPE SLINGS

- Lowest cost per ton of lift on all slings
- Ideal for heavy loads and rugged conditions
- Flexible and abrasion resistant
- Wide range of possible end terminations

Factor of Safety: 5:1

Cable Size (in.)	Cable Construction	Vertical WLL (lbs)	Length (ft.)
1/4"	6×26	1,300	2 to 20
5/16"	6×26	2,000	2 to 20
3/8"	6×26	2,800	2 to 20
7/16"	6×26	3,800	4 to 20
1/2"	6×26	5,000	4 to 20
9/16"	6×26	6,400	4 to 20
5/8"	6×26	7,800	6 to 20
3/4"	6×26	11,200	6 to 20
7/8"	6×26	15,200	6 to 20
1"	6×36	19,600	6 to 20
1-1/8"	6×36	24,000	8 to 20
1-1/4"	6×36	30,000	8 to 20
1-3/8"	6×36	36,000	8 to 20
1-1/2"	6×36	42,000	8 to 20

Larger Sizes & Lengths Available Upon Request. Other Configurations Available.
WLL based on EIPS wire rope.



TESTING, CERTIFICATION, AND RECERTIFICATION

Northern Strands provides recertification for rigging equipment that requires regular recertification and inspection to ensure safety. Our process involves a comprehensive visual and dimensional examination, followed by proof loading in our test bed. The test bed generates a certificate of testing, assuring its safety and reliability. Our horizontal test bed can pull up to 380,000 lbs, while the vertical test bed can handle up to 50,000 lbs

Northern Strands can repair, pull test, and recertify a variety of equipment including:

- Attachment Pins
- Lifting Beams
- Spreader Beams
- Wire Rope Sockets
- Chase Blocks
- Personnel Baskets
- Thimble Cappelles
- D-Plates
- Material Baskets
- Web Slings
- Hydraulic Linkage
- Round Slings
- Wire Rope Slings

ON-SITE SERVICE

The Northern Strands Mobile Test Bed has the highest working load limit of any Mobile Test Bed in Canada, at 200,000 lbs. Northern Strands can provide personnel to help identify rigging items that need to be inspected and re-certified on site.

WEB SLINGS

- Optimal for highly polished, fragile or delicate loads must be lifted The softness of the web will lessen marring, or scratch loads, while its flexibility assures a firm grip around the item being lifted
- Lightweight, flexible, and easy to handle



2 ply	Working Load Limit (lbs)					
Width (in.)	Vertical	Choker	Basket 90°	Basket 60°	Basket 45°	Basket 30°
1	3,100	2,400	6,200	5,300	4,300	3,100
2	6,200	4,960	12,400	10,700	8,700	6,200
3	8,800	7,040	17,600	15,200	12,400	8,800
4	11,000	8,800	22,000	19,000	15,500	11,000
6	16,500	13,200	33,000	28,500	23,300	16,500
Factor of Safety 5:1						

Inquire about our selection of endless web slings

ROUND SLINGS

- Lightweight, flexible, and easy to handle
- Polyester round sling elongation at rated capacity is approximately 3%, which is less than comparable nylon and polyester webbing slings
- Wear points can be easily rotated to extend sling life



Colour Code	Working Load Limit (lbs)					Diameter in.	Weight lbs/ft.
	Vertical	Choker	Basket 90°	Basket 60°	Basket 45°		
Purple	3,000	2,400	6,000	5,100	4,200	0.75	0.25
Green	6,000	4,800	12,000	10,300	8,400	0.9	0.4
Yellow	9,000	7,200	18,000	15,500	12,600	1	0.5
Tan	12,000	9,600	24,000	20,600	16,800	1.25	0.75
Red	14,000	11,200	28,000	24,100	19,600	1.3	0.85
Orange	17,000	13,600	34,000	29,300	23,800	1.6	0.95
Blue	23,000	18,400	46,000	39,500	32,200	1.65	1.25
Orange	26,000	20,800	52,000	44,700	36,400	1.75	1.45
Grey	32,000	25,600	64,000	55,000	44,800	2.15	1.75
Orange	40,000	32,000	80,000	68,800	56,000	2.45	2.25
Brown	54,000	43,200	108,000	92,900	75,600	3	2.75
Olive	68,000	54,400	136,000	117,000	95,200	3.25	3.6
Black	90,000	72,000	180,000	155,000	126,000	3.75	4.1
Factor of Safety 5:1							

SHACKLES

Shackle Body:

- Name or trademark of manufacturer
- Size
- WLL

Shackle Bolt:

- Name of manufacturer
- Grade, material type
- Powder Coated

Additional Identification:

- Shackle Production Code – Traceable to certificate & material

Manufacturing/Design Information:

- Manufactured to Federal Specification RR-C-271D, Type IVA, Grade A, Class 2.
- Meets and/or exceeds ASME B30.26

Material:

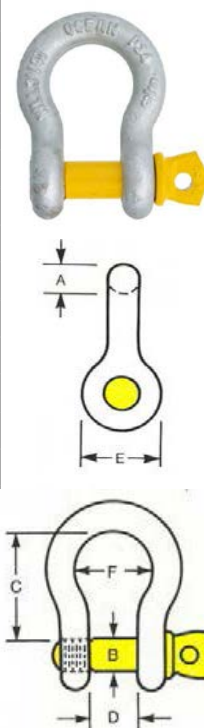
- High Tensile Steel, Forged - Quenched and Tempered, Grade 6.

Coating / Protection:

- Hot dip galvanized & powder coated Pin.

Screw Pin Anchor

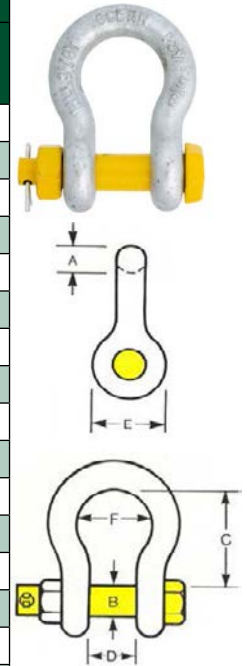
Nominal size (in.)	WLL (t)	Dimensions (in.)						Weight (lbs)
		A	B	C	D	E	F	
3/16	1/3	0.19	0.25	0.88	0.38	0.56	0.60	0.06
1/4	1/2	0.25	0.31	1.13	0.47	0.61	0.78	0.10
5/16	3/4	0.31	0.38	1.22	0.53	0.75	0.84	0.19
3/8	1	0.38	0.44	1.44	0.66	0.91	1.03	0.31
7/16	1-1/2	0.44	0.50	1.69	0.75	1.06	1.16	0.38
1/2	2	0.50	0.63	1.88	0.81	1.19	1.31	0.72
5/8	3-1/4	0.63	0.75	2.38	1.06	1.5	1.69	1.37
3/4	4-3/4	0.75	0.88	2.81	1.25	1.81	2.00	2.35
7/8	6-1/2	0.88	1.00	3.31	1.44	2.09	2.28	3.62
1	8-1/2	1.00	1.13	3.75	1.69	2.38	2.69	5.03
1-1/8	9-1/2	1.16	1.25	4.25	1.81	2.69	2.91	7.41
1-1/4	12	1.29	1.38	4.69	2.03	3.00	3.25	9.50
1-3/8	13-1/2	1.42	1.50	5.25	2.25	3.31	3.63	13.53
1-1/2	17	1.54	1.63	5.75	2.38	3.63	3.88	17.20
1-3/4	25	1.84	2.00	7.00	2.88	4.19	5.00	27.78
2	35	2.08	2.25	7.75	3.25	4.81	5.75	45
2-1/2	55	2.71	2.75	10.50	4.13	6.69	7.25	85.75



SHACKLES

Bolt Type Anchor

Nominal size (in.)	WLL (t)	Dimensions (in.)						Weight (lbs)
		A	B	C	D	E	F	
3/16	1/3	0.19	0.25	0.88	0.38	0.56	0.60	0.06
1/4	1/2	0.25	0.31	1.13	0.47	0.61	0.78	0.10
5/16	3/4	0.31	0.38	1.22	0.53	0.75	0.84	0.19
3/8	1	0.38	0.44	1.44	0.66	0.91	1.03	0.31
7/16	1 1/2	0.44	0.50	1.69	0.75	1.06	1.16	0.38
1/2	2	0.50	0.63	1.88	0.81	1.19	1.31	0.72
5/8	3 1/4	0.63	0.75	2.38	1.06	1.5	1.69	1.37
3/4	4 3/4	0.75	0.88	2.81	1.25	1.81	2.00	2.35
7/8	6 1/2	0.88	1.00	3.31	1.44	2.09	2.28	3.62
1	8 1/2	1.00	1.13	3.75	1.69	2.38	2.69	5.03
1 1/8	9 1/2	1.16	1.25	4.25	1.81	2.69	2.91	7.41
1 1/4	12	1.29	1.38	4.69	2.03	3.00	3.25	9.50
1 3/8	13 1/2	1.42	1.50	5.25	2.25	3.31	3.63	13.53
1 1/2	17	1.54	1.63	5.75	2.38	3.63	3.88	17.20
1 3/4	25	1.84	2.00	7.00	2.88	4.19	5.00	27.78
2	35	2.08	2.25	7.75	3.25	4.81	5.75	45.00



Long Reach Screw Pin & Bolt Type Shackles

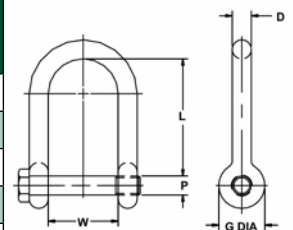
Benefits & Features:

- Meets the requirements of ASME B30.26, but must not be side loaded
- Alloy steel
- WLL forged on body
- Offered in self-colored or durable orange powder coated finish
- Do not point load. The load should be evenly distributed over the entire pin to achieve full working load limit.
- Do not side load long-reach shackles
- 80% of bolt/pin must be covered to obtain full working load limit

Factor of safety: 5:1



Size (in.)	WLL (lbs)	Dimensions (in.)					Weight (lbs)	
		P	D	L	W	G	Screw Pin	Bolt Type
5/8	7,000	0.75	0.63	4	2.25	1.57	1.8	1.95
3/4	10,000	0.88	0.75	5	2.75	1.81	2.72	3.21
1	19,000	1	1	5.5	3.25	2.38	5.86	6.31
1 1/4	28,000	1.38	1.25	6.19	3.88	3.06	11.9	12.9
1 1/2	34,000	1.5	1.5	7	4.5	3.5	19.6	20.7
1 3/4	50,000	2	1.75	8	5.25	4	30.7	33.3



SNATCH BLOCKS

Material: Manufactured from the highest quality tensile steel, forged swivel tees, yokes and end fittings

- Blocks open for easy wire installation

Factor of Safety: 4:1

Identification:

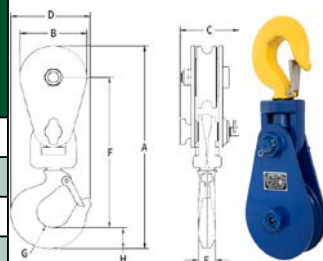
- Manufacturer, Rated Load, Rope Size(s)
- Furnished with Bronze bushings and Grease nipples

Standard: EN 13157

- Rated in metric loads
- Larger Blocks are available on request

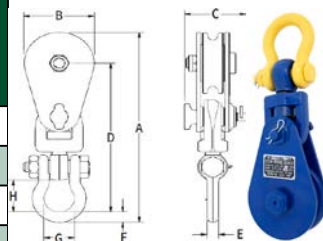
Single Sheave With Hook

Wire Dia.	Sheave Dia.	WLL (t)	Dimensions								Weight
			A	B	C	D	E	F	G	H	
5/16 - 3/8	3	2	9.27	3.00	2.64	7.27	0.5	0.5	1.32	1.56	5
3/8 - 1/2	4 1/2	4	13.38	4.24	3.13	10.57	0.62	0.69	1.7	2	12
5/8 - 3/4	6	8	18.93	6.00	4.19	14.68	1.25	1.25	3	3.47	27
5/8 - 3/4	8	8	20.99	8.12	4.19	15.68	1.25	1.25	3	3.47	34



Single Sheave With Shackle

Wire Dia.	Sheave Dia.	WLL (t)	Dimensions								Weight
			A	B	C	D	E	F	G	H	
5/16 - 3/8	3	2	9.30	3.00	2.64	3.65	0.60	6.05	1.09	0.96	5
3/8 - 1/2	4 1/2	4	14.50	4.24	3.13	4.88	1.30	9.00	1.6	1.55	12
5/8 - 3/4	6	8	18.50	6.00	4.19	6.40	1.52	10.60	2.15	2	27
5/8 - 3/4	8	8	20.25	8.12	4.19	6.40	1.52	11.00	2.15	2	37



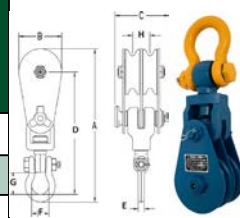
Double Sheave With Hook

Wire Dia.	Sheave Dia.	WLL (t)	Dimensions									Weight
			A	B	C	D	E	F	G	H	I	
3/8 - 1/2	4 1/2	4	14.77	4	5.25	5.24	1.00	10.78	0.94	1.87	1.72	20
5/8 - 3/4	6	12	21	6	6.13	7.86	1.56	15.50	1.44	2.62	2.62	49
5/8 - 3/4	8	12	23	8	6.13	7.86	1.56	16.50	1.44	2.62	2.03	59



Double Sheave With Shackle

Wire Dia.	Sheave Dia.	WLL (t)	Dimensions								Weight
			A	B	C	D	E	F	G	H	
3/8 - 1/2	4 1/2	4	14.03	4.24	5.25	11.22	0.62	1.70	2.01	1.72	20
5/8 - 3/4	6	12	21.12	6.00	6.13	16.36	1.50	3.12	3.12	2.03	49
5/8 - 3/4	8	12	23.17	8.12	6.13	17.36	1.50	3.12	3.12	2.03	59



DEUER BLOCKS

Identification:

- All deuer blocks have the Standard Working Load Limit stamped on each block.

Manufacturing/Design Information:

- "hairpin" type removable cotter pin that holds the clevis pin. Enables the sheave to be removed

easily for rigging into a cable at any point, similar to a snatch block.

Material:

- Made entirely of steel and coated with bright zinc for optimum corrosion resistance.

Deuer Fixed Flange Blocks

Sheave Dia. (in.)	Max Cable Size (in.)	Capacity (lbs)	Weight (oz.)
1-1/2"	1/4"	420	5
2"	1/4"	480	9
2-1/2"	1/4"	550	14
3"	5/16"	650	15
3-1/2"	5/16"	1,250	26



Deuer Swivel Blocks

Sheave Dia. (in.)	Max Cable Size (in.)	Capacity (lbs)	Weight (oz.)
1-1/2"	1/4"	420	9
2"	1/4"	480	12
2-1/2"	1/4"	550	18
3"	5/16"	650	21
3-1/2"	5/16"	1,250	30



WELDLESS SLING LINK

Standard: RR-C-271F

Finish: Galvanized

Identification: Trademark, Size/WLL, Batch Code

Factor of Safety: 5:1

Size (in)	WLL (lb)	Weight (lb)	Inside Length (in)	I. Width Sm. End (in)	I. Width Lg. End (in)
3/8	1,800	0.13	2-1/4	3/4	1-1/2
1/2	2,900	0.55	3	1	2
5/8	4,200	1.1	3-3/4	1-1/4	2-1/2
3/4	6,000	1.95	4-1/2	1-1/2	3
7/8	8,300	2.78	5-1/4	1-3/4	3-1/2
1	10,800	4.3	6	2	4
1-1/4	16,750	8.5	7-3/4	2-1/2	5



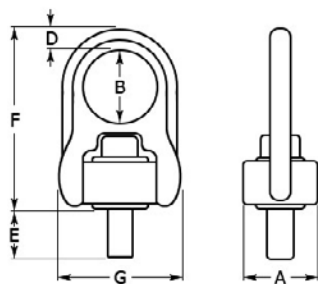
SWIVEL - HOIST RING

UNC Thread, Grade 80

WLL (lbs)	Thread Size	Torque (ft-lbs)	Dimensions (in)							Weight (lbs)
			A	B	C	D	E	F	G	
600	1/4" - 20	5	1.32	1.4	1.22	0.44	0.5	3.41	2.38	1
800	5/16" - 18	7	1.32	1.4	1.22	0.44	1	3.41	2.38	1
1,000	3/8" - 16	12	1.32	1.4	1.21	0.44	0.5	3.41	2.38	1
2,500	1/2" - 13	28	2.23	2.4	2	0.75	1.25	5.68	4.05	4
4,000	5/8" - 11	60	2.23	2.4	1.99	0.75	0.75	5.68	4.05	4
7,000	3/4" - 10	100	2.95	3.2	2.66	1	1.5	7.58	5.4	9
8,000	7/8" - 9	160	2.95	3.2	2.64	1	1.25	7.58	5.4	9
10,000	1" - 8	230	2.95	3.2	2.64	1	2.25	7.58	5.4	9
15,000	1 1/4" - 7	470	3.73	4	3.28	1.25	2	9.39	6.75	18
20,000	1 3/8" - 6	540	3.73	4	3.26	1.25	2.75	9.39	6.75	19
24,000	1 1/2" - 6	800	3.73	4	3.26	1.25	2.75	9.39	6.75	19
5:1 Factor of Safety										

Metric Thread, Grade 80

WLL (kg)	Thread Size	Torque (Nm)	Dimensions (mm)							Weight (lbs)
			A	B	C	D	E	F	G	
400	M8 × 1.25	9	1.32	1.4	1.23	0.44	20	3.41	2.38	1
500	M10 × 1.50	16	1.32	1.4	1.23	0.44	15	3.41	2.38	1
1,050	M12 × 1.75	37	2.23	2.4	2	0.75	35	5.68	4.05	4
1,050	M14 × 2.00	40	2.23	2.4	1.99	0.75	30	5.68	4.05	4
1,900	M16 × 2.00	80	2.23	2.4	1.98	0.75	25	5.68	4.05	4
3,000	M20 × 2.50	135	2.95	3.2	2.66	1	30	7.58	5.4	9
4,200	M24 × 3.00	311	2.95	3.2	2.64	1	30	7.58	5.4	9
4,500	M30 × 3.50	637	2.95	3.2	2.6	1	50	7.58	5.4	9
7,000	M30 × 3.50	637	3.73	4	3.28	1.25	65	9.39	6.75	19
7,000	M33 × 3.50	637	3.73	4	3.28	1.25	55	9.39	6.75	19
11,000	M36 × 4.00	1085	3.73	4	3.26	1.25	65	9.39	6.75	20
12,500	M42 × 4.50	1085	3.73	4	3.28	1.25	80	9.39	6.75	21
5:1 Factor of Safety										



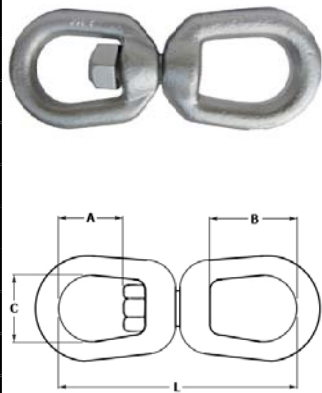
FORGED SWIVELS

Material: Forged Steel, quenched and tempered
Standard: RR-C-271F, Type VII, Class 2
Finish: Hot Dip Galvanized.

Identification: Trademark, Size/WLL
These swivels are positioning devices and are not intended to rotate under load.

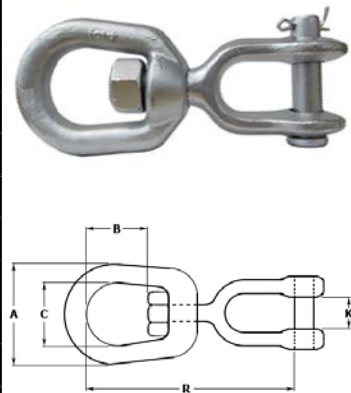
Eye & Eye

Rope (in)	WLL (lbs)	Wt./ea. (lbs)	Dimensions (in)			
			A	B	C	L
3/8	2,250	0.71	0.94	1.5	1.25	4.31
1/2	3,600	1.32	1.31	2	1.5	5.44
5/8	5,200	2.49	1.56	2.38	1.75	6.56
3/4	7,200	4.02	1.75	2.43	2	7.19
1	12,500	8.95	2.31	3.25	2.5	9.63
1-1/4	18,000	16.37	2.89	3.89	3.13	11.44
1-1/2	45,200	45.79	4.4	6.11	3.95	17.51
Factor of Safety 5:1						



Eye & Jaw

Rope (in)	WLL (lbs)	Wt./ea. (lbs)	Dimensions (in)					
			A	B	C	L	R	Length
3/8	2,250	0.66	2	0.94	1.25	0.63	3.63	4.75
1/2	3,600	1.34	2.5	1.31	1.5	0.75	4.5	6.06
5/8	5,200	2.48	3	1.56	1.75	0.94	5.31	7.31
3/4	7,200	3.88	3.5	1.75	2	1.13	6.06	8.31
1	12,500	9.84	4.5	2.31	2.4	1.75	8.56	11.69
1-1/4	18,000	15.75	5.69	2.89	3.13	2.06	9.44	13.13
1-1/2	45,200	54.75	7	3.88	4	2.88	14.25	20.84
Factor of Safety 5:1								



Other swivel types and brands available upon request. Such as but not limited to:

Angular Contact Bearing Swivels

- | | |
|-------------------------------|------------------------|
| AS -7 Bullet Style Jaw & Jaw | AS - 6 Eye & Hook |
| AS -11 Thimble & Jaw | AS - 3 Jaw & Eye |
| AS -14 Thimble & Bullet | AS - 4 Eye & Jaw |
| AS -17 Bullet Style Jaw & Jaw | AS - 20 Thimble Insert |
| Slurry Swivel | AS - 1 Jaw & Hook |
| AS -5 Eye & Eye | AS - 2 Jaw & Jaw |

Swivels With Tapered Roller Thrust Bearing

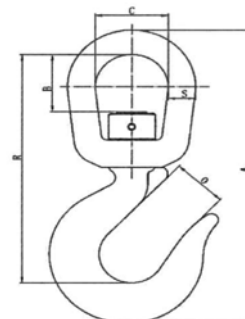
- | | |
|------------------|------------------|
| S - 4 Eye & Jaw | S - 1 Jaw & Hook |
| S - 5 Eye & Eye | S - 2 Jaw & Jaw |
| S - 6 Eye & Hook | S - 3 Jaw & Eye |



ALLOY HOOKS

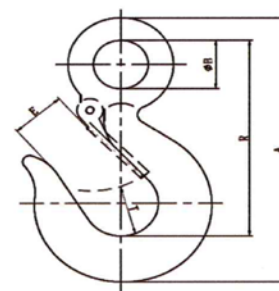
Swivel Eye With Latch

Trade Size (t)	Dimensions (in)						Weight (lbs)
	A	B	C	O	R	S	
1	5.61	0.94	1.25	0.94	4.41	0.37	0.88
1-1/2	6.74	1.30	1.50	1.00	5.25	0.50	1.28
2	7.68	1.63	1.75	1.06	6.02	0.63	2.27
3	8.19	1.56	1.75	1.22	6.37	0.63	2.84
5	9.61	1.75	2.00	1.54	7.41	0.75	5.13
7	12.43	2.31	2.50	1.89	9.59	1.00	10.38
11	14.50	2.37	2.75	2.24	11.13	1.13	16.21
15	15.89	2.81	3.13	2.56	11.94	1.25	23.39
22	21.50	4.49	4.13	3.35	16.97	1.57	47.08
5:1 Factor of Safety							



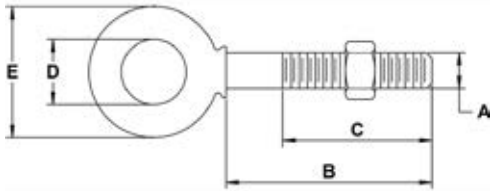
Eye With Latch

Trade Size (t)	Dimensions (in)					Weight (lbs)
	A	B	E	R	T	
3/4	3.85	0.63	0.81	2.80	0.65	0.40
1	4.30	0.75	0.83	3.18	0.79	0.55
1-1/2	4.94	0.91	0.91	3.66	0.84	0.90
2	5.57	1.12	0.96	4.09	0.84	1.30
3	6.47	1.25	1.04	4.74	1.08	2.05
5	7.96	1.56	1.32	5.77	1.42	3.89
7	10.12	2.00	1.50	7.42	1.81	7.15
11	12.43	2.44	1.89	9.06	2.12	12.98
15	13.96	2.87	2.24	10.15	2.28	22.33
22	16.91	3.50	2.91	12.44	2.56	35.75
30	19.33	3.54	3.86	13.86	2.95	59.40
5:1 Factor of Safety						



EYE BOLT - REGULAR W/NUT

Material: Forged carbon steel quenched & tempered
Standard: EN 4278, ASME B30.26
Finish: Hot dip galvanized
Identification: Size/Manufacturer
Factor of Safety: 5:1



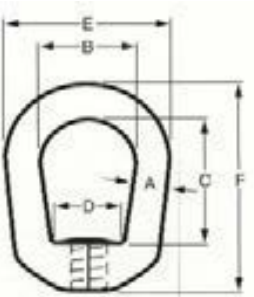
Diameter & Length (in.)	WLL (lbs)	Weight/100 pcs (lbs)	Dimensions (in.)				
			A	C	B	D	E
3/8 x 2 1/2	1,550	23.3	0.38	1.5	2.5	0.75	1.5
3/8 x 4 1/2	1,550	29.5	0.38	2.5	4.5	0.75	1.5
3/8 x 6	1,550	35.2	0.38	2.5	6	0.75	1.5
1/2 x 3 1/4	2,600	50.3	0.5	1.5	3.25	1	2
1/2 x 6	2,600	66.1	0.5	3	6	1	2
1/2 x 8	2,600	82	0.5	3	8	1	2
1/2 x 10	2,600	88	0.5	3	10	1	2
5/8 x 4	5,200	103.1	0.62	2	4	1.25	2.5
5/8 x 6	5,200	118.2	0.62	3	6	1.25	2.5
5/8 x 8	5,200	135.1	0.62	3	8	1.25	2.5
5/8 x 10	5,200	153.6	0.62	3	10	1.25	2.5
5/8 x 12	5,200	167.1	0.62	4	12	1.25	2.5
3/4 x 4 1/2	7,200	168.6	0.75	2	4.25	1.5	3
3/4 x 6	7,200	184.5	0.75	3	6	1.5	3
3/4 x 8	7,200	207.9	0.75	3	8	1.5	3
3/4 x 10	7,200	235	0.75	3	10	1.5	3
3/4 x 12	7,200	257.5	0.75	4	12	1.5	3
1 x 12	13 300	540	1	4	12	2	4



FORGED EYE NUT

Material: Forged
Standard: EN 4278, ASME B30.26
Finish: Galvanized
Identification: Size ("A" Dia.)
 Thread oversized for galvanized threads
Factor of Safety: 5:1

Std Tap Size (in)	Dimensions (in)						Wt. / ea. (lbs)	WLL (lbs)
	A	B	C	D	E	F		
1/4	1/4	3/4	1 1/16	21/32	1 1/4	1 11/16	0.09	520
5/16	1/4	3/4	1 1/16	21/32	1 1/4	1 11/16	0.09	850
3/8	5/16	1	1 1/4	3/4	1 5/8	2 1/16	0.18	1,250
1/2	3/8	1 1/4	1 1/2	1	2	2 1/2	0.28	2,250
5/8	1/2	1 1/2	2	1 3/16	2 1/2	3 3/16	0.58	3,600
3/4	5/8	1 3/4	2 3/8	1 3/8	3	3 7/8	1	5,200
7/8	3/4	2	2 5/8	1 5/8	3 1/2	4 5/16	1.7	7,200
1	7/8	2 1/4	3 1/16	1 7/8	4	5	2.75	10,000
1-1/4	1	2 1/2	3 1/2	1 15/16	4 1/2	5 3/4	3.85	15,500



EYE BOLT - SHOULDER MACHINE

Material: Forged Steel

Standard: EN 4278, ASME B30.26

Finish: Self-Coloured

Identification: Size/Manufacturer

Factor of safety: 5:1

Imperial

WLL (lbs)	Shank (in.)		Eye (in.)		Weight (lbs) per 100
	Diameter	Length	I.D.	O.D.	
650	1/4	1	0.75	1.13	4.9
1,200	5/16	1-1/8	0.88	1.38	8.5
1,550	3/8	1-1/4	1.00	1.62	14.0
2,600	1/2	1-1/2	1.19	1.95	29.5
5,200	5/8	1-3/4	1.38	2.38	58.0
7,200	3/4	2	1.50	2.76	88.50
10,600	7/8	2-1/4	1.75	3.25	129.0
13,300	1	2-1/2	2.00	3.76	198.5
21,000	1-1/4	3	2.50	4.50	396.0
24,000	1-1/2	3-1/2	3.00	5.50	654.0



Metric

WLL (kg)	Thread Size & Pitch	Shank (mm)		Eye I.D. (mm)	Weight / ea. (kg)
		Diameter	Length		
200	M6×1.0	6	25.5	18.43	0.03
400	M8×1.25	8	31.75	15.51	0.05
640	M10×1.5	10	31.75	24.76	0.07
1000	M12×1.75	12	38	23.94	0.11
1,800	M16×2.0	16	44.5	29.5	0.25
2,500	M20×2.5	20	51	36.51	0.42
2,808	M22×2.5	22	57	43.69	0.58
4,000	M24×3.0	24	63.5	49.36	1.05
9,525	M32×3.0	32	76	61.58	1.80



EYE BOLT - SHOULDER W/NUT

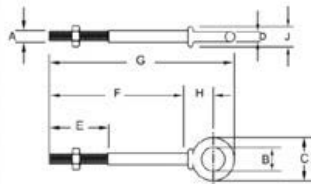
Material: Forged carbon steel quenched & tempered

Standard: EN 4278

Finish: Hot dip galvanized

Identification: Size/Manufacturer

Factor of Safety 5:1



Diameter & Length (in.)	WLL (lbs)	Weight /100 pcs (lbs)	Dimensions (in.)								
			A	C	B	D	E	F	G	H	J
1/4 x 2	650	6.6	0.25	0.5	0.88	0.19	1.5	2	2.94	0.5	0.47
1/4 x 4	650	9.1	0.25	0.5	0.88	0.19	2.5	4	4.94	0.5	0.47
5/16 x 2-1/4	1,200	12.5	0.31	0.62	1.12	0.25	1.5	2.25	3.5	0.69	0.56
5/16 x 4-1/4	1,200	18.8	0.31	0.62	1.12	0.25	2.5	4.25	5.5	0.69	0.56
3/8 x 2-1/2	1,550	21.4	0.38	0.75	1.38	0.31	1.5	2.5	3.97	0.78	0.66
3/8 x 4-1/2	1,550	25.3	0.38	0.75	1.38	0.31	2.5	4.5	5.97	0.78	0.66
1/2 x 3-1/4	2,600	42.6	0.5	1	1.75	0.38	1.5	3.25	5.12	1	0.91
1/2 x 6	2,600	56.8	0.5	1	1.75	0.38	3	6	7.88	1	0.91
5/8 x 4	5,200	68.6	0.62	1.25	2.25	0.5	2	4	6.44	1.31	1.12
5/8 x 6	5,200	102.4	0.62	1.25	2.25	0.5	3	6	8.44	1.31	1.12
3/4 x 4-1/2	7,200	144.5	0.75	1.5	2.75	0.62	2	4.5	7.44	1.56	1.38
3/4 x 6	7,200	167.5	0.75	1.5	2.75	0.62	3	6	8.94	1.56	1.38
7/8 x 5	10,600	225	0.88	1.75	3.25	0.75	2.5	5	8.46	1.84	1.56
1 x 6	13,300	366.3	1	2	3.75	0.88	3	6	9.97	2.09	1.81
1 x 9	13,300	422.5	1	2	3.75	0.88	4	9	12.97	2.09	1.81
1-1/4 x 8	21,000	650	1	3	5	1	4	8	12.72	2.47	2.28
1-1/4 x 12	21,000	795	1	3	5	1	4	12	16.72	2.47	2.28
1-1/2 x 15	24,000	1,425	2	3	6	1	6	15	20.75	3	2.75

PAD EYES

Forged Steel - Quenched and Tempered.

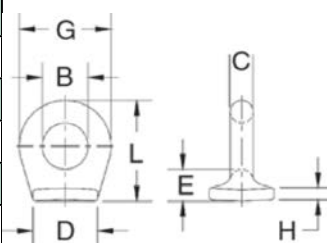
Forged from 1035 Carbon Steel.

Excellent welding qualities.

Reference American Welding Society specifications for proper welding procedures.



Size No.	Weight /100 pcs (lbs)	Dimensions (in.)						
		B	C	D	E	G	H	L
* 0	2.80	0.25	0.19	0.63	0.31	0.63	0.09	0.75
* 1	6.50	0.38	0.25	0.88	0.41	0.88	0.13	1.03
* 1-1/2	10.40	0.63	0.25	1.00	0.44	1.13	0.16	1.31
2	21.10	0.75	0.38	1.06	0.50	1.50	0.19	1.63
4	52.20	1.00	0.56	1.44	0.78	2.13	0.22	2.34
5	82.50	1.25	0.69	1.75	0.81	2.63	0.25	2.75



*Meets the requirements of Military Specification MS-51930A.

TURNBUCKLES

Meets and/or exceeds:

- ASME B30.26
- Forged – Quenched and Tempered (Ends), Normalizing (Body)

Coating / Protection:

- Hot dip galvanized & yellow powder coated

Identification / Marking:

- Name or trademark of manufacturer "OCEAN / OC"
- Size or rated load

Additional Identification:

- Production Code – Traceable to certificate & material

Factor of safety:: 5:1

Turnbuckle Eye & Eye

Galvanized. Conforms to Federal Specification FF-T-791B, Type 1, Form 1 – Class 4



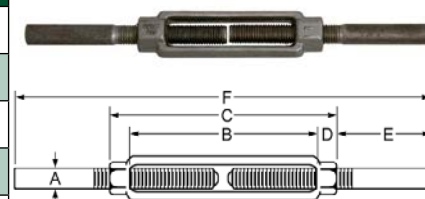
Thread Dia. & Take Up (in x in)	WLL (lbs)	Wt./ea. (lbs)	Dimensions (in)						
			A	D Open	E Closed	G	H	K	P Closed
5/16 x 4-1/2	800	0.47	0.31	14.12	9.62	4.5	0.94	0.44	2.09
3/8 x 6	1,200	0.75	0.38	18.16	12.16	6	1.12	0.53	2.52
1/2 x 6	2,200	1.6	0.5	19.96	13.96	6	1.44	0.72	3.23
1/2 x 9	2,200	1.83	0.5	25.96	16.96	9	1.44	0.72	3.23
1/2 x 12	2,200	2.14	0.5	32.08	19.08	12	1.44	0.72	3.23
5/8 x 6	3,500	2.75	0.63	21.68	15.68	6	1.75	0.88	3.9
5/8 x 9	3,500	3.13	0.63	27.68	18.68	9	1.75	0.88	3.9
5/8 x 12	3,500	3.42	0.63	34.93	21.68	12	1.75	0.88	3.9
3/4 x 9	5,200	4.61	0.75	29.62	20.62	9	2.09	1	4.69
3/4 x 12	5,200	5.43	0.75	35.62	23.62	12	2.09	1	4.69
3/4 x 18	5,200	7.83	0.75	47.64	29.64	18	2.09	1	5.09
7/8 x 12	7,200	8.1	0.88	36.82	24.82	12	2.38	1.25	5.1
1 x 12	10,000	11.93	1	39.97	27.72	12	3	1.44	6.36



Turnbuckle Stub End

Self Colored, Conforms to Federal Specification FFT-T-791B, Type 1, Form 1 – Class 3

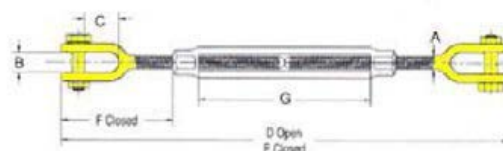
Thread Dia. & Take Up (in x in)	WLL (lbs)	Wt./ea. (lb)	Dimensions (in)					
			A	B	C	D	E	F
1/2 x 6	2,200	1.25	0.5	6	7.5	0.75	4.25	16
5/8 x 6	3,500	2.11	0.63	6	7.88	0.94	4.06	16
3/4 x 6	5,200	3.27	0.75	6	8.25	1.13	4.38	17
7/8 x 6	7,200	4.78	0.88	6	8.63	1.31	4.69	18
1 x 6	10,000	6.36	1	6	9	1.5	5	19
1-1/4 x 6	15,200	10.18	1.25	6	9.13	1.56	5.44	20
1-1/2 x 12	21,400	20.44	1.5	12	15.75	1.88	5.38	26.5



TURNBUCKLES

Turnbuckle Jaw & Jaw

Galvanized. Conforms to Federal Specification FF-T-791B and ASTM F1145, Type 1, Form 1, Class 7 (G)



*All sizes come with lock nuts

Thread Dia. & Take Up (in x in)	WLL (lbs)	Wt./ea. (lb)	Dimensions (in)						
			A	B	C	D Open	E Closed	F Closed	G
1/4 x 4	500	0.36	0.25	0.41	0.62	11.9	7.9	1.58	4
5/16 x 4 1/2	800	0.52	0.31	0.47	0.87	13.9	9.4	1.98	4.5
3/8 x 6	1,200	0.81	0.38	0.5	0.87	17.38	11.38	2.12	6
1/2 x 6	2,200	1.5	0.5	0.63	1.06	19	13	2.75	6
1/2 x 9	2,200	1.74	0.5	0.63	1.06	25	16	2.75	9
1/2 x 12	2,200	2.4	0.5	0.63	1.06	31	19	2.75	12
5/8 x 6	3,500	2.72	0.63	0.75	1.31	20.88	14.88	3.5	6
5/8 x 9	3,500	3.24	0.63	0.75	1.31	26.88	17.88	3.5	9
5/8 x 12	3,500	3.74	0.63	0.75	1.31	32.88	20.88	3.5	12
3/4 x 6	5,200	4.11	0.75	0.94	1.5	22.6	16.6	4.18	6
3/4 x 9	5,200	5.1	0.75	0.94	1.5	28.6	19.6	4.18	9
3/4 x 12	5,200	6.65	0.75	0.94	1.5	34.6	22.6	4.18	12
3/4 x 18	5,200	7	0.75	0.94	1.5	46.6	28.6	4.18	18
7/8 x 12	7,200	8.17	0.88	1.13	1.75	36.32	24.32	4.85	12
7/8 x 18	7,200	10.78	0.88	1.13	1.75	48.32	30.32	4.85	18
1 x 6	10,000	10.18	1	1.19	2.06	26.06	20.06	5.53	6
1 x 12	10,000	12	1	1.19	2.06	38.06	26.06	5.53	12
1 x 18	10,000	14	1	1.19	2.06	50.06	32.06	5.53	18
1 x 24	10,000	17	1	1.19	2.06	62.06	38.06	5.53	24
1-1/4 x 12	15,200	20.59	1.25	1.75	2.81	42.54	29.54	7.21	12
1-1/4 x 18	15,200	24.25	1.25	1.75	2.81	53.54	35.54	7.21	18
1-1/4 x 24	15,200	28.2	1.25	1.75	2.81	68.04	41.54	7.21	24
1-1/2 x 12	21,400	32.6	1.5	2.06	2.81	45.68	33.68	8.93	12
1 1/2 x 18	21,400	36.75	1.5	2.06	2.81	58.5	37.5	7.88	18
1-1/2 x 24	21,400	41.6	1.5	2.06	2.81	70.5	43.5	7.88	24
1-3/4 x 18	28,000	53.5	1.75	2.6	3.35	59.16	41.16	9.36	18
1-3/4 x 24	28,000	63.36	1.75	2.6	3.35	71.18	47.18	9.36	24
2 x 24	37,000	92.25	2	2.62	3.69	76.72	52.72	11.86	24
2-1/2 x 24	60,000	165	2.5	3.06	4.44	82.18	58.18	13.56	24
2-3/4 x 24	75,000	198	2.75	3.68	4.19	85.5	61.5	15.22	24



BRIGHT STEEL WIRE ROPE

Bright steel wire rope is fabricated from wires that are not coated.

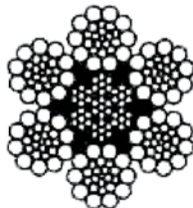
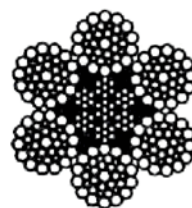
Lay: Right hand regular lay

Finish: A-Lube

Construction: IWRC

Type: 6×26 and 6×36

Material: Extra Improved Plow Steel(EIPS)



Rope Size (in.)	Construction	MBS (lbs)
3/8"	6×26	15,100
7/16"	6×26	20,400
1/2"	6×26	26,600
9/16"	6×26	33,600
5/8"	6×26	41,200
3/4"	6×26	58,800
7/8"	6×26	79,600
1"	6×26	103,400

Custom lengths available from 1ft to 5000 ft continuous.

Rope Size (in.)	Construction	MBS (lbs)
5/16"	6×36	10,540
3/8"	6×36	15,100
7/16"	6×36	20,400
1/2"	6×36	26,600
9/16"	6×36	33,600
5/8"	6×36	41,200
3/4"	6×36	58,800
7/8"	6×36	79,600
1"	6×36	103,400
1-1/8"	6×36	130,000
1-1/4"	6×36	159,800
1-3/8"	6×36	192,000
1-1/2"	6×36	228,000

Custom lengths available from 1ft to 5000 ft continuous.

GALVANIZED AIRCRAFT CABLE

Galvanized aircraft cable is made up of strands of galvanized wire.

Construction: 7×7 and 7×19

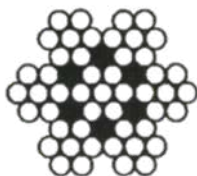
Material: Improved Plow Steel (IPS)

Lay: ROL

Core: IWRC

Finish: Galvanized

Lube: Dry



Rope Size (in.)	Construction	Break Strength (lbs)
1/16"	7×7	480
3/32"	7×7	920

Custom lengths available from 1ft to 5000ft continuous.

Rope Size (in.)	Construction	Break Strength (lbs)
1/8"	7×19	2,000
5/32"	7×19	2,800
3/16"	7×19	4,200
1/4"	7×19	7,000
5/16"	7×19	9,800
3/8"	7×19	14,400

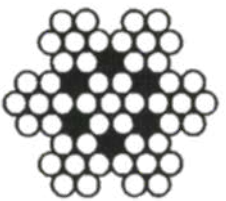
Custom lengths available from 1ft to 5000ft continuous.

STAINLESS STEEL AIRCRAFT CABLE

Stainless steel wire rope is made up of corrosion resistant steel wires.

Material: Improved Plow Steel (IPS), 304 & 316 Stainless
Lay: ROL
Finish: Stainless Steel
Lube: Dry
Construction: 7×7 and 7×19
Core: IWRC

Rope Size	Break Strength (lbs)	Const.
1/16"	480	7×7
3/32"	920	7×7
1/8"	1,760	7×19
5/32"	2,400	7×19
3/16"	3,700	7×19
1/4"	6,400	7×19
5/16"	9,000	7×19
3/8"	12,000	7×19
Custom lengths available from 1ft to 5000ft continuous.		



7×7



7×19

PROGRESSIONER CABLE

COMPACTED DRAWN - 6 STRAND

Applications: Surface Mining, Construction, Logging, Oil Fields, Winch Lines, Car Pullers/Progressioner.

CABLE COMPOSITION AND BENEFITS

Northern Strands uses 6 × 31 Warrington Seale Compacted Strand IWRC. This cable has a smoother bearing surface at the strand crowns and an increase in minimum breaking force over round strand rope of the same diameter and classification.



GENERAL CHARACTERISTICS

Compacted cables have more load bearing capacities than the standard cables with same diameters. Abrasion is less and usage lives are longer as they contact the reel surfaces in a larger area.

- High Strength to Diameter Ratio
- High Resistance to Abrasion
- High Resistance to Crushing
- Better Fatigue Resistance
- Equals Better Service Life

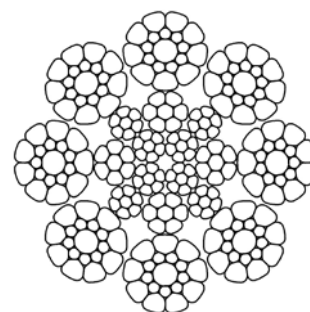
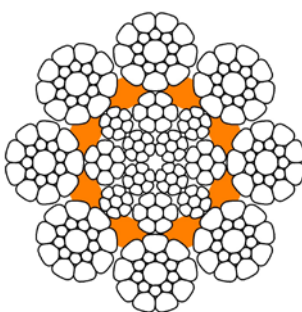
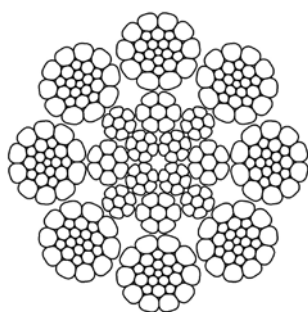
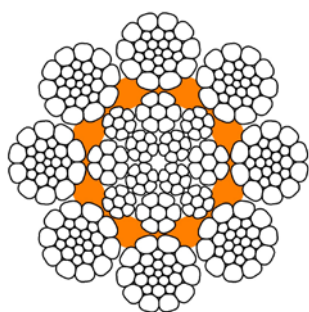
Weights and breaking loads MBS table			
Diameter in.	Weight lbs/ft	Breaking strength (lbs)	Construction
3/4"	1.13	64,800	6 × 31
7/8"	1.54	87,600	6 × 31
1"	2.00	113,800	6 × 31
1 1/8"	2.54	143,000	6 × 31
1 1/4"	3.14	175,800	6 × 31

CRANEMAX L8K SPECIAL HOIST

- Smoother contact surface in respect to conventional hoist ropes
- High resistance to side pressure and crushing
- Enhanced resistance to fleet angle if plastic impregnated



Diameter		Metallic Area		Mass		MBF		
mm	in	mm ²	in ²	kg/m	lb/ft	Kn	Tonnes	kips
13		92.1	0.143	0.761	0.511	162	16.5	36.5
14		107	0.166	0.882	0.593	188	19.2	42.3
15		123	0.190	1.01	0.680	216	22.0	48.6
16	5/8	137	0.213	1.13	0.762	242	24.7	54.4
17		140	0.216	1.15	0.774	246	25.1	55.3
17		158	0.244	1.30	0.874	277	28.3	62.4
18	3/4	177	0.274	1.46	0.980	311	31.7	70.0
19		197	0.305	1.62	1.09	347	35.3	78.0
20		218	0.338	1.80	1.21	384	39.1	86.4
22	7/8	264	0.409	2.18	1.46	465	47.4	105
23		269	0.417	2.22	1.49	474	48.3	107
24		314	0.487	2.59	1.74	553	56.4	124
25	1	335	0.520	2.81	1.89	594	60.5	134
26		346	0.537	2.90	1.95	613	62.5	138
26		363	0.562	3.04	2.04	642	65.5	145
28	1 1/8	421	0.652	3.53	2.37	745	75.9	168
30	1 1/4	438	0.679	3.67	2.47	776	79.1	175
		483	0.749	4.05	2.72	855	87.2	192
		541	0.839	4.54	3.05	958	97.6	215

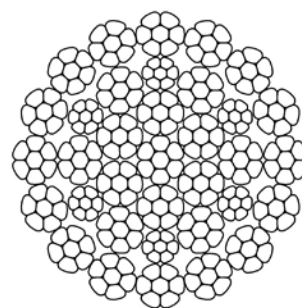
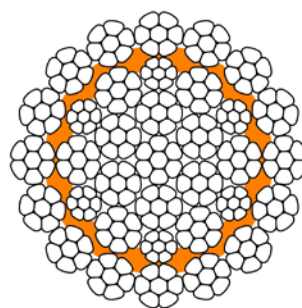
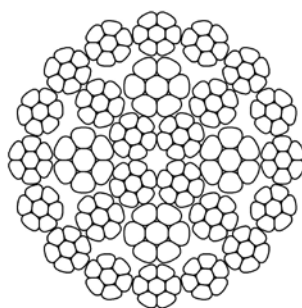
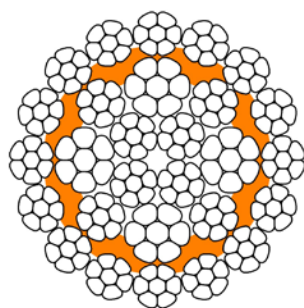


CRANEMAX XL35K

ROTATION RESISTANT

- Excellent rotational properties
- Extremely high MBF
- Enhanced resistance to fleet angle if plastic impregnated

Diameter		Metallic Area		Mass		MBF		
mm	in	mm ²	in ²	kg/m	lb/ft	Kn	Tonnes	kips
10		56.0	0.087	0.490	0.329	100	10.2	22.5
11		67.8	0.105	0.593	0.398	121	12.3	27.2
12		80.6	0.125	0.706	0.474	144	14.7	32.4
13	1/2	90.3	0.140	0.790	0.531	161	16.4	36.3
14		94.6	0.147	0.828	0.556	169	17.2	38.0
15	5/8	110	0.170	0.960	0.645	196	20.0	44.1
16		126	0.251	1.42	0.952	225	22.9	50.6
17		141	0.281	1.59	1.07	252	25.7	56.7
18	3/4	143	0.326	1.81	1.21	256	26.1	57.6
19		162	0.251	1.42	0.952	289	29.5	65.0
20		181	0.281	1.59	1.07	324	33.0	72.9
22	7/8	210	0.326	1.81	1.21	361	36.8	81.2
24		233	0.361	2.00	1.34	400	40.8	90.0
25		282	0.437	2.42	1.63	484	49.3	109
26	1	288	0.446	2.47	1.66	494	50.4	111
28		336	0.520	2.88	1.94	576	58.7	130
30		364	0.564	3.13	2.10	625	63.7	141
32	1 1/4	376	0.582	3.23	2.17	645	65.8	145
34		394	0.610	3.38	2.27	676	68.9	152
35		457	0.708	3.92	2.63	784	79.9	176
36	1 1/2	476	0.737	4.08	2.74	817	83.2	184
38		524	0.813	4.50	3.02	900	91.7	203
40		587	0.910	5.04	3.39	1010	103	227
	1 3/4	596	0.925	5.12	3.44	1020	104	230
		673	1.04	5.78	3.88	1160	118	260
		710	1.10	6.10	4.10	1220	124	274
	1 7/8	755	1.17	6.48	4.36	1300	132	292
		841	1.30	7.22	4.85	1440	147	325
	2	932	1.44	8.00	5.38	1600	163	360



WIRE ROPE & CABLE LUBRICATION



Types of product and equipment lube and lube systems Northern Strands supplies:

- Tower Cranes
- Overhead Traveling Cranes
- Construction and Industrial Wire Rope
- Mining Surface Ropes
- Drum and Slope Hoist Ropes
- Progressioner Rope
- And more



ELASKON AND UNOLIT

ELASKON 30

Elaskon 30 is a maintenance lubricant for wire ropes.

Properties: Elaskon 30 is liquid and contains an aromatic free solvent. After evaporation of the solvent a touch proof film is formed on the surfaces. It is water absorbing and has good adhesive power as well as excellent corrosion protection abilities.



UNOLIT SPRAY OIL

Unolit Spray Oil is a maintenance lubricant for wire ropes.

Properties: Unolit Spray Oil is used for the maintenance of miscellaneous wire ropes. The product contains graphite as solid lubricant and offers therefore excellent lubricating characteristics especially in moving ropes. As recommended by leading rope manufacturers splice knots may be protected with this product. It has very good creep characteristics and penetrates the rope completely.



GIBBS BRAND LUBRICANT

- Deep Cleaner
- Mega Penetrant
- Ultra Lubricant
- Corrosion Inhibitor
- Water Repellent
- Surface Preservative

CLEANS the build-up and adhesion of all types of soils and contaminants, including varnish, carbon deposits, chemical residues, sludge and rust; or material that is generated externally, such as scale, welding slag, rust, and machining and metal debris.

PENETRATES to free rusted, corroded frozen parts and fasteners like nuts, bolts, fittings, valves, locks and other rotating parts. Restores metal to its original shine.

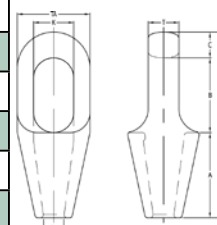


SOCKETS

Spelter Socket, Closed

- Quenched and tempered cast steel range with mechanical values (Charpy-V > 42 Joule / -20°C) for tough and low temperature use
- For wire rope diameter 6 - 204 mm (1/4" - 8")
- All spelter sockets have a 100% efficiency on wire rope MBL

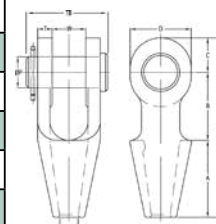
MBL	for wire ø		Strand ø		Dimensions (mm)								wt. (kg)
	(mm)	(in.)	(mm)	(in.)	A	B	C	øH	K	T	TA	TL	
8	6-7	1/4	-	-	50	40	11	9	22	13	37	101	0.3
12	8-10	3/8	-	-	57	48	14	13	25	18	43	119	0.3
20	11-13	7/16 - 1/2	-	-	64	59	17.5	15	30	23	51	140	0.7
25	14-16	9/16 - 5/8	13	1/2	76	65	21	18	36	26	67	162	1.4
40	18-19	3/4	14-16	9/16 - 5/8	89	78	27	22	42	32	76	194	2.2
55	20-22	7/8	18-19	3/4	101	90	33	25	47	38	92	224	3.8
75	23-26	1	20-22	7/8	114	103	36	29	57	44	104	253	5.4
90	27-30	1 1/8	23-26	1	127	116	39	33	65	51	114	282	7.0
125	31-36	1 1/4 - 1 3/8	27-28	1 1/16 -1 1/8	139	130	43	39	71	57	126	312	10.0
150	37-39	1 1/2	30-32	1 3/16 -1 1/4	152	155	51	42	81	63	136	358	13.0
170	40-42	15/8	33-35	1 5/16 -1 3/8	165	171	54	45	83	70	146	390	17.0
225	43-48	13/4 - 1 7/8	36-40	1 7/16 -1 5/8	190	198	55	52	93	76	171	443	26.0



Spelter Socket, Open

- Quenched and tempered cast steel range with mechanical values (Charpy-V > 42 Joule / -20°C) for tough and low temperature use
- For wire rope diameter 6 - 204 mm (1/4" - 8")
- Pin secured by cotter pin or bolt, nut and cotter
- Optional flange connection for use with a bend stiffener
- All spelter sockets have a 100% efficiency on wire rope MBL

MBL	for wire ø		Strand ø		Dimensions (mm)										wt. (kg)
	(mm)	(in.)	(mm)	(in.)	A	B	C	D	øH	øP	T	TL	TB	W	
8	6-7	1/4	-	-	50	40	19	34	9	16	9	109	51	19	0.4
12	8-10	3/8	-	-	57	45	22	42	13	21	11	124	63	21	0.7
20	11-13	7/16 - 1/2	-	-	64	51	27	50	15	25	12	142	67	25	1
25	14-16	9/16 - 5/8	13	1/2	76	63	32	58	18	30	14	171	85	32	1.8
40	18-19	3/4	14-16	9/16 - 5/8	89	76	40	70	22	35	16	205	95	38	3
55	20-22	7/8	18-19	3/4	101	89	45	80	25	41	19	235	110	44	4.6
75	23-26	1	20-22	7/8	114	101	60	104	29	51	22	275	128	51	8
90	27-30	1 1/8	23-26	1	127	114	65	114	33	57	25	306	142	57	11
125	31-36	1 1/4 - 1 3/8	27-28	1 1/16 - 1 1/8	139	127	72	126	39	63	28	338	155	63	15
150	37-39	1 1/2	30-32	1 3/16 - 1 1/4	152	162	80	142	42	70	30	394	177	76	22
170	40-42	1 5/8	33-35	1 5/16 - 1 3/8	165	165	88	156	45	76	33	418	187	76	27
225	43-48	1 3/4 - 1 7/8	36-40	1 7/16 - 1 5/8	191	178	100	176	52	89	39	469	215	89	41



WIRELOCK® Requirements

Wire Rope Size (in)	Wire Rope Size (mm)	Required (cc)	Wire Rope Size (in)	Wire Rope Size (mm)	Required (cc)	Wire Rope Size (in)	Wire Rope Size (mm)	Required (cc)	Wire Rope Size (in)	Wire Rope Size (mm)	Required (cc)
1/4	6-7	9	3/4	20	86	1-5/8	42	495	2-1/2	64	1,830
5/16	8	17	7/8	22	125	1-3/4	44	700	2-5/8	67	1,830
3/8	9-10	17	1	26	160	1-7/8	48	700	2-3/4	70	2,250
7/16	11	35	1-1/8	28	210	2	51	1,265	3.00	76	3,160
1/2	13	35	1-1/4	32	350	2-1/8	54	1,265	3-1/4	82	3,795
9/16	14	52	1-3/8	36	350	2-1/4	56	1,410	3-1/2	88	4,920
5/8	16	52	1-1/2	40	420	2-3/8	60	1,410	3-3/4	94	5,980

SOCKETS

Swage Socket, Closed

- Swage sockets properly applied have an efficiency rating of 100% based on catalog strength of wire rope
- Swage sockets are recommended for use with 6×19, 6×37, IWRC wire rope, and galvanized bridge rope
- Swage sockets are not recommended for use on fiber core or lang lay wire rope

Rope (in)	Before Swage Dimensions (in)								Max. after Swage	wt. ea.
	B	D	D1	d	H	K	L	L1		
1/4	1	0.50	0.75	0.27	0.50	3.50	4.33	2.13	0.46	0.3
5/16	2	0.77	0.89	0.34	0.67	4.50	5.50	3.15	0.71	0.8
3/8	2	0.77	0.89	0.41	0.67	4.50	5.50	3.15	0.71	0.7
1/2	2	0.98	1.06	0.55	0.89	5.75	6.93	4.25	0.91	1.4
5/8	2	1.25	1.26	0.67	1.14	7.28	8.70	5.31	1.16	2.9
3/4	3	1.55	1.44	0.80	1.31	8.54	10.20	6.38	1.42	5
7/8	3	1.70	1.70	0.94	1.50	10.16	11.97	7.44	1.55	6.8
1	4	1.98	2.05	1.06	1.77	11.54	13.46	8.50	1.8	10.4
1-1/8	4	2.25	2.32	1.19	2.00	12.72	15.04	9.57	2.05	14.8
1-1/4	5	2.53	2.56	1.33	2.25	14.33	16.97	10.63	2.3	21.6
1-3/8	5	2.80	2.56	1.45	2.25	15.83	18.70	11.69	2.56	28.4
1-1/2	6	3.08	2.81	1.58	2.52	17.01	20.12	12.75	2.81	38.1



Swage Socket, Open

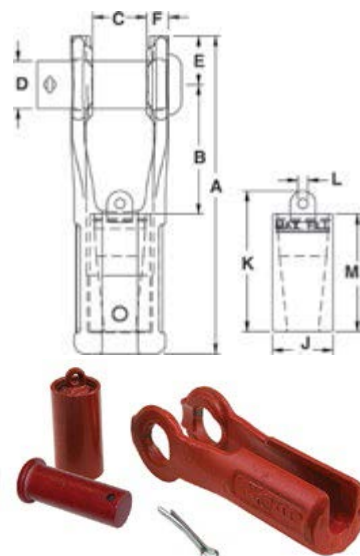
- Swage sockets properly applied have and efficiency rating of 100% based on catalog strength of wire rope
- Swage sockets are recommended for use with 6×19, 6×37, IWRC wire rope, and galvanized bridge rope
- Swage sockets are not recommended for use on fiber core or lang lay wire rope

Rope (in)	Before Swage Dimensions (in)										Max. after Swage	Weight ea.
	A	B	C	D	D1	d	K	L	L1	W		
1/4	2	1.38	0.35	0.50	0.69	0.27	4.02	4.80	2.17	0.67	0.46	0.5
5/16	2	1.65	0.47	0.77	0.81	0.34	5.31	6.26	3.15	0.79	0.71	1.1
3/8	2	1.65	0.47	0.77	0.81	0.41	5.31	6.26	3.15	0.79	0.71	1.3
1/2	2	2.00	0.55	0.98	1.00	0.55	6.85	7.83	4.33	1	0.91	2.1
9/16	2	2.36	0.68	1.25	1.19	0.61	8.27	9.45	5.31	1.22	1.16	4.7
5/8	2	2.36	0.68	1.25	1.19	0.67	8.27	9.45	5.31	1.22	1.16	4.5
3/4	3	2.75	0.79	1.55	1.38	0.80	10.07	11.61	6.34	1.5	1.42	8
7/8	3	3.15	0.94	1.70	1.63	0.94	11.81	13.39	7.44	1.77	1.55	11.5
1	4	3.94	1.02	1.98	2.00	1.06	13.58	15.55	8.5	2	1.8	17.8
1-1/8	4	4.06	1.19	2.25	2.20	1.19	15.08	17.40	9.37	2.25	2.05	25.3
1-1/4	5	4.45	1.34	2.53	2.48	1.33	16.50	19.06	10.59	2.48	2.3	35.6
1-3/8	5	5.00	1.38	2.80	2.50	1.45	18.23	21.02	11.69	2.52	2.56	45.9
1-1/2	6	5.51	1.69	3.08	2.75	1.58	19.75	22.88	12.4	3	2.81	58.5



WIRE ROPE END FITTINGS

- Available in six sizes from 1/2" to 1-1/2" (13mm - 38mm)
- Button Spelter terminations have a 100% efficiency rating, based on the catalog strength of the wire rope
- Designed for use with mobile cranes
- Can be used to terminate high performance, rotation resistant ropes, and standard 6 strand ropes
- Easy to install assembly utilizes Crosby WIRELOCK® socketing compound
- Sockets and buttons are reusable.
- Replacement buttons and sockets are available
- Locking feature available to prevent rotation of rope
- Button contains cap with eye that can be attached to, and used to pull rope during reeving process
- Manufactured to the requirements of API-2C



SB-427 Button Spelter Socket

Wire Rope Dia		Ultimate Load (t)	wt. ea. (lbs)	Dimensions (in)										Tolerance +/-
in	mm			A	B	C	D	E	F	J	K	L	M	
1/2 - 5/8	13-16	27	6.1	7.94	3.23	1.28	1.19	1.22	0.57	1.5	3.5	0.25	2.93	0.06
5/8 - 3/4	16-19	45	10.3	9.44	3.88	1.53	1.38	1.44	0.66	1.75	4.28	0.38	3.43	0.06
3/4 - 7/8	19-22	57	17.1	10.81	4.41	1.78	1.62	1.69	0.75	2.06	4.78	0.38	3.96	0.06
7/8 - 1	22-26	82	29.2	12.88	5.48	2.03	2	2	0.89	2.44	5.62	0.62	4.52	0.09
1-1/8 - 1-1/4	28-32	136	46.0	14.90	5.68	2.53	2.25	2.5	1.11	2.94	7.08	0.75	5.72	0.09
1-3/8 - 1-1/2	35-38	161	78.0	18.06	7.17	3.03	2.75	2.75	1.24	3.62	8.08	.75	6.76	.09

SB-427TB (Bolt, Nut and Cotter Pin)

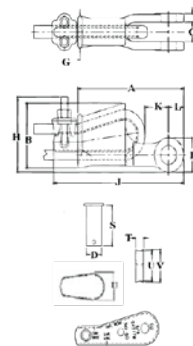
Wire Rope Dia		Ultimate Load (t)	wt. ea. (lbs)	Dimensions (in)										Tolerance +/-
in	mm			A	B	C	D	E	F	J	K	L	M	
1/2 - 5/8	13-16	27	6.10	7.94	3.23	1.28	1.19	1.22	0.57	1.5	3.5	0.25	2.93	0.06
5/8 - 3/4	16-19	45	10.30	9.44	3.88	1.53	1.38	1.44	0.66	1.75	4.28	0.38	3.43	0.06
3/4 - 7/8	19-22	57	17.10	10.81	4.41	1.78	1.62	1.69	0.75	2.06	4.78	0.38	3.96	0.06
7/8 - 1	22-26	82	29.20	12.88	5.48	2.03	2	2	0.89	2.44	5.62	0.62	4.52	0.09
1-1/8 - 1-1/4	28-32	136	46.00	14.90	5.68	2.53	2.25	2.5	1.11	2.94	7.08	0.75	5.72	0.09

WIRELOCK® Required

Wire Rope Size		Required (cc)	Kit Size (cc)
(in)	(mm)		
1/2 - 5/8	13-16	35	100
5/8 - 3/4	16-19	60	100
3/4 - 7/8	19-22	100	100
7/8 - 1	22-26	140	100
1-1/8 - 1-1/4	28-32	250	250
1-3/8 - 1-1/2	35-38	420	500
*2 kits required			

S-421T WEDGE SOCKETS

- Wedge socket terminations have an efficiency rating of 80% based on the catalog strength of XXIP wire rope
- Meets or exceeds all requirements of ASME B30.26, including identification, ductility, Factor of Safety, proof load, and temperature requirements. Importantly, these sockets meet other critical performance requirements, including fatigue life, impact properties and material traceability, not addressed by ASME B30.26
- Type Approval certification in accordance with ABS rules for conditions of classification, Part 1 2017 Steel Vessels and ABS guide for certification of lifting appliances 2017 available. Certificates available when requested at time of order and may include additional charges
- Basket is cast steel and individually magnetic particle inspected
- Pin diameter and jaw opening allows wedge and socket to be used in conjunction with closed swage and spelter sockets
- Secures the tail or dead end of the wire rope to the wedge, thus eliminates loss or punch out of the wedge
- Eliminates the need for an extra piece of rope and is easily installed
- The Terminator wedge eliminates the potential breaking off of the tail due to fatigue
- The tail, which is secured by the base of the clip and the wedge, is left undeformed
- Incorporates Crosby's patented QUIC-CHECK® 'Go' and 'No-Go' feature cast into the wedge. The proper size rope is determined when the following criteria are met:
 - 1) The wire rope should pass through the 'Go' hole in the wedge
 - 2) The wire rope should NOT pass through the 'No-Go' hole in the wedge
- Utilizes standard Crosby Red U-Bolt® wire rope clip
- The 3/8 through 1-1/8 standard S-421 wedge socket can be retrofitted with the new style Terminator wedge.
- Available with bolt, nut, and cotter pin: S-421TB
- US patent 5,553,360, Canada patent 2,217,004, and foreign equivalents
- Meets the performance requirements of EN 13411-6
- Available with API-2C certification upon request
- Wedge sockets meet the performance requirements of Federal specification RR-S-550F, Type C, except those provisions required of the contractor
- The S-423T Super Terminator wedge is designed to be assembled only into the Crosby S-421T Terminator socket body. Important: The S-423TW for sizes 5/8" through 1-1/8" (14mm through 28mm) will fit respective size standard Crosby S-421T basket. The 1-1/4" (30-32mm) S-423TW will only fit the Crosby S-421T 1-1/4" basket marked with Terminator



Wire Rope Dia.		Total Weight ea. (lbs)	Weight (lbs)	
(in)	(mm)		Wedge Only	Optional Bolt, Nut & Cotter Assembly
3/8	9-10	3.18	0.50	0.38
1/2	11-13	6.15	1.05	0.69
5/8	14-16	9.70	1.79	1.15
3/4	18-19	14.50	2.60	1.91
7/8	20-22	21.50	4.00	3.23
1	24-26	30.75	5.37	5.40
1-1/8	28	45.30	7.30	7.50
1-1/4	30-32	64.90	10.60	10.34

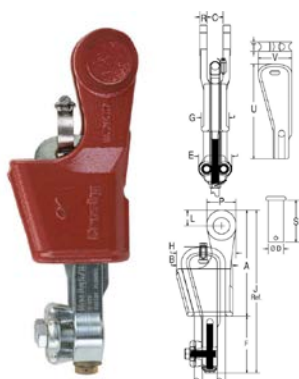
Wire Rope Dia.		Dimensions (in)														
in	mm	A	B	C	D	G	H	J*	K*	L	P	R	S	T	U	V
3/8	9-10	5.69	2.72	0.81	0.81	1.38	3.06	7.8	1.88	0.88	1.56	0.44	2.13	0.44	1.25	1.38
1/2	11-13	6.88	3.47	1.00	1.00	1.62	3.76	8.91	1.26	1.06	1.94	0.5	2.56	0.53	1.75	1.88
5/8	14-16	8.25	4.30	1.25	1.19	2.12	4.47	10.75	1.99	1.22	2.25	0.56	3.25	0.69	2	2.19
3/4	18-19	9.88	5.12	1.50	1.38	2.44	5.28	12.36	2.41	1.4	2.63	0.66	3.63	0.78	2.34	2.56
7/8	20-22	11.25	5.85	1.75	1.63	2.69	6.16	14.37	2.48	1.67	3.13	0.75	4.31	0.88	2.69	2.94
1	24-26	12.81	6.32	2.00	2.00	2.94	6.96	16.29	3.04	2	3.75	0.88	4.7	1.03	2.88	3.28
1-1/8	28	14.38	6.92	2.25	2.25	3.31	7.62	18.34	2.56	2.25	4.25	1	5.44	1.1	3.25	3.56
1-1/4	30-32	16.34	8.73	2.62	2.50	3.56	9.39	20.48	2.94	2.34	4.5	1.06	6.13	1.19	4.62	4.94

* Nominal Note: For intermediate wire rope sizes, use next larger size socket.

IMPORTANT: The S-423TW for sizes 5/8" through 1-1/8" (14mm through 28mm) will fit respective size standard Crosby S-421T basket. The 1-1/4" (30-32mm) S-423TW will only fit the Crosby S-421T 1-1/4" basket marked with "TERMINATOR"

S-423T SUPER

- The 423T wedge socket terminations have a minimum efficiency rating on most high performance, high strength, compacted strand, rotation resistant wire ropes of 80% based on the catalog breaking strength of the various ropes**
- Design eliminates the difficulty of properly seating the wedge with high performance wire rope into a wedge socket termination
- Proper application of the Super TERMINATOR™ eliminates the "first load" requirement of conventional wedge socket terminations
- S-423TW Wedge Kit can be retrofitted onto existing Crosby S-421T TERMINATOR™ wedge sockets
- Wedge and accessories provided with a zinc finish
- Meets the performance requirements of EN13411-6:2003
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these sockets meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26
- Basket is cast steel and individually magnetic particle inspected
- Pin diameter and jaw opening allows wedge and socket to be used in conjunction with closed swage and spelter sockets
- Secures the tail or "dead end" of the wire rope to the wedge, thus eliminates loss or "punch out" of the wedge
- Eliminates the need for an extra piece of rope, and is easily installed
- The TERMINATOR™ wedge eliminates the potential breaking off of the tail due to fatigue.
- The tail, which is secured by the base of the clip and the tension device, is left undeformed and available for reuse
- Available with Bolt, Nut, and Cotter Pin
- US Patent 8,375,527 B1



Wire Rope Dia.		Weight ea. (lbs)		
(in)	(mm)	S-423T Assembly with Round Pin and Cotter Pin	S-423TB Assembly with Bolt, Nut and Cotter Pin	S-423TW** Wedge Kit
5/8	14- 16	12.7	13.1	5.2
3/4	18-19	19.4	19.1	7.2
7/8	20-22	28.8	27.8	10.3
1	24-26	39.2	37.3	11.9
1-1/8	28	57.1	57.9	19.9
1-1/4	30-32	88.6	88.1	33.8

** Kit contains Wedge, Wire Rope Clip and Bolts, Tensioner, Tensioner Bolt and Secondary Retention Wire.

Wire Rope Dia.		Dimensions (in)																
in	mm	A	B	C	D	E	F	G	H	J*	K	L	P	R	S	T	U	V
5/8	14- 16	8.25	4.50	1.25	1.19	3.00	4.06	2.13	4.61	12.31	1.09	1.22	2.25	0.56	3.25	0.75	6.88	2.6
3/4	18-19	9.88	5.20	1.50	1.38	3.25	4.81	2.44	5.37	14.69	1.5	1.4	2.62	0.66	3.63	0.88	7.65	3.02
7/8	20-22	11.25	5.88	1.75	1.63	3.81	5.73	2.69	6.16	16.98	1.59	1.67	3.13	0.75	4.31	1	9.47	3.47
1	24-26	12.81	6.56	2.00	2.00	3.81	5.73	2.94	7.05	18.54	1.44	2.01	3.75	0.88	4.7	1.13	10.41	3.82
1-1/8	28	14.38	6.94	2.25	2.25	4.00	6.85	3.38	7.81	21.23	1.12	2.26	4.25	1	5.44	1.25	11.83	4.22
1-1/4	30-32	16.34	8.63	2.62	2.50	4.50	7.76	3.57	9.38	24.1	1.5	2.34	4.5	1.06	6.62	1.38	13.87	5.82

NOTE: For intermediate wire rope sizes, use next larger size socket.

The S-423T Super TERMINATOR™ wedge is designed to be assembled only into the Crosby S-421T TERMINATOR socket body.

IMPORTANT: The S-423TW for sizes 5/8" through 1-1/8" (14mm through 28mm) will fit respective size standard Crosby S-421T basket. The 1-1/4" (30-32mm) S-423TW will only fit the Crosby S-421T 1-1/4" basket marked with "TERMINATOR"

HAND SWAGER CUTTERS

Swager Cutter - 24"



Reliable: Blades drop forged with high quality alloy steel body with heat treatment

Efficient: cutting edges induction quenched, good cutting by 2 grade lever principal. Used to cut up to 6mm wire rope and press 1/16" to 3/16" aluminum oval sleeves.

FELCO C7 ONE-HAND CABLE CUTTER | CABLE CUTTER



Reliable: Gives a clean cut without squashing thanks to the triangular cutting system

Efficient: blades and center bolt in high-quality hardened steel for exceptional performance

Ergonomic: thumb catch designed for one-handed operation / pressed steel handles with non-slip grips

FELCO C9 TWO-HAND WIRE AND CABLE CUTTER | STEEL CABLE CUTTER



Reliable: unbreakable hardened handles made of forged aluminum with a lifetime guarantee / blades and fastenings in high-quality hardened steel / parts subject to wear and tear can be replaced

Efficient: clean, precise cut without crushing the cable thanks to the triangular cutting system / easy and durable cutting adjustment

Ergonomic: lightweight handles / helpful lever effect / comfortable plastic coating

FELCO C12 TWO-HAND WIRE AND CABLE CUTTER | STEEL CABLE CUTTER



Reliable: unbreakable hardened handles made of forged aluminum with a lifetime guarantee / blades and fastenings in high-quality hardened steel / parts subject to wear and tear can be replaced

Efficient: clean, precise cut without crushing the cable thanks to the triangular cutting system / easy and durable cutting adjustment

Ergonomic: lightweight handles / helpful lever effect / comfortable plastic coating

FELCO C16 TWO-HAND WIRE AND CABLE CUTTER | STEEL CABLE CUTTER



Reliable: unbreakable hardened handles made of forged aluminum with a lifetime guarantee / blades and fastenings in high-quality hardened steel / parts subject to wear and tear can be replaced

Efficient: clean, precise cut without crushing the cable thanks to the triangular cutting system / easy and durable cutting adjustment

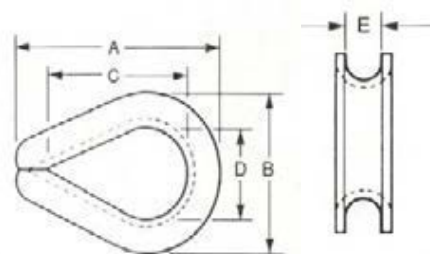
Ergonomic: lightweight handles / helpful lever effect / comfortable plastic coating

GALVANIZED THIMBLES

Material: Steel.

Standard: FF-T-276C

Finish: Hot Dip Galvanized



Heavy Duty Thimbles

Rope Diameter (in.)	Weight/ 100 pcs. (lbs)	Dimensions (in.)					Thickness
		A	B	C	D	E	
1/4	6.5	2.19	1.5	1.63	0.88	0.28	0.41
5/16	11.8	2.5	2	1.88	1.06	0.34	0.5
3/8	21.6	2.88	2	2.13	1.13	0.41	0.63
7/16	34.7	3.25	2	2.38	1.25	0.47	0.72
1/2	51.0	3.63	2.75	2.75	1.5	0.53	0.81
9/16	51.0	3.63	2.69	2.75	1.5	0.59	0.88
5/8	75.7	4.25	3.13	3.25	1.75	0.66	0.97
3/4	158.1	5	3.81	3.75	2	0.78	1.22
7/8	178	5.5	4.25	4.25	2.25	0.94	1.38
1	314	6.13	4.94	4.5	2.5	1.06	1.56
1 1/8 - 1 1/4	400	7	5.88	5.13	2.88	1.31	1.81
1 1/4 - 1 3/8	811	9	6.81	6.25	3.5	1.44	2.19
1 3/8 - 1 1/2	1,295	9.06	7.13	6.5	3.5	1.56	2.56
1 3/4	1,775	12.19	8.5	9	4.5	1.84	2.84
2	2,775	15.13	10.38	12	6	2.09	3.09



Light Duty Thimbles

Rope Dia. (in)	Wt. / 100 pcs. (lb)	Dimensions (in)				
		A	B	C	D	E
1/8	3.5	1.94	1.06	1.31	0.69	0.16
3/16	3.5	1.94	1	1.31	0.69	0.22
1/4	3.5	1.94	1	1.31	0.69	0.28
5/16	4.0	2.13	1	1.5	0.81	0.34
3/8	6.7	2.38	1.47	1.63	0.94	0.41
1/2	12.5	2.75	1.75	1.88	1.13	0.53
5/8	34.5	3.5	2.38	2.25	1.38	0.66
3/4	47.1	3.75	2.69	2.5	1.63	0.78
7/8	85	5	3.19	3.5	1.88	0.94
1	98	5.69	3.75	4.25	2.5	1.06



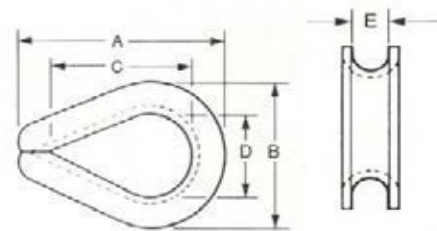
STAINLESS THIMBLES

Material: 304 Stainless Steel.

Standard: FF-T-276C

Finish: Stainless Steel

Heavy Duty Thimbles



Rope Diameter (in.)	Weight / 100 pcs. (lbs)	Dimensions (in.)					Thickness
		A	B	C	D	E	
1/4	6.5	2.19	1.43	1.65	0.88	0.28	0.41
5/16	11.8	2.75	2	2	1.06	0.34	0.5
3/8	21.6	2.88	2	2.13	1.13	0.41	0.63
1/2	51.0	3.63	3	2.75	1.5	0.53	0.81
5/8	75.7	4.25	3.25	3.13	1.75	0.66	0.97
3/4	158.1	5	3.75	3.81	2	0.78	1.22



Light Duty Thimbles

Rope Dia. (in)	Weight / 100 pcs. (lbs)	Dimensions (in)				
		A	B	C	D	E
1/8	6.5	1.94	1.06	1.31	0.69	0.16
3/16	11.5	1.94	1	1.31	0.69	0.22



WIRE CLIPS

Malleable - Light Duty

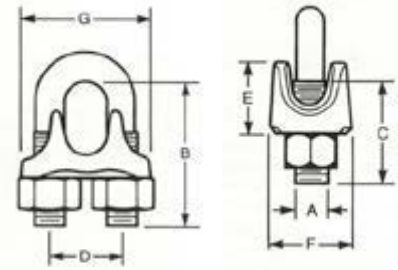
Typical uses include: Guard line and fencing

Material: Malleable Steel

Standard: FF-C-450, Type 1 Class 2

Finish: Electro-Galvanized

Identification: Size



To be used for light Duty, NON CRITICAL applications only.

Rope Size. (in)	Weight per 100 pcs. (lbs)	Dimensions (in)						
		A	B	C	D	E	F	G
1/8	4.0	0.18	0.81	0.5	0.5	0.5	0.56	0.94
3/16	6.3	0.25	1	0.56	0.56	0.56	0.63	1.06
1/4	13.0	0.31	1	0.75	0.75	0.69	0.75	1.31
5/16	15.0	0.31	1	0.84	0.75	0.75	0.75	1.44
3/8	21.0	0.38	1.63	1	0.88	0.84	0.88	1.63
1/2	37.0	0.44	2	1.19	1.06	1	1.06	1.88
5/8	59.0	0.5	2.31	1.38	1.25	1.25	1.28	2.09
3/4	84.0	0.56	2.56	1.56	1.31	1.44	1.56	2.38
7/8	125	0.63	3.06	1.81	1.63	1.75	1.81	2.88
1	166	0.63	3.44	2	1.88	2.06	2	3

Stainless

Material: 304 Stainless Steel

Standard: FF-C-450

Finish: Stainless Steel

Identification: Size

Rope Size
1/8"
3/16"
1/4"
5/16"
3/8"
1/2"
5/8"



WIRE CLIPS

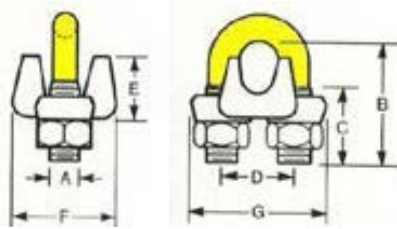
Forged

Material: Forged Steel

Standard: EN 13411-5, FF-C-450: Type 1 Class 1, ASME B30.26

Finish: Clip: Galvanized, U-Bolt: Powder Coated Yellow

Identification: Trademark, Size/WLL, Batch Code



Rope Size (in.)	Weight/ 100 pcs. (lbs)	Dimensions (in.)						Use		
		A	B	D	E	F	G	*Min #	Torque (lbf * ft)	Min. rope turn back (in.)
1/8	6	0.22	0.72	0.47	0.41	0.81	0.94	2	4.5	3 1/4
3/16	10	0.25	0.97	0.59	0.5	0.94	1.16	2	4.5	3 3/4
1/4	20	0.31	1.03	0.75	0.66	1.19	1.44	2	15	4 3/4
5/16	30	0.38	1.38	0.88	0.72	1.31	1.69	2	30	5 1/4
3/8	47	0.44	2	1	0.91	1.63	1.94	2	45	6 1/2
1/2	80	0.5	1.88	1.19	1.13	1.91	2.28	3	65	11 1/2
9/16	104	0.56	2	1.31	1.22	2.06	2.5	3	95	12
5/8	106	0.56	2.38	1.31	1.34	2.06	2.5	3	95	12
3/4	150	0.62	2.75	1.5	1.41	2.25	2.84	4	130	18
7/8	212	0.75	3.12	1.75	1.59	2.44	3.16	4	225	19
1	260	0.75	3.5	1.88	1.78	2.63	3.47	5	225	26
1-1/8	290	0.75	3.88	2	1.91	2.81	3.59	6	225	34
1-1/4	430	0.88	4.25	2.31	2.19	3.13	4.13	7	360	44
1-1/2	540	0.88	4.94	2.59	2.44	3.41	4.44	8	360	54
1-3/4	925	1.13	5.75	3.06	2.94	3.81	5.28	8	590	61
2	1,300	1.25	6.44	3.38	3.28	4.44	5.88	8	750	71
2-1/4	1,540	1.25	7.13	3.86	3.19	4.49	6.38	8	750	73
2-1/2	1,980	1.25	7.68	4.13	3.7	4.06	6.67	9	750	84
2-3/4	2,200	1.25	8.31	4.37	4.88	5	6.89	10	750	100
3	3,080	1.5	9.77	4.76	4.69	5.87	7.64	10	1,200	106
3-1/2	3,960	1.5	10.75	5.51	5.98	6.18	8.39	12	1,200	149

FAILURE TO READ, UNDERSTAND AND FOLLOW THESE INSTRUCTIONS MAY CAUSE DEATH OR SERIOUS INJURY

READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE USING CLIPS

MATCH THE SAME SIZE CLIP TO THE SAME SIZE WIRE ROPE

PREPARE WIRE ROPE AND TERMINATION ONLY AS INSTRUCTED

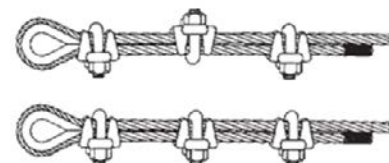
DO NOT USE WITH PLASTIC COATED WIRE ROPE

APPLY FIRST LOAD TO TEST THE ASSEMBLY. THIS LOAD SHOULD BE OF EQUAL OR GREATER WEIGHT THAN LOADS EXPECTED IN USE. NEXT, CHECK AND RE TIGHTEN NUTS TO RECOMMENDED TORQUE

The Right Way



The Wrong Way



SLEEVES

Aluminum Duplex Sleeves

GENERALLY USED WITH GALVANIZED WIRE

Cable Size	Wt./100 lbs	Length	Depth	Width	O.D After Swage
1/16"	0.10	3/8	11/64	1/4	0.187"
3/32"	0.30	1/2	9/32	13/32	0.281"
1/8"	0.66	5/8	11/32	1/2	0.312"
5/32"	0.88	11/16	3/8	9/16	0.375"
3/16"	1.61	7/16	2	1/32	0.437"
1/4"	2.8	1-1/8	17/32	13/16	0.563"
5/16"	4.6	1-1/4	11/16	1-1/32	0.687"
3/8"	5.9	1-7/16	3/4	1-5/32	0.812"
7/16"	12	1-11/16	15/16	1-7/16	1.000"
1/2"	17	2	1-1/16	1-5/8	1.120"



Aluminum Wire Rope Stops

GENERALLY USED WITH GALVANIZED WIRE

Cable Size	Wt./100 lbs	Length	Depth	Width	O.D After Swage
1/16"	0.06	1/4	3/32	0.187"	0.187"
3/32"	0.25	11/32	1/8	0.245"	0.281"
1/8"	0.24	11/32	5/32	0.245"	0.312"
5/32"	0.38	7/16	3/16	0.325"	0.375"
3/16"	0.35	7/16	7/32	0.325"	0.437"
1/4"	2.06	11/16	9/32	0.508"	0.563"
5/16"	1.74	11/16	3/8	0.508"	0.687"



Copper Oval Sleeves

GENERALLY USED WITH STAINLESS STEEL WIRE

Cable Size	Wt./100 lbs	Length	Depth	Width	O.D After Swage
1/16"	0.3	25/64	11/64	1/4	0.190"
3/32"	0.65	29/64	15/64	3/8	0.265"
1/8"	1.6	9/16	21/64	1/2	0.353"
5/32"	2.3	5/8	3/8	19/32	0.390"
3/16"	5.1	7/8	7/16	43/64	0.475"
1/4"	7.5	1-1/8	13/16	1/2	0.585"
5/16"	11.8	1-1/8	2 1/32	1-1/64	0.730"
3/8"	17	1-1/2	23/32	1-1/8	0.795"



SLEEVES

Copper Wire Rope Stops

GENERALLY USED WITH STAINLESS STEEL WIRE

Cable Size	Wt./100 (lbs)	Length	Depth	Width	O.D After Swage
1/16"	0.20	13/64	5/64	0.182"	0.187"
3/32"	0.80	21/64	7/64	0.261"	0.281"
1/8"	0.80	21/64	5/32	0.261"	0.312"
5/32"	1.3	27/64	3/16	0.350"	0.375"
3/16"	1.2	27/64	7/32	0.350"	0.437"
1/4"	6	21/32	9/32	0.600"	0.563"
5/16"	9	21/32	5/16	0.600"	0.687"



SPIRAL FERRULES

Spiral Ferrules are comprised of two rifled wedges that grip the surface of the wire rope when pulled through. Designed to quickly repair chokers and winch lines where no swaging or socketing is required. For use with 6×19 or 6×37 wire rope.

Colour	Wedge and Rope Size	Weight Each (lbs)
Silver	m4 - 7/16" - 1/2" - 9/16"	0.30
Cream	(D) Lb4 - 7/16" - 1/2" - 9/16"	0.60
Pink	(D) Lb5 - 9/16" - 5/8"	0.50
Brown	B4 - 1/2"	1.00
Maroon	B5 - 5/8"	0.90
Gray	B6 - 3/4"	0.80
White	L6 - 3/4"	1.80
Black	L7 - 7/8"	1.90
Green	L8 - 1"	1.60
Red	(LJ) J7 - 7/8"	2.40
Blue	(LJ) J8 - 1"	2.20
Yellow	(LJ) J9 - 1 1/8"	2.10
Orange	(LJ) J10 - 1 1/4"	2.00
Purple	S10 - 1 1/4"	3.20
Gold	S11 - 1 3/8"	3.50



GRADE 100 ALLOY CHAIN

General Information

WORKING LOAD LIMIT

The "Working Load Limit" is the maximum load in pounds which should ever be applied to chain, when the chain is new or in as-new condition, and when the load is uniformly applied in direct tension to a straight length of chain.

PROOF TEST

The "Proof Test" is a term designating the tensile test applied to new chain for the sole purpose of detecting injurious defects in the material or manufacture. It is the load that the chain has withstood under a test in which the load has been applied in direct tension to a straight length of chain.

MINIMUM ULTIMATE LOAD

The "Minimum Ultimate Load" is the minimum load at which new chain will break when tested by applying direct tension to a straight length of chain at a uniform rate of speed in a testing machine.

ATTACHMENTS

Any attachments, such as hooks or links, should have a rated "Working Load Limit" at least equal to the chain with which it is used.

SYMMETRICAL LOADING

Rated Working Load Limit assumes symmetrical loading of all sling legs.

SPECIFICATIONS ASME B30.9

Paragraph 9-1.6 .1 "Prior to initial use, all new and repaired chain and components of an alloy steel chain sling, either individually or as an assembly, shall be proof tested by the sling manufacturer or qualified person."

Caution

Only Grade 80 and Grade 100 chain, should be used for overhead lifting applications.

General Usage – It must be recognized that certain factors in the usage of chain and attachments can be abusive and lessen the load that the chain or attachments can withstand. Some examples are twisting of the chain; disfigurement; deterioration by straining; usage; weathering and corrosion; rapid application of load or jerking; applying excessive loads; sharp corner cutting action and non-symmetrical loading effects.

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Northern Strands recommends a minimum angle of choke of 120 degrees. Consult Northern Strands when planning to use an angle of choke of less than 120 degrees. If Northern Strands cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.

In shortening applications, a 20% reduction of the Working Load Limit is required except when using the Northern Strands Cradle Grab Hooks, Chain Shortener Link, the Chain Choker Hook in conjunction with a Chain Coupler Link, or the Crosby ELIMINATOR® shortener link. They can be used without any reduction to the Working Load Limit.

Care should be taken to observe these derated applications

or chain may fracture or permanently stretch at loads less than the advertised chain ultimate strength and proof load respectively.

Environmental Effects – Excessive high or low temperatures, or exposure to chemically active environments such as acids or corrosive liquids or fumes, can reduce the performance of the chain.

Temperature

- Extreme temperatures will reduce the performance of alloy steel chain slings
- Normal operating temperature is -40°F to 400°F (-40°C to 204°C)
- See the temperature exposure chart (Table 1) to determine reduction of WLL due to operation at, and exposure to, elevated temperatures

Chemically Active Environments can have detrimental effects on the performance of chain. The effects can be both visible loss of material and undetectable material degradation causing significant loss of strength.

- Usage Exposure to chemically active environments such as acids or corrosive liquids or fumes can reduce the performance of the chain
- Special Surface Coating/Plating/Galvanizing – Chain should not be subjected to galvanizing, or any plating process
- If it is suspected that the chain has been exposed to chemically active environment, remove from service

Use

Observing the following precautions when using chain slings will help protect both operators and materials.

1. Inspect chain slings before use as indicated in inspection section.
2. Do not exceed working load limit as indicated on sling identification tag.† Any of the following factors can lower the load the chain will hold:

Rapid load application can produce dangerous overloading.

Variation in the angle of the load to the sling. As the angle decreases, the working load of the sling will decrease. Refer to Working Load Limit Chart.

Twisting, knotting and kinking subjects links to undesirable loading which decreases the working load limit of the sling.

Conditions other than that for which slings are intended can reduce the working load limit of the sling. For example, use at elevated temperatures will result in a reduction in working limit.

3. Free all twists, knots and kinks.
4. Center load in hook(s). Hook latches must not support load.

Grade 100 Chain Slings

Dia.	Vertical 2-Leg 30°	Choker	Basket 2-Leg Vertical	2-Leg 45°	2-Leg 60°	3-Leg 30°	3-Leg 45°	3-Leg 60°	Weight (lbs./ft)
9/32"	4,300	3,500	8,600	6,100	7,400	6,400	9,100	11,200	.74
5/16"	5,700	4,500	11,400	8,100	9,900	8,500	12,100	14,800	1.04
3/8"	8,800	7,100	17,200	12,400	15,200	13,200	18,700	22,900	1.48
1/2"	15,000	12,000	30,000	21,200	26,000	22,500	31,800	39,000	2.50
5/8"	22,600	18,100	45,200	32,000	39,100	33,900	47,900	58,700	3.79
3/4"	35,300	28,200	70,600	49,900	61,100	53,000	74,900	91,700	5.98
7/8"	42,700	34,100	85,400	60,400	74,000	64,000	90,600	110,900	7.75
1"	59,700	47,700	119,400	84,400	103,400	89,550	126,000	155,100	
1 1/4"	90,400	72,300	180,800	127,800	156,600	135,600	191,700	234,900	

Care

Chain slings require proper care as follows:

1. Store slings on an 'A' Frame in a clean, dry place.
2. Avoid corrosion. Oil chains before prolonged storage.
3. Never alter the thermal treatment of GR. 80 and 100 chain by heating.
4. Do not plate or change surface finish of sling.
Contact
Northern Strands for special requirements.
5. Avoid sudden jerks when lifting and lowering.
6. Balance all loads, avoid tipping of loads.
7. Use pads around sharp corners.
8. Do not drop loads on chain.
9. Select attachments such as hooks or rings for use with chain to match the size and working load limit of the chain.
10. Use only GR. 100 Alloy Chain.

- Weights are approximate and may vary by manufacturer; do not exceed rated capacities
- Capacities based on 4 legs are not permitted under ASME
- Minimum Factor of Safety of 4:1 as per ASME B30.9
- Inspect chain slings prior to use; periodic inspection to be performed at least annually
- Ensure chain is free of twists prior to lifting, avoid sudden moves/shock loading

Inspection

It is important to inspect chain slings regularly and to keep a record of each chain inspection. The following is a guide for such an inspection procedure. Northern Strands will supply sling record cards or sheets as requested.

Before inspecting, clean the chain sling so that marks, nicks, wear and other defects can be seen. Use a non-acid/non-caustic solvent. Each chain link and sling component should be individually inspected for the following conditions:

- (a) missing or illegible sling identification.
- (b) cracks or breaks.
- (c) excessive wear, nicks, or gouges.
- (d) stretched chain links or components.
- (e) bent, twisted, or deformed chain links or components.
- (f) evidence of heat damage.
- (g) excessive pitting or corrosion.
- (h) lack of ability of chain or components to hinge (articulate) freely.
- (i) weld splatter.
- (j) for hooks, removal criteria as stated in ASME B30.10.
- (k) for rigging hardware, removal criteria as stated in ASME B30.26.
- (l) other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Each link or component having any condition listed above is to be marked with paint to plainly indicate rejection and eliminated from service until properly repaired.

USE, CARE & INSPECTION OF GRADE 100 CHAIN SLINGS

THE LIFE AND STRENGTH OF GRADE 100 SLINGS DEPEND ON PROPER USE, MAINTENANCE AND INSPECTION. REFER TO ASME B30.9 AND OSHA REGULATIONS FOR ADDITIONAL INFORMATION. ALWAYS REFER TO ASME B30.9 IN REGARDS TO PROPER INSPECTION AND REJECTION CRITERIA FOR SLINGS.

† The identification tag is found on the master coupling link of each chain sling and contains the following information:

Grade Size Reach Type Working Load Limit (at a specific angle of lift) Serial Number

LIFTING CHAIN

Grade 100 Lifting Chain (Alloy)

Grade 100 chain is commonly used for overhead lifting applications because of its excellent energy absorption properties; however Grade 100 chain has the greatest strength to weight ratio of the alloy chains. Grade 100 chain has a 4:1 factor of safety.

Size (in.)	WLL
9/32"	4,300 lbs
5/16"	5,700 lbs
3/8"	8,800 lbs
1/2"	15,000 lbs
5/8"	22,600 lbs
3/4"	35,300 lbs
7/8"	42,700 lbs
1"	59,700 lbs

GRADE 100 CHAIN SLING CONFIGURATIONS

Type	Description
DOS	Double Chain Sling with Master Link and Sling Hook
DOG	Double Chain Sling with Master Link and Grab Hook
DOF	Double Chain Sling with Master Link and Foundry Hook
ADOS	Adjustable Double Chain Sling with Master Link and Sling Hook
ADOG	Adjustable Double Chain Sling with Master Link and Grab Hook
DOCH	Double with 1355 Choker



TYPE DOS



TYPE DOG



TYPE DOF



TYPE ADOS



TYPE ADOG



TYPE DOCH

Type	Description
TOS	Triple Chain Sling with Master Link and Sling Hook
TOG	Triple Chain Sling with Master Link and Grab Hook
TOF	Triple Chain Sling with Master Link and Foundry Hook
TOCH	Triple with 1355 Choker
QOS	Quadruple Chain Sling with Master Link and Sling Hook
QOG	Quadruple Chain Sling with Master Link and Grab Hook
QOF	Quadruple Chain Sling with Master Link and Foundry Hook



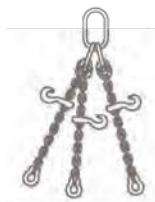
TYPE TOS



TYPE TOG



TYPE TOF



TYPE TOCH



TYPE QOS



TYPE QOG



TYPE QOF

GRADE 100 CHAIN SLING CONFIGURATIONS

To Make Your Grade 100 Alloy Chain Sling:

Follow these simple steps in making a sling assembly:

1. Determine the maximum load to be lifted by the sling assembly.
2. Choose the type of sling assembly suited for the shape of the load and the size of the sling assembly for the load to be lifted. The decision must take into account the angle of the sling legs in multileg slings.
3. Determine the overall reach from bearing point of master link to bearing point on hook (see Fig. 1).
4. Select components, assemble chain and components.
5. Affix sling identification tag to sling.



Fig. 1

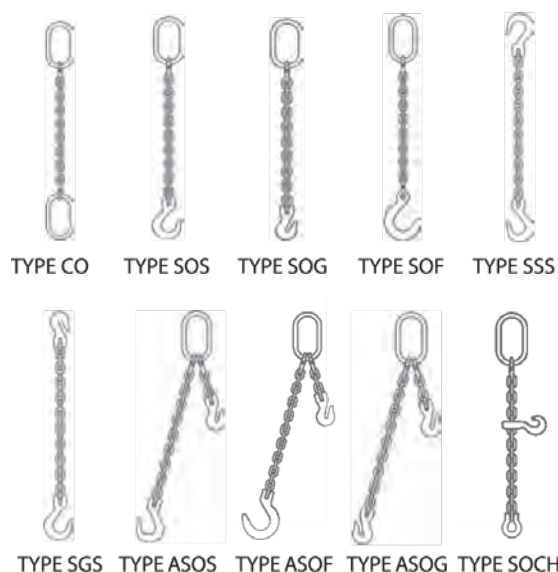
Each sling shall be marked to show: name or trademark of manufacturer, grade, nominal chain size, number of legs, rated load for the type(s) of hitch(es) used and angle upon which it is based (reach).

If measurement comes in the link, cut the following link. For two leg type slings, count the links and use an even number for clevis hooks and an odd number for eye hooks. This will position hooks in the same plane. In multileg slings always use the same number of links in each leg.

When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Recommended minimum angle of choke of 120 degrees. Consult Northern Strands when planning to use an angle of choke of less than 120 degrees. If A-1338 cradle grab hooks are used at a minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.



In shortening applications, a 20% reduction of the Working Load Limit is required except when using the A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in conjunction with the S-1325 Chain Coupler Link, or the shortener link. They can be used without any reduction to the Working Load Limit.

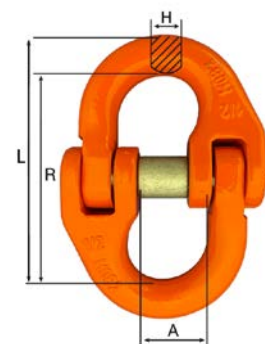


Type	Description
CO	Single Chain Sling with Master Link each end
SOS	Single Chain Sling with Master Link and Sling Hook
SOG	Single Chain Sling with Master Link and Grab Hook
SOF	Single Chain Sling with Master Link and Foundry Hook
SSS	Single Chain Sling with Sling Hook each end
SGS	Single Chain Sling with Grab Hook and Sling Hook
ASOS	Adjustable Single Chain with Master Link and Sling Hook
ASOF	Adjustable Single Chain Sling with Master Link and Foundry Hook
ASOG	Adjustable Single Chain Sling with Master Link and Grab Hook
SOCH	Single with 1355 Choker

ALLOY CHAIN FITTINGS

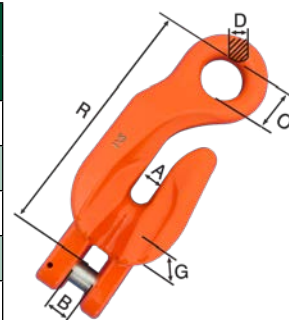
Connecting Link

Size (in)	Size (mm)	Dimensions (in.)				WLL (lbs)	Weight (lbs)
		H	A	R	L		
7/32-1/4	6	0.30	0.60	1.83	2.39	3,000	0.18
9/32	7	0.35	0.75	2.35	3.03	4,300	0.35
5/16	8	0.38	0.75	2.46	3.23	5,700	0.40
3/8	10	0.49	0.91	2.70	3.67	8,800	0.75
1/2	13	0.62	1.20	3.56	4.82	15,000	1.50
5/8	16	0.78	1.42	4.00	5.57	22,600	2.68
3/4	20	0.94	1.70	4.75	6.71	35,300	4.70
7/8	22	1.00	2.05	6.11	8.97	42,700	10.70
1	26	1.19	2.43	7.01	9.87	59,700	15.77



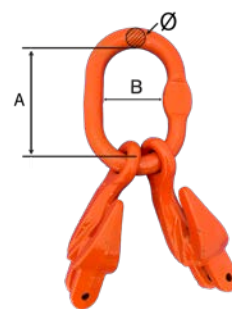
In-line Shortening Clutch

Size (in)	Size (mm)	Dimensions (in.)						WLL (lbs)	Weight (lbs)
		A	B	D	G	O	R		
7/32-1/4	6	0.33	0.28	0.37	1.12	0.72	3.28	3,000	0.66
9/32-5/16	7/8	0.44	0.37	0.50	1.57	0.95	4.77	5,700	1.63
3/8	10	0.53	0.47	0.57	1.99	1.22	6.20	8,800	3
1/2	13	0.66	0.62	0.79	2.56	1.44	7.92	15,000	7.05
5/8	16	0.80	0.73	0.94	3.15	1.90	9.20	22,600	12.13



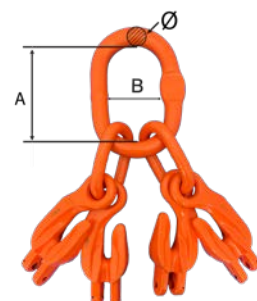
Dual Leg

Size (in)	Size (mm)	Dimensions (in.)			WLL (lbs)	Weight (lbs)
		Ø	B	A		
7/32-1/4	6	0.51	2.36	4.33	5,100	2.07
9/32-5/16	7/8	0.71	2.95	5.31	9,900	5.29
3/8	10.00	0.91	3.54	6.30	15,200	9.48
1/2	13.00	1.16	3.94	7.09	26,000	18.10
5/8	16.00	1.26	4.33	7.87	39,100	29.76



Quad Leg

Size (in)	Size (mm)	Dimensions (in.)			WLL (lbs)	Weight (lbs)
		Ø	B	A		
7/32-1/4	6.00	0.75	2.95	5.31	7,800	5.29
9/32-5/16	7/8	0.91	3.54	6.30	14,800	11.77
3/8	10.00	1.06	3.94	7.09	22,900	20.37
1/2	13.00	1.30	4.33	7.87	39,000	43.28
5/8	16.00	1.42	5.51	10.24	58,700	63.93



MASTER LINK & SUB ASSEMBLY

Product markings:

- Manufacturers Brand, Grade10 (Grade Level) and Country of Origin
- H-Stamp= European quality marking
- CE-marking
- Batch code
- Size in inches
- Chain Diameter (in.) the Master Link will fit on

Welded Master Link

Trade Size	WLL 4:1 (lbs)*	WLL 5:1 (lbs)**	Weight (lbs)	Dimensions (in.)			Chain Size	
				i-length	i-width	dia.	1 leg	2 leg
1/2	6,000	4,800	0.75	4.33	2.36	0.51	7/32", 9/32", 5/16"	7/32"
5/8	8,600	7,000	1.47	5.51	3.15	0.63	5/16"	9/32"
3/4	12,900	11,400	2.02	5.91	3.54	0.71	3/8"	5/16"
7/8	17,600	17,200	3.30	6.30	3.54	0.87	1/2"	3/8"
1	30,000	29,900	5.06	7.09	3.94	1.02	5/8"	1/2"
1-1/4	39,100	35,200	8.58	7.87	4.33	1.26	3/4"	5/8"
1-1/2	61,100	48,800	13.97	10.24	5.51	1.42	7/8"	3/4"
1-3/4	74,000	70,400	28.16	13.39	7.09	1.77	1"	7/8"
2	103,400	102,600	37.84	13.78	7.48	2.01	1-1/4"	1"
2-1/4	178,900	143,120	53.24	15.75	7.87	2.24	-	1-1/4"

*For use with chain slings **For use with wire rope and synthetic slings



Welded Master Link Assemblies

Trade Size	WLL 4:1 (lbs)*	WLL 5:1 (lbs)**	Weight (lbs)	Dimensions (in.)			Dimensions (in.)			For Chain
				i-length	i-width	dia.	i-length	i-width	dia.	
3/4	11,200	11,000	2.90	5.91	3.54	0.71	2.13	0.98	0.51	7/32" 9/32"
7/8	15,200	12,200	4.88	6.30	3.54	0.87	2.76	1.34	0.63	9/32" 5/16"
1	26,000	21,300	7.39	7.09	3.94	1.02	3.35	1.57	0.71	3/8"
1-1/4	39,000	35,200	13.24	7.87	4.33	1.26	4.53	1.97	0.87	1/2"
1-1/2	58,700	57,200	21.98	10.24	5.51	1.42	5.51	2.56	1.02	5/8"
2	91,700	77,000	51.26	13.78	7.48	2.01	5.91	2.76	1.26	3/4"
2	110,900	88,720	56.76	13.78	7.48	2.01	6.69	2.95	1.42	7/8"
2-1/4	155,100	124,080	77.44	15.75	7.87	2.24	6.69	3.15	1.57	1
2-3/4	235,000	188,000	149.60	18.11	9.84	2.76	7.87	3.93	1.97	1-1/4"

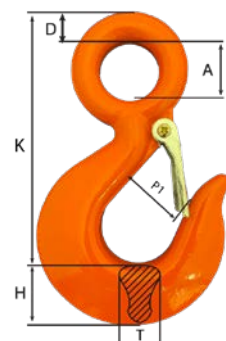
*For use with chain slings **For use with wire rope and synthetic slings



GRADE 100 EYE HOOKS

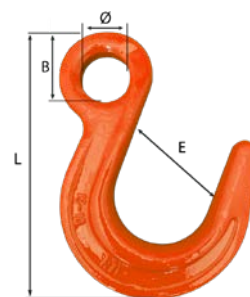
Eye Sling Hook With Latch

Size (in)	Size (mm)	Dimensions (in.)						WLL (lbs)	Weight (lbs)
		K	P1	A	D	T	H		
7/32-1/4	6	3.35	0.63	0.79	0.41	0.59	0.83	3,000	0.68
9/32-5/16	7/8	4.11	0.83	0.98	0.46	0.73	1.14	5,700	1.34
3/8	10	5.09	1.06	1.34	0.67	1.02	1.38	8,800	2.75
1/2	13	6.54	1.34	1.69	0.75	1.37	1.65	15,000	5.1
5/8	16	7.22	1.69	1.97	1.02	1.50	1.93	22,600	7.9
3/4	20	8.07	2.09	2.17	1.10	2.01	2.03	35,300	13.45
7/8	22	8.92	2.28	2.36	1.18	1.97	2.41	42,700	17.46
1	26	10.22	2.76	2.76	1.50	2.74	3.13	59,700	31.24



Eye Foundry Hook

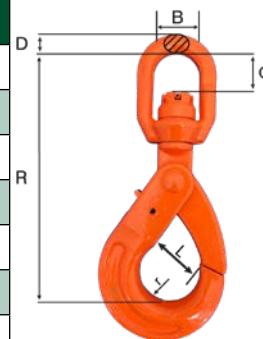
Size (in)	Size (mm)	Dimensions (in.)				WLL (lbs)	Weight (lbs)
		Ø	B	E	L		
9/32-5/16	7/8	0.94	1.10	2.38	6.22	5,700	1.72
3/8	10	1.22	1.41	2.36	6.79	8,800	2.87
1/2	13	1.57	1.73	3.35	9.64	15,000	5.62
5/8	16	1.93	2.09	3.70	11.34	22,600	10.69
7/8	20	2.40	2.56	4.17	12.99	35,300	14.70



GRADE 100 SWIVEL HOOKS

Swivel Self-Locking Hook

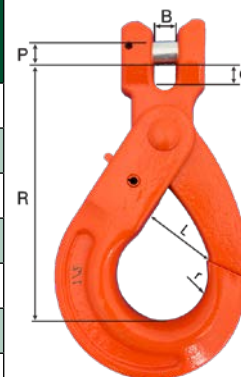
Size (in)	Size (mm)	Dimensions (in.)						WLL (lbs)	Weight (lbs)
		L	R	r	B	C	D		
7/32-1/4	6	1.11	5.89	0.65	1.28	0.96	0.45	3,000	1.65
9/32-5/16	7/8	1.33	7.17	0.83	1.38	1.00	0.50	5,700	2.75
3/8	10	1.70	8.48	1.08	1.65	1.27	0.59	8,800	4.4
1/2	13	2.00	10.45	1.32	1.93	1.69	0.69	15,000	8.8
5/8	16	2.43	12.73	1.63	2.40	2.17	0.85	22,600	17.16
3/4	20	3.31	14.02	1.89	2.80	2.32	1.02	35,300	22.49
7/8	22	3.04	17.68	1.89	3.78	3.52	1.30	42,700	36.56
1	26	3.82	21.42	2.10	4.80	4.53	1.65	59,700	50.7



GRADE 100 CLEVIS HOOKS

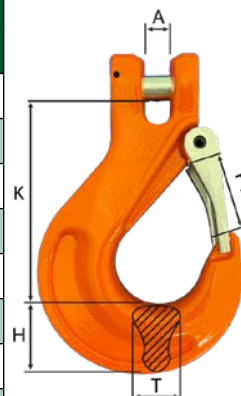
Clevis Self-Locking Hook

Size (in)	Size (mm)	Dimensions (in.)						WLL (lbs)	Weight (lbs)
		B	C	L	P	R	r		
7/32-1/4	6	0.36	0.28	1.11	0.31	3.76	0.65	3,000	1.21
9/32-5/16	7/8	0.37	0.35	1.33	0.37	4.49	0.83	5,700	2.09
3/8	10	0.51	0.57	1.70	0.51	5.59	1.08	8,800	3.41
1/2	13	0.57	0.71	2.00	0.63	7.13	1.32	15,000	7.26
5/8	16	0.76	0.80	2.43	0.79	8.09	1.63	22,600	13.75
3/4	20	1.00	1.00	3.31	0.94	9.00	1.89	35,300	18.85
7/8"	22	1.00	1.02	3.04	1.10	10.57	1.89	42,700	25.33



Clevis Sling Hook With Forged Latch

Size (in)	Size (mm)	Dimensions (in.)					WLL (lbs)	Weight (lbs)
		K	P1	A	T	H		
7/32-1/4	6	2.74	0.63	0.30	0.59	0.83	3,000	0.64
9/32-5/16	7/8	3.67	0.83	0.37	0.75	1.14	5,700	1.30
3/8	10	4.28	1.06	0.47	1.02	1.38	8,800	2.75
1/2	13	5.28	1.38	0.62	1.38	1.65	15,000	5.24
5/8	16	6.14	1.69	0.73	1.50	1.93	22,600	7.81
3/4	20	7.23	2.09	0.94	2.01	2.03	35,300	15.21
7/8	22	8.27	2.28	1.02	1.97	2.41	42,700	19.84
1	26	9.36	2.76	1.18	2.74	3.13	59,700	37.89



Clevis Grab Hook

Size (in)	Size (mm)	Dimensions (in.)				WLL (lbs)	Weight (lbs)
		A	E	H	R		
7/32-1/4	6	0.31	0.31	0.79	3.33	3,000	0.46
9/32-5/16	7/8	0.37	0.40	0.94	3.74	5,700	0.92
3/8	10	0.47	0.51	1.14	4.99	8,800	1.85
1/2	13	0.61	0.67	1.50	6.10	15,000	3.72
5/8	16	0.77	0.79	1.97	7.78	22,600	6.69
3/4	20	0.94	1.06	2.31	9.45	35,300	15.30
7/8	22	1.02	1.07	2.52	10.50	42,700	20.06



VERTICAL PLATE CLAMPS

- Welded alloy steel body for strength and smaller size. Forged alloy components, where required
- Individually Proof Tested to 2 times the Working Load Limit with certification
- Company name (Crosby IP), logo, WLL and jaw opening permanently stamped on body
- Each product is individually serialized, with the serial number and Proof Load test

IPU10, IPU10S

- Universal - for lifting in any direction
- Available in capacities of .5 through 30 metric tons
- Wide variety of jaw openings available: 0" to 6.13"



IP10

- For vertical lifting, turning and transfer
- Available in capacities of .5 through 30 metric tons
- Wide variety of jaw openings available: 0 to 6.13"



IPNM10N, IPNM10P

- For use in almost all sectors of industry where, during the lift or transfer, no damage to the material is permitted
- Available in capacities of .5 , 1 and 2 metric tons
- Wide variety of jaw openings available: 0" to 1.56"
- Full 180° turning range for material transfer, turning or moving
- Lock open, lock closed ability with latch for pretension on material and then release of material
- Material must be clean and dry
- There is no minimum WLL required
- Temperature range -20° C to 70° C
- Optional with brake pad lining for temperature range -40° C to +200° C
- Special jaw openings or curved jaws upon request



HORIZONTAL PLATE CLAMPS

- Welded alloy steel body for strength and smaller size. Forged alloy components, where required
- Individually Proof Tested to 2 times the Working Load Limit with certification
- Company name (Crosby IP), logo, WLL and jaw opening permanently stamped on body
- Each product is individually serialized, with the serial number and Proof Load test

IPBC, IPHGUZ, IPHGZ

- For Horizontal Transfer - with Pretension System
- Available in capacities of 1 through 4.5 metric tons
- Jaw openings available: 0" to 1.56"
- Equipped with handle for easy placement



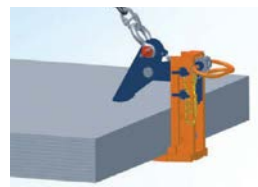
IPHOZ

- For Horizontal Lifting and Transfer
- Available in capacities of .75 through 15 metric tons
- Wide variety of jaw openings available: 0" to 2.38"
- Equipped with handle for easy placement

IPPE10BNM

For lifting and transporting non-bendable sheet metal in a horizontal position

- Available in capacities of 3 through 12 metric tons
- Wide variety of jaw openings available: 0 to 7.13"



IPH10E

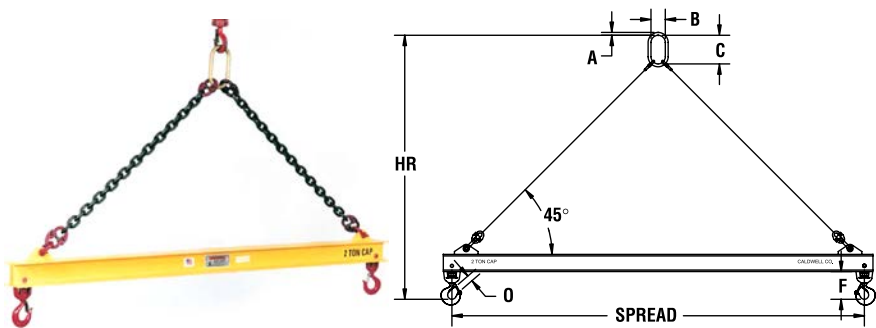
- For horizontal lifting and transfer
- Available in capacities of 2.0 through 25 metric tons
- Wide variety of jaw openings available: 0 to 4.75"
- Equipped with handle for easy placement



FIXED SPREADER BEAMS

- Ideal where headroom is not limited
- Adds stability to lift
- Available with standard chain or wire rope rigging
- Wide range of additional sizes and capacities available
- Complies with ASME B30.20 standard

Custom spreader beam quotes available upon request



Fixed Spreader Beam
Shown with Option C

Capacity (tons)	HR Headroom (in.) Weight (lbsO)	Spread (feet)								Other Dimensions (in.)	
		4	6	8	10	12	16	20	24		
2	HR Headroom Weight	34 45	46 60	58 82	70 95	82 115	106 225	132 408	156 445	A = 1/2 B = 1-1/2 C = 5	F = 4-1/4 O = 31/32
5	HR Headroom Weight	37 62	49 78	61 100	73 117	82 168	110 305	134 435	158 661	A = 1 B = 3-1/2 C = 7	F = 6 O = 1-1/16
10	HR Headroom Weight	41 100	53 122	64 156	77 180	86 240	113 380	138 532	163 915	A = 1-1/4 B = 4-3/8 C = 7	F = 6 O = 1-1/2
15	HR Headroom Weight	43 126	55 155	65 185	80 242	92 270	116 420	140 665	167 953	A = 1-1/2 B = 5-1/4 C = 10-1/2	F = 9-1/4 O = 1-3/4
20	HR Headroom Weight	46 170	58 200	69 233	82 315	94 350	118 540	140 775	170 1341	A = 1-3/4 B = 6 C = 12	F = 9-3/4 O = 2
30	HR Headroom Weight		60 285	70 402	83 440	95 530	120 888	145 1390		A = 1-3/4 B = 6 C = 12	F = 9-3/4 O = 2
40	HR Headroom Weight		65 563	77 695	89 781	102 1058	127 1364			A = 2 B = 7 C = 14	F = 13 O = 2-3/4

NOTE: Weight = Beam and hooks only - (no top rigging).

Top Rigging Options

OPTION C

Chain top rigging from beam to crane hook.

OPTION W

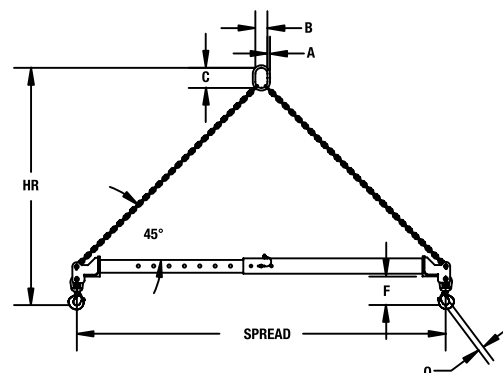
Wire rope top rigging from beam to crane hook.

ADJUSTABLE SPREADER BEAMS

- Ideal where headroom is not limited
- Adds stability to lift
- Telescopic spread standard
- Spread adjusts in 1" increments
- Available with standard chain or wire rope rigging
- Wide range of additional sizes and capacities available
- Complies with ASME B30.20 standards



Adjustable Spreader Beam
Shown with Option C



Custom spreader beam quotes
available upon request

Capacity (tons)	Spread (ft.) Min./Max.	HR Headroom Min./Max. w/chain (in.)	Weight Beam & Hooks (lbs)	A Oblong Dia. (in.)	B Oblong Width (in.)	C Oblong Height (in.)	F - Hook to beam bottom (in.)	O - Hook Opening w/latch (in.)	Chain Rigging Weight (lbs)
2	4 / 6 6 / 10 8 / 14 12 / 20	48/57 72/88 96/113 132/166	70 85 175 245	1/2	2.36	3.94	5.5	0.97	9 13 17 23
5	4 / 6 6 / 10 8 / 14 12 / 20	55/64 79/95 102/126 138/172	105 160 205 670	1	5.38	7.09	8.4	1.41	34 47 61 82
10	4 / 6 6 / 10 8 / 14 12 / 20	60/69 74/111 108/132 144/163	130 175 460 680	1-1/4	5.71	10.83	10.6	1.78	49 69 88 118
15	4 / 6 6 / 10 8 / 14 12 / 20	64/72 87/104 111/135 147/180	165 365 478 700	1-1/2	5.90	10.5	13.6	2.22	78 111 145 194

Top Rigging Options

OPTION C

Chain top rigging from beam to crane hook with coupler attachment.

OPTION W

Wire rope top rigging from beam to crane hook. WR Lug required for 25-40 TON capacity beams.

PERMANENT MAGNET LIFTER

WARNINGS AND APPLICATION INSTRUCTIONS

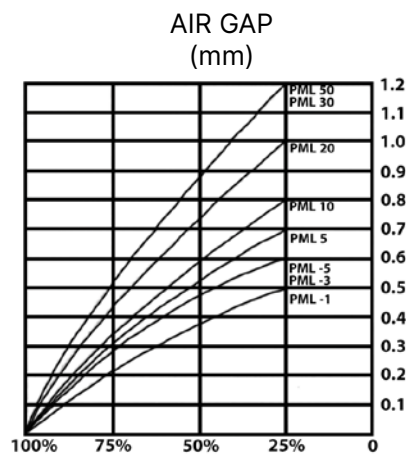
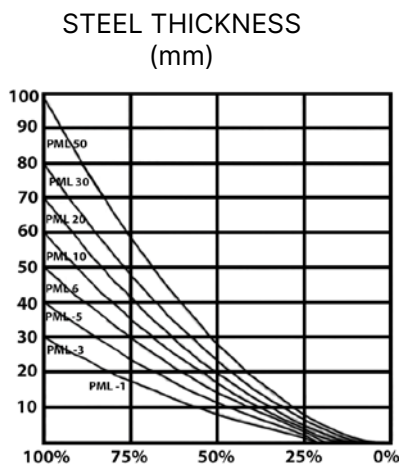
Prior to operation, clear away rust and any debris from the components surface. The centerline of lifter must overlap with centerline of component then place the magnetic lifting hoist on the face of component, turn the handle from "OFF" to "ON" and confirm unit is holding. Make sure the security key on the handle is automatically locked, and then start to hoist for trial lift.

Air Gap – These lifting magnets create high magnetic forces which permit the magnet to clamp materials through the air gap but these air gaps do however decrease the magnetic performance due to the fact that they provide a barrier between the contact surfaces. Air gaps can happen in a variety of ways, such as dust, paint, and mill scale. Inadequately machined surfaces will also make up an air gap. The lifting magnet will need to be down rated in capacity according to the adhesive force / air gap as shown in the diagram below.

Material Thickness – When lifting magnets are used to lift materials which are thinner than the recommended minimum thickness, the clamping force of the magnet will be considerably lower. See below diagram for detailed information.

Full lifting capacity is only achieved when the lifting magnet has complete contact with the item being lifted. Performance will be affected if the surface of the materials to be lifted contains holes or is uneven. A trial lift must be carried out in these situations to establish correct lifting prior to transporting the load. Some materials will have differing abilities to carry magnetism. Apart from mild steel, a reduction factor needs to be applied so that the clamping force can be effectively calculated.

Model	Flat Material			Round Material			Tear off Force
	Max Capacity SWL	Min. Thickness	Max. Length of Material	Max. Capacity SWL	Dia	Max. Length of Material	
	(kg)	(mm)	(mm)	(kg)	(mm)	(mm)	
PML-100	100	30	2,000	30	200-300	2,000	350
PML-300	300	40	2,500	100	200-300	2,500	1,050
PML-600	600	50	3,000	200	200-400	3,000	2,100
PML-1000	1,000	60	3,500	300	200-400	3,500	3,500
PML-2000	2,000	70	3,500	600	200-400	3,500	7,000



Reduction of capacity for material type	% of capacity
Temperature < 80°C 100%	(tonnes)
Humidity < 80% 100%	(tonnes)
Low Carbon Steel 100%	(N)
St 52 95%	(mm)
Alloy Steel 80%	(mm)
High Carbon Steel 70%	(kg)
Cast Iron 45%	(kg)
Nickel 45%	(kg)
Austenitic Stainless Steel 0%	(mm)
Brass 0%	(mm)
Aluminum 0%	(mm)

*** Read and understand Operating Instructions (supplied with every unit) before using this product***

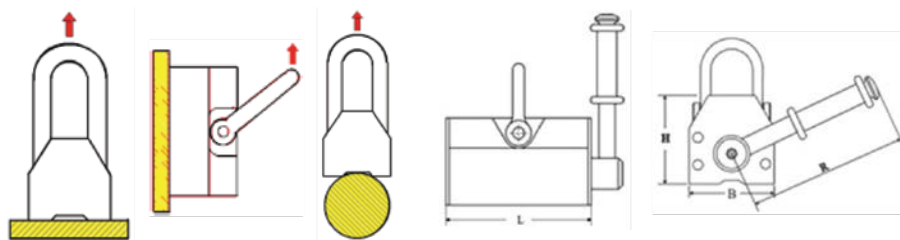
PERMANENT MAGNET LIFTER

Standard: EN 13155

Finish: Painted Yellow, Zinc

Identification: Trademark, WLL, Serial No.

Certification: Load Test



Horizontal Load Capacity (kg)	Horizontal (Max.) Breakaway Force (kg)	Round Bar or Vertical Capacity (kg)	Dimensions (mm)				Wt. (kg)
			L	B	H	R	
4,600	5,700	9/32 - 5/16	0.39	0.94	0.51	1.26	1.2
7,000	8,800	3/8	0.47	1.22	0.55	1.57	2.3
12,000	15,000	1/2	0.63	1.46	0.71	2.01	4.8
18,100	22,600	5/8	0.75	1.89	0.94	2.52	9.7



Do not use this lifting device above the working load limit for the application, this information is attached to each magnet.

Operating temperature maximum 80°C.

Other sizes available on request.



These products are not for lifting people or things over people.

FLCL-0916

LIFTING LUGS

Lifting lugs are designed to be welded to compatible steel materials in order to lift them into place safely and securely.

- Fabricated from A36 Steel
- Color coded and stamped with rated capacity to provide quick identification
- Meets OSHA requirements
minimum safety factor of 5:1



Size (t)	Min. Material Thickness	Width	Length	Height	Hole Dia.
1/2	1/4	1/2	4	3	1 1/2
2	3/8	5/8	5	3 3/4	2
5	3/8	1	6	4	2
10	1/2	1 1/2	10	5 1/4	3
15	3/4	2	12	6	3

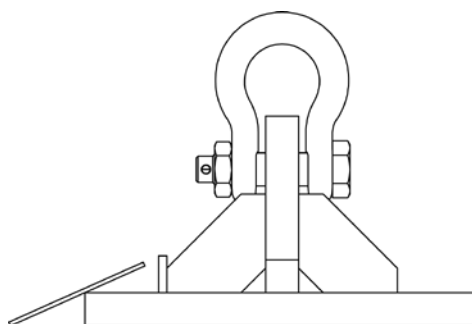
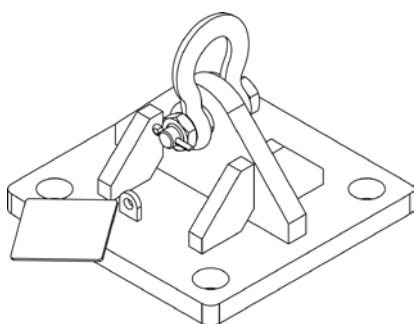
D-PLATES

Northern Strands D-Plates are engineered stamped and can be recertified.

Factor of Safety:: 5:1

- Optional bolt holes for mining industry applications
- Proof loaded to 1.5 times WLL
- Wet mag and pull tested
- All D-Plates come with shackle

Size	Square Plate	Total Height	Plate Width	Shackle Size	WLL
5	12×12	6 3/8	1	7/8	10,000
12	16×16	7 1/2	1 1/2	1 1/4	24,000
20	16×16	7 3/8	2	1 3/4	40,000
35	16×16	7 7/8	2	2	70,000



THERN WINCHES & CRANES

STATIONARY CRANES

Capacity 0 to
Max Lift
Series
Model

2,000 lbs (907 kg)
up to 278 ft (84.7 m)
Captain®
5FT20

2,200 lbs (1,000 kg)
up to 278 ft (84.7 m)
Captain®
5FT25

5,500 lbs (2,500 kg)
up to 174 ft (53.0 m)
Captain®
5FT40

3,000 lbs (1,360 kg)
up to 224 ft (68.2 m)
Admiral®
5PT30

AIR WINCHES

Big Red Series

Capacity 0 to
Line Speed
H.P.
Model

3,600 lbs (1,633 kg)
94 fpm (29 mpm)
7.1
TA2H

7,200 lbs (3,265 kg)
46 fpm (14 mpm)
7.1
TA2

7,200 lbs (3,265 kg)
114 fpm (34 mpm)
18.3
TA2.5

18,000 lbs (8,164 kg)
47 fpm (14 mpm)
17.8
TA5

23,600 lbs (10,704 kg)
29 fpm (8.8 mpm)
14.4
TA7

37,000 lbs (16,782 kg)
34 fpm (10.4 mpm)
27
TA10

PORTABLE ELECTRIC WINCHES

Max Capacity
Line Speed
H.P.
Series
Model

1,000 lbs (453 kg)
35-50 fpm (11-15 mpm)

Liberty®
3CP1S-AFS

2,000 lbs (907 kg)
19 fpm (5.8 mpm)
1.3
Atlas
4WP2T8

1,500 lbs (680 kg)
97 fpm (29.6 mpm)
3
Atlas
4WP2D8

2,000 lbs (907 kg)
22 fpm (6.7 mpm)
1.5
Dura Hoist
4771

4,600 lbs (2,086 kg)
24 fpm (7.3 mpm)
3
Atlas II
3WG4

HAND WINCHES

Spur Gear

Capacity 0 to
Gear Ratio
Approx. Weight
Model

1,000 lbs (453 kg)
3:1
17 lbs (7.7 kg)
M4022PB

2,000 lbs (907 kg)
15:1
28 lbs (12.7 kg)
M4312PB

4,000 lbs (1,814 kg)
20:1
91 lbs (41.3 kg)
M452B

10,000 lbs (4,535 kg)
25:1
173 lbs (78.5 kg)
M492B

Worm Gear

Capacity 0 to
Gear Ratio
Approx. Weight
Model

1,000 lbs (453 kg)
15:1
21 lbs (9.5 kg)
4622PB

2,000 lbs (907 kg)
32:1
41 lbs (18.6 kg)
4WM2

4,600 lbs (2,086 kg)
31:1
123 lbs (55.8 kg)
2W40



CHAIN HOISTS

STANDARD FEATURES

- Seal type caged ball bearings #21 & #21A on load sprocket
- Seal type caged ball bearings #21B & caged roller bearings #31B on the pinion shaft (minimize manual effort thanks to efficient drive train)
- Superior design of top hook holders for double / several columns of load chains
- Experience exceptional durability thanks to all-steel construction featuring rugged gear case enclosure and hand wheel cover
- Enjoy increased lifting height thanks to low headroom
- Grade 100 heat-treated black finish load chain
- Reinforced double pawl brake system and larger dia. pawl springs ensure reliable brake



OPTIONAL FEATURES

- Overload protection system
- Patent fused brake disc
- Thrust bearings in bottom hook assembly
- Easy removable top hook

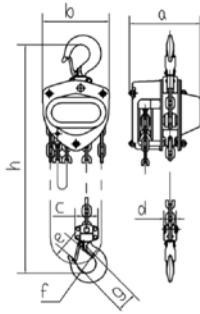


Northern Strands is the only authorized distributor of VITALI-INTL products in Canada. We provide in-house recertification and repair services for all VITALI-INTL products that we rent or sell.

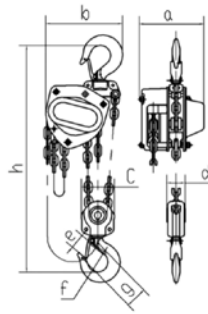
VITALI-INTL®

CHAIN HOISTS

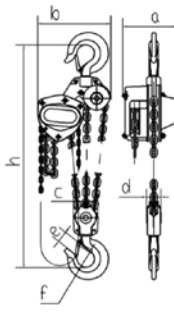
0.25 t, 0.5 t, 1 t, 1.5 t, 2 t & 3.2 t



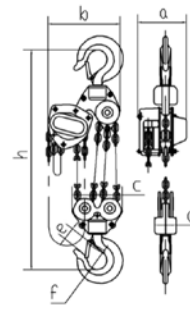
3 t & 5 t



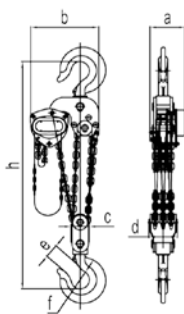
7.5 t & 10 t (3-fall)



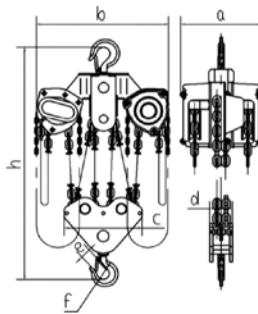
10 t



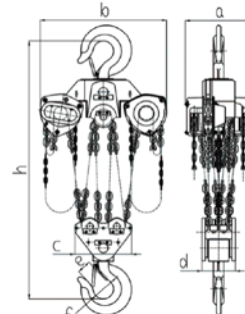
15 t



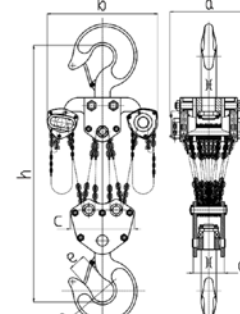
20 t



30 t



50 t



Capacity	(tonnes)	1	1.5	2	3	5	10	15	20	30	50
Model No.		K100	K150	K200	K300	K500	K1000	K1500	K2000	K3000	K5000
No. of Falls		1	1	1	2	2	4	6	8	12	20
Load Chain	(mm)	6.3 × 19	7.1 × 21	8 × 24	7.1 × 21	9 × 27	9 × 27	9 × 27	9 × 27	10 × 28	10 × 28
Load Chain Grade		100	100	100	100	100	100	100	100	100	100
Pull to Rated Load	(N)	284	343	353	353	333	353	363	353 × 2	345 × 2	345 × 2
Proof Load	(tonnes)	1.5	2.25	3.0	4.5	7.5	15.0	22.5	25.0	37.5	62.5
Hand Chain	(mm)										
Standard Lift	(m)	3	3	3	3	3	5	5	5	5	8
Net Weight	(kg)	12.4	15.6	20	24	41	94.9	153	205	284	-
Gross Weight	(kg)	12.9	16.4	21	24.8	42.5	105	166	219	301	-
Extra Wt. per m	(kg)	1.8	2.1	2.3	3.2	4.4	7.9	11.4	15.8	29.3	46
Dimensions	a (mm)	161.5	170	183.5	170	192	192	220	230	360	585
	b (mm)	161	182	202.5	235	282	360.5	492	655	680	832
	c (mm)	51	64	64	106	133	263	110	286	306	482
	d (mm)	30	34	34	53	64	95	170	123	180	235
	e (mm)	33	33.5	37	43.5	51	64	80	82	82	133
	f (mm)	40	42	46	52	60	85	100	110	110	170
	g (mm)	45	47	52	62.5	79	-	-	-	-	-
	h (mm)	295	350	375	510	600	760	1,000	1,150	1,250	1,700

Custom chain lengths available. 30t to 50t available upon request.

LEVER HOISTS

MAIN FEATURES

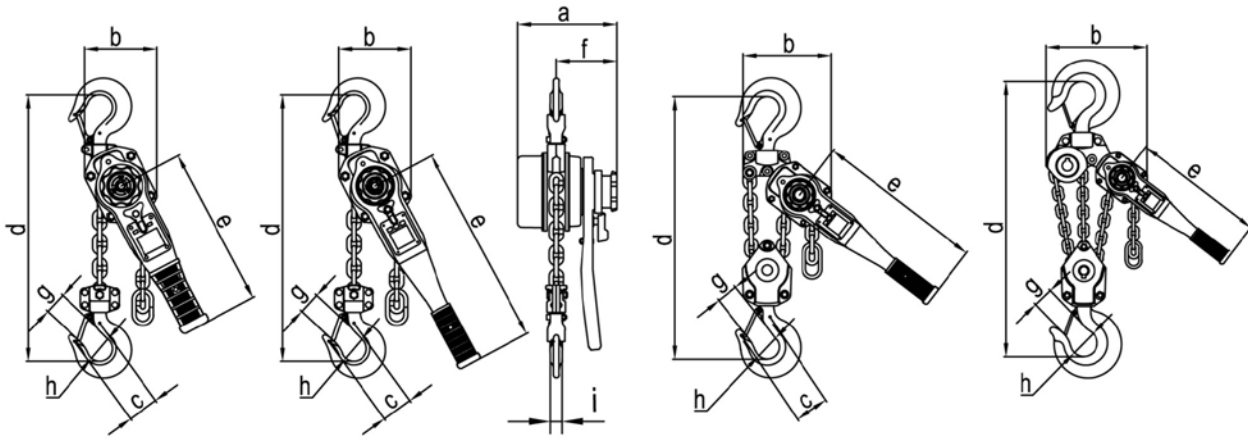
- More compact, very robust but light weight, short lever handle and low headroom
- Grade 100 heat-treated black finish load chain
- Interchangeable parts for standard and overload protected hoist
- Reasonable pulling force to rated capacity
- Unique hand wheel & knob design
- No preload required
- Innovative & patent fused brake disc
- Heavy duty cast latches
- Improved hook tip design
- Caged roller bearings on load sprocket
- Phosphoric surface treatment for the #3 driving shaft
- Sizes range from .25, .5, .8, 1.6, 3.2 6.3, and 9 tonnes



Northern Strands is the only authorized distributor of VITALI-INTL products in Canada. We provide in-house recertification and repair services for all VITALI-INTL products that we rent or sell.

VITALI-INTL®

LEVER HOISTS



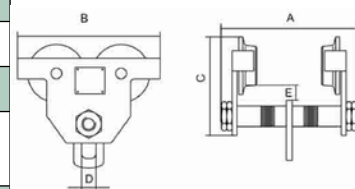
Capacity	(tonnes)	0.25	0.5	0.8	1.6	3.2	6.3	9
Model No.		KX025	KX050	KV008	KV016	KV032	KV063	KV090
No. of Falls		1	1	1	1	1	2	3
Load Chain	(mm)	3.2 × 9	4.3 × 12	5.6 × 15.7	7.1 × 19.9	10 × 28	10 × 28	10 × 28
Pull to Rated Load	(N)	223	324	215	304	372	382	392
Proof Load	(tonnes)	.375	.75	1.2	2.4	4.8	9.5	13.5
Standard Lift	(m)	1	1.5	1.5	1.5	1.5	1.5	1.5
Net Weight	(kg)	1.45	2.5	5.7	8.0	13.6	26.0	40.0
Gross Weight	(kg)	1.65	2.7	6.1	8.5	14.2	26.6	46.5
Extra Wt. per m	(kg)	0.22	0.37	0.7	1.1	2.3	4.7	7
Dimensions	a (mm)	87	100.5	146	164	196	196	196
	b (mm)	68	81	119	126	159	218	298
	c (mm)	200	250	41.5	52	61.9	84.3	-
	d (mm)	145	160	280	335	395	540	680
	e (mm)	55.5	62.5	245	265	415	415	415
	f (mm)	35.5	42	96	100	114	114	114
	g (mm)	21	24.5	26.5	35.5	43	53	64
	h (mm)	32	34.5	35.5	42.5	50	60	85
	i (mm)	11	12	14	19	24.5	34	40

TROLLEYS

VITALI-INTL®

Plain Trolley KW-II

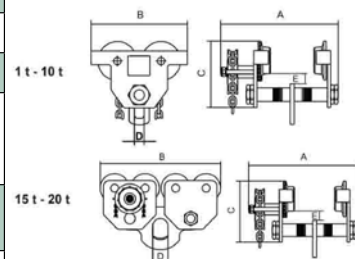
Model No.		KW010A	KW020A	KW030A	KW050A	KW100A
Capacity	(t)	1	2	3	5	10
Proof Load	(t)	1.5	3	4.5	7.5	15
I-Beam Width	(mm)	64-203	88-203	100-203	114-203	125-210
Dimensions (mm)	A	296	313	334	363	410
	B	257	300	340	380	389
	C	181	214.5	252	290	364.5
	D	30	36	45	60	80
	E	23.5	23.5	32.5	28	48
Min. Radius Curve	(m)	1	1.1	1.3	14	1.7
Net Weight	(kg)	12.8	18.8	33.7	50.7	88



Geared Trolley KW-III

Model No.		KW010B	KW020B	KW030B	KW050B	KW100B	KW150B	KW200B
Capacity	(t)	1	2	3	5	10	15	20
Proof Load	(t)	1.5	3	4.5	7.5	15	22.5	30
I-Beam Width	(mm)	64-203	88-203	100-203	144-203	125-210	125-210	125-210
Dimension (mm)	A	344	362	383	416	461	480	480
	B	257	300	340	380	389	789	789
	C	181	214.5	252	290	364.5	364.5	364.5
	D	30	36	45	60	80	100	100
	E	23.5	23.5	32.5	28	48	48	48
Min. Radius Curve	(m)	1	1.1	1.3	1.4	1.7	1.7	1.7
Net Weight	(kg)	17	23.5	38.7	55.7	93	176	191

Comes with standard 3 meter length hand chain. Custom lengths are available.

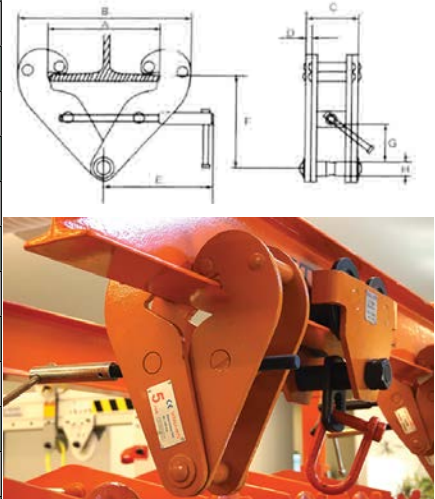


CLAMP & TROLLEYS

VITALI-INTL®

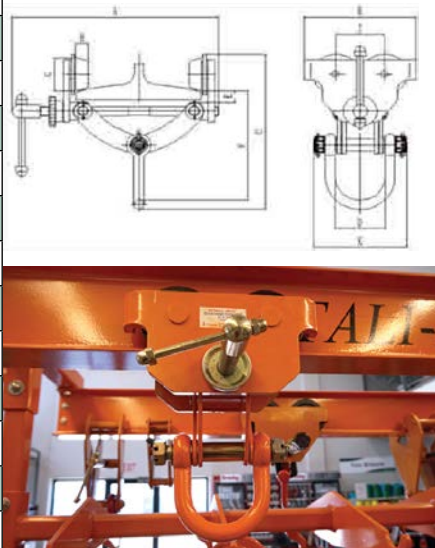
Beam Clamp TBC

Model No.		TBC-1	TBC-2	TBC-3	TBC-5	TBC-10
Capacity	(tonnes)	1	2	3	5	10
Proof Load	(tonnes)	1.5	3	4.5	7.5	15
I-Beam Width	(mm)	75-220	75-220	80-320	80-320	80-350
Dimensions (mm)	A (max.)	260	260	354	354	400
	B (min.)	180	180	235	235	250
	B (max.)	360	360	490	490	520
	C	64	74	103	110	120
	D	5	6	8	10	12
	E	215	215	260	260	280
	F (max.)	155	155	225	225	230
	F (min.)	102	102	140	140	160
	G	25	25	45	45	70
	H	22	22	24	28	44
Net Weight	(kg)	4.0	4.6	9.1	11.0	14.6
Net Weight	(kg)	4.5	5.1	9.6	12.0	15.6



Quick Install Trolley

Model No.		QIT10	QIT30	QIT50
Capacity	(tonnes)	1	3	5
Proof Load	(tonnes)	1.5	4.5	7.5
I-Beam Width	(mm)	75-130	75-200	100-300
Dimensions (mm)	A	240	355	455
	B	174	280	346
	C	258-278	317-361	440-519
	D	80	90	110
	E	22	22	75
	F	178-198	199-243	300-379
	G	57	80	100
	H	20	24.5	27.5
	J	78	130	150
	K	150	210	210
Min. Radius Curve	(m)	1	1.3	1.7
Net Weight	(kg)	6.2	18.2	31.8



YAL HAND WINCH

Backward & Forward lever: Placed in tandem providing a slim design and assuring power transfer along the center

Built-in shearing pin: Prevent overload. It functions at approx. 25% overload. The pins can be replaced without removing the load

Safety pin: Fastens the anchor bolt

Anchor bolt: Offers numerous and versatile connection possibilities with load hooks, sling ropes and sling chains

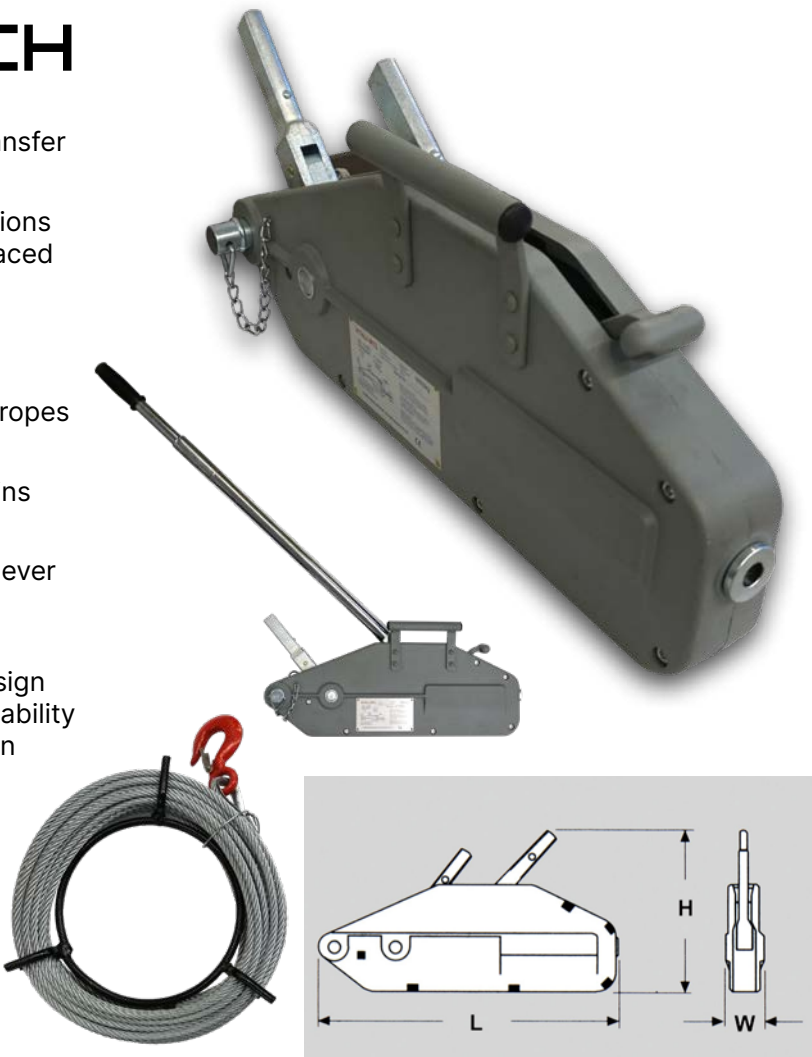
Spare shear pins: Two pieces of spare shear pins located in the carrying handle

Rope clamp system: Easily disengaged with a lever allowing smooth installation of the wire rope

High strength cast aluminum alloy body: Light weight, simple to operate. Smooth contour design with large, flat bottom surface for increased stability in horizontal as well as vertical working position

Stamped serial number: For easy identification

Galvanized steel wire rope mounted on a reel: Every rope is operationally tested to 150% of the rated capacity and is issued with an individual test certificate



Model No.	Unit	YAL008	YAL016	YAL032
Lifting Capacity (Rated Load)	(tonnes)	0.8	1.6	3.2
*Pulling Capacity	(tonnes)	1.2	2.4	4
Lever Pull at Rated Load	(N)	284	412	441
Forward Travel	(mm)	52	55	28
Wire Rope Diameter	(mm)	8.3	11	16
Net Weight (Body)	(kg)	6.4	12.4	23.3
Net Weight (20 meters Wire Rope)	(kg)	7	11.5	23.5
Net Weight (Lever Handle)	(kg)	1.15	2.5	2.5
Dimensions (Body) L x W x H	(mm)	440 x 70 x 255	560 x 100 x 295	675 x 120 x 350
*Observe local regulations				

VITALI-INTL®

CLEVIS HOOKS

- Grade 70 Clevis Slip Hooks have a wider throat than a grab hook
- For use with Grade 70 or lower chains
- Not for use with grade 80 chain and chain slings used in overhead lifting

Material: Forged Alloy Steel, Quenched & Tempered

Standard: EN 12195-3

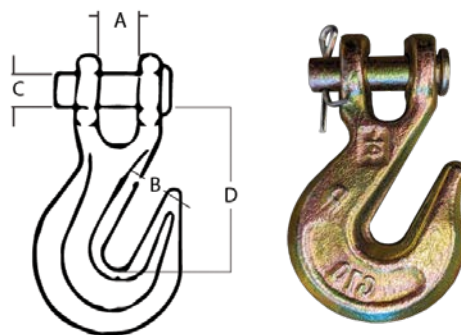
Finish: Gold Chromated

Factor of Safety: 4:1

Identification: Trademark, Size/WLL, Batch Code, G70

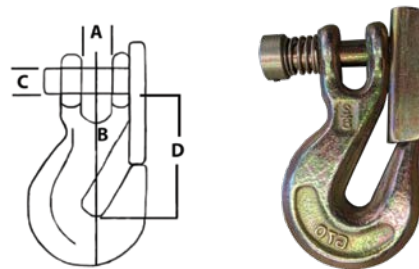
Clevis Grab Hook

Chain Size (in.)	WLL (lbs)	Dimensions (in.)				Wt./ea. (lbs)
		A	B	C	D	
1/4	3150	0.36	0.40	0.38	1.97	0.40
5/16	4700	0.40	0.44	0.44	2.26	0.79
3/8	6600	0.48	0.50	0.47	2.63	1.00
7/16	8750	0.66	0.56	0.56	2.75	1.31
1/2	11 300	0.75	0.66	0.63	3.19	2.10



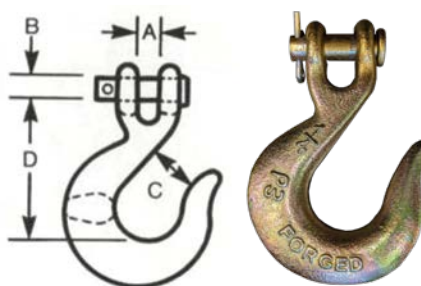
Clevis Grab Hooks with Latch

Chain Size (in.)	WLL (lbs)	Dimensions (in.)				Wt./ea. (lb)
		A	B	C	D	
1/4	3150	0.36	0.40	0.38	1.97	0.40
5/16	4700	0.40	0.44	0.44	2.26	0.79
3/8	6600	0.48	0.50	0.47	2.63	1.00
1/2	11 300	0.75	0.66	0.63	3.19	2.10



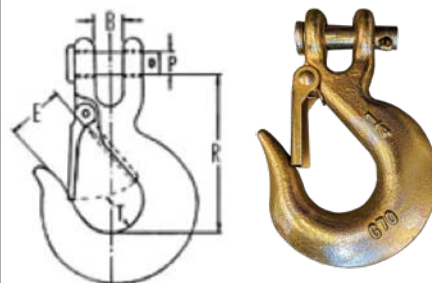
Clevis Slip Hook

Chain Size (in.)	WLL (lbs)	Dimensions (in.)				Wt./ea. (lbs)
		A	B	C	D	
1/4	2,750	0.44	0.37	0.91	2.60	0.50
5/16	4,300	0.50	0.43	1.10	2.85	0.75
3/8	5,250	0.59	0.47	1.30	3.25	1.20
1/2	9,000	0.70	0.63	1.47	3.90	2.80
5/8	13,500	0.91	0.75	2.00	4.90	4.75



Clevis Slip Hook With Latch

Chain Size (in.)	WLL (lbs)	Dimensions (in.)				Wt./ea. (lbs)
		A	B	C	D	
1/4	2,750	0.44	0.37	0.91	2.60	0.50
5/16	4,300	0.50	0.43	1.10	2.85	0.75
3/8	5,250	0.59	0.47	1.30	3.25	1.20
1/2	9,000	0.70	0.63	1.47	3.90	2.80
5/8	13,500	0.91	0.75	2.00	4.90	4.75



TRANSPORT CHAIN

Size (in.)	WLL (lbs)	Weight/ 100 ft (lbs)	Qty. / Drum (ft.)
1/4"	3,150	62	400
5/16"	4,700	101	550
3/8"	6,600	138	400
1/2"	11,300	235	100

Material: Grade 70, Carbon Steel
Standard: NACM, ASTM A413
Finish: Yellow Chromate
Identification: Traceable
Factor of Safety: 4:1



TIE DOWN STRAPS

Logging Tie Downs

Code	Size (in.)	Length	WLL
6969-0516X36	5/16"	36 (ft.)	3,600 lbs
6969-0038X36	3/8"	36 (ft.)	3,600 Lbs
Other sizes available on request.			



Truck Tie Down Straps with "J" hks (3:1)

Code	Size (in.)	Length	WLL
6610-1X16	1"	16 (ft.)	1,000 lbs
6610-2X15	2"	15 (ft.)	3,300 lbs
6610-2X20	2"	20 (ft.)	3,300 lbs
6610-2X27	2"	27 (ft.)	3,300 lbs
Other sizes available on request.			



WINCH LINE TAIL CHAIN



Winch Line Tail Chains are a flexible attachment used at the end of a wire rope. Tail chains are used to reduce wear on wire rope.

- Hooks are Forged – Quenched and Tempered
- Individually Proof Tested
- Spectrum 8® Alloy Steel from 3/4" through 1-1/4" (20 - 32mm)
- Meets or exceeds requirements of US DOT FMCSA Part 393 Subpart I

Wire rope Diameter (in.)	L-180 Stock No.	Working Load Limit (lbs)	Length (in.)	No. of Links	Weight Each (lbs)
5/16 - 3/8	1091473	5400	18	11	3.0
1/2 - 5/8	1091482	13000	18	7	6.2
3/4 - 7/8	1091511	34200	24	8	18.2
1 - 1 1/8	1091516	47700	18	5	21.2
1 - 1 1/8	1091525	47700	24	7	23.3
1 - 1 1/4	1091532	72300	24	5	40.0
Other sizes available on request.					

LOAD BINDERS

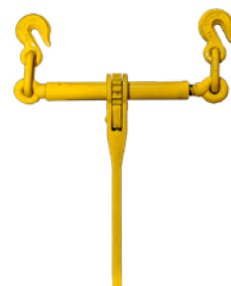
Lever style

Sizes	Take-Up (in.)	Handle Length (in.)	Weight	WLL (lbs)
5/16" - 3/8"	4	13	9.75	6,600
3/8" - 1/2"	4.75	17.24	14.5	9,200



Ratchet Style

Sizes	Take-Up (in.)	Handle Length (in.)	Weight	WLL (lbs)
5/16" - 3/8"	6.5	13.92	11	5,400
3/8" - 1/2"	6.5	13.92	13	9,200
1/2" - 5/8"	6.5	13.92	16	13,000



Folding Handle - Ratchet

Sizes	Take-Up (in.)	Folded Handle Length (in.)	Straight Handle Length (in.)	Weight	WLL (lbs)
5/16" - 3/8"	6	9.5	13.9	11.5	7,100
3/8" - 1/2"	6	9.5	13.9	14	12,000



Folding Handle - QUIKBINDER®

Sizes	Take-Up (in.)	Folded Handle Length (in.)	Straight Handle Length (in.)	Weight	WLL (lbs)
5/16" - 3/8"	6	9.5	13.9	11.5	7,100
3/8" - 1/2"	6	9.5	13.9	14	12,000
1/2" - 5/8"	6	9.5	13.9	18.5	18,100



Torque Drive Load Binders

Sizes	Gear Ratio	Weight	WLL (lbs)
5/16" - 3/8"	24:1	15	6,600
3/8" - 1/2"	24:1	17	9,200



DYNEEMA WINCH LINES

THE BENEFITS OF DYNEEMA ROPE:

- Stronger than traditional steel cables of equal diameter
- Won't kink, curl or splinter
- Extremely light, floats in water
- Minimal stretch and non rotation
- Easy to handle, splice, no sharp frays
- Resistance to UV and chemicals
- Workable below -20 degree Celsius

Dyneema ATV Winch Lines		
Size	Average Tensile Strength	Length
3/16"	5,400 lbs	50 feet
1/4"	8,600 lbs	50 feet
5/16"	12,700 lbs	50 feet



Bulk Dyneema	
Bulk Size	Average Tensile Strength
3/16"	5,500 lbs
1/4"	9,030 lbs
5/16"	13,436 lbs
3/8"	20,700 lbs
1/2"	34,360 lbs
5/8"	50,220 lbs
3/4"	70,925 lbs
7/8"	92,600 lbs
1"	108,026 lbs

TOW STRAPS

Width (in.)	Length (ft.)	Weight (lbs)	Colour	WLL (lbs)
2"	20' or 30'	5/7	Green	32,000
3"	20' or 30'	6/10	Yellow	48,000
4"	30' or 50'	15/23	Grey	64,000
6"	30' or 50'	17/24	Brown	96,000
8"	30' or 50'	29/46	Blue	128,000
10"	30' or 50'	41/62	Orange	160,000
12"	30' or 50'	55/76	Orange	192,000
With D Rings				
6"	30' or 50'	33/47	Brown	96,000
8"	30' or 50'	63/73	Blue	128,000
10"	30' or 50'	80/112	Orange	160,000
12"	30' or 50'	90/121	Orange	192,000

3 Ply

Width (in.)	Length (ft.)	Weight (lbs)	Colour	WLL (lbs)
10"	30' or 50'	54/90	Orange	200,000
12"	30' or 50'	60/99	Orange	240,000
With D Rings				
10"	30' or 50'	86/117	Orange	200,000
12"	30' or 50'	90/130	Orange	240,000



SYNTHETIC SOFT SHACKLES

Northern Strands soft shackles are the ideal recovery tool replacing the old heavy metal shackles with pins. The soft shackles are easy to use, lightweight and in the event that they break they are much safer than the traditional shackles.

Rope Diameter (in.)	Approx. Length (in.)	Weight (lbs)	Colour	Min. Breaking Strength (lbs)
5/16"	10"	0.2	Orange	20,645
3/8"	10"	0.3	Green	30,000
1/2"	10"	0.5	Purple	44,700
9/16"	10"	0.7	Red	54,500
5/8"	18"	1.0	Black	63,700
3/4"	18"	1.4	Dodge Blue	92,000
7/8"	24"	2.0	Fluorescent Green	121,000
1"	24"	5.8	Army Green	145,000
*Not Rated For Lifting				



OFF ROAD RECOVERY BLOCKS

Off Road Recovery blocks are generally used to assist in vehicle recovery. It's a basic pulley used to redirect the line creating leverage.

Rope Size	Sheave	WLL
5/16" to 3/8"	2.5"	4 tonne
5/8"	4"	8 tonne
5/8"	4.5"	10 tonne



8 STRAND TOW ROPE

Northern Strands premium 8 strand tow rope is manufactured from high tenacity polypropylene yarns, Superdan offers easy handling, high strength and excellent abrasion resistance.

APPLICATIONS:

- Mooring lines
- General and commercial fishing rope
- Anchor lines
- Equipment towing
- Tractor towing
- Class II Rope
- Specific Gravity: 0.91
- Elastic Elongation Percentage: At % of breaking strength – 20-22%
- Splicing Procedures Required
- Eye splice – 8-strand/Class II Rope
- End for End splice – 8-strand/Class II Rope

FEATURES:

- Excellent anti-abrasion properties contribute to longer working life
- High UV light resistance
- Highly flexible, easy to handle

Diameter (in.)	Circ.	Diameter mm	Weight per 100 ft.	Min. Break Strength/lbs
1-5/8"	5	41	53.1	62,500
2"	6	51	80.2	91,400
2-1/4"	7	57	108.5	120,600
2-5/8"	8	67	141.1	155,000
3"	9	76	178.1	197,100



DOUBLE BRAIDED POLYESTER ROPE

Northern Strands premium double braided polyester rope designed for general marine, industrial, and commercial use where low elongation, high strength, and abrasion resistance are required. Constructed from the highest quality UV stabilized yarns.

FEATURES:

- Specific Gravity of 1.38
- Low Elongation
- High Strength
- Excellent Dielectrics
- Abrasion Resistance
- UV Stabilized Cover

APPLICATIONS:

- Vehicle Recovery
- Winch Lines
- Pulling Lines
- Retrieval Lines
- Towing

EYE SPLICE METHOD:

- Double Braid Class 1



Size		Circ. Inch	Approx. Weight		Approx. Avg. Tensile Strength	
Dia. in.	Dia. mm		lbs/100ft.	kg/100m	lbs	kg
3/4"	19	2-1/4"	18.2	27.1	21,800	9,888
1"	25	3"	33.3	49.6	39,200	17,781
1-1/4"	32	3-3/4"	52.5	78.1	56,500	25,628
1-1/2"	38	4-1/2"	71.5	106.4	78,000	35,380

Larger sizes available. Custom lengths available upon request.

3 STRAND GENERAL PURPOSE POLY ROPE

FEATURES:

- Safety Yellow
- 100% high tenacity mono filament fiber
- Holds knots well
- Floats

APPLICATIONS:

- Recreation
- Hunting
- General Construction
- Tarps
- Camping
- Boating

SPECIFICATIONS:

- General purpose poly
- Specific gravity: 98 (floats)
- Easy to splice
- Eye splice
- End for end splice

Size (in.)	Length
3/16"	2125 ft
1/4"	1300 ft
5/16"	975 ft
3/8"	630 ft
1/2"	335 ft
5/8"	200 ft
3/4"	125 ft



ENGINEERED FALL PROTECTION



SYSTEMS

- Overhead Lifelines
- Vertical Lifelines
- Horizontal Lifelines
- Rigid Rail Systems
- Walkways
- Platforms & Stairs
- Guardrail - Ballasted & Fixed
- Rigid Post Anchors
- Single Point Tie-Off Anchors
- Swing Stage Tieback Anchors
- Custom Dual Post Anchors
- Portable Fall Protection & Travel Restraint (**Exosphere**)
- Ladder Systems
- Patented Bin Safe System
- Hoist Device Systems
- Confined Space Access & Rescue

Northern Strands provides comprehensive engineered fall protection solutions across a variety of industries. Northern Strands' extensive lineup of systems are designed, supplied, and installed to align with all relevant manufacturer and industry standards in compliance with OH&S, CSA, and ANSI regulations.

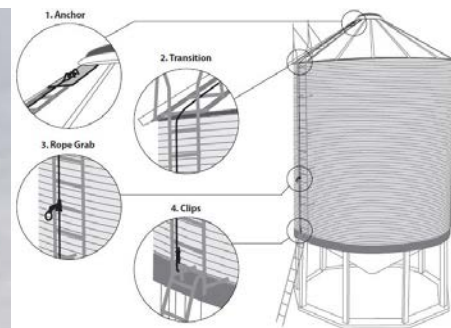
SERVICES

- Site Assessments
- Consulting
- Customizable Systems
- Inspection & Recertification
- Testing
- Engineering & Drafting
- Reverse Engineering
- Commissioning
- New Installation
- Repair & Modification

LOCATIONS

- Railcar Loadout Facilities
- Ore Barns
- High-Rise Rooftops
- Bridge Decks
- Mine Shafts
- Rooftops
- Towers
- Grain Bins
- Commercial Buildings
- Industrial Facilities





What is Bin Safe?

Bin Safe is an engineered fall protection system designed to work with Blind Bolt, Standing Seam, Smooth Wall or Corrugated Wall grain bins. The system works by attaching a wire rope that is anchored to the top of the bin with the other end attached to the bottom of the ladder. Bin Safe is easy to use and makes climbing bins safe without slowing you down.

Installation:

Each kit comes with:

- Installation manual
- Anchor (depending on bin type)
- Length of wire (based on bin height)
- Hardware



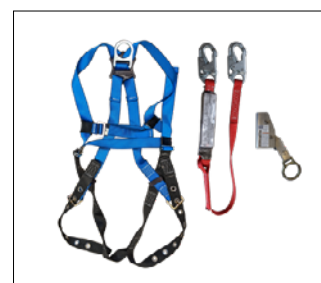
Bin Safe Smooth Wall Bin Kit, 40', 60' or 80' Wire Rope



Bin Safe Corrugated Wall Bin Kit, 40', 60' or 80' Wire Rope



Bin Safe Blind Bolt Corrugated Bin Kit, 40', 60' or 80' Wire Rope



Grain Bin Fall Protection System Bin Safe User Kit

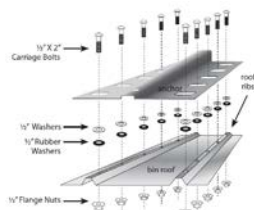
Standing Seam



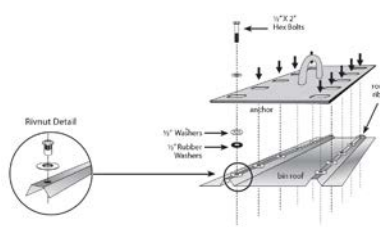
Smooth



Blind Bolt



Galvanized



"When I did fall (off a grain bin), I broke my pelvis in 4 places and I laid in the hospital for 6 weeks before I could even put pressure on my legs. The Bin Safe System allows us to go all the way to the top of the bin and all the way back down safely. That is what every farmer requires or should have to be as safe as possible when climbing bins."

— Greg Setter

FALL PROTECTION EQUIPMENT



FallTech -
Removable Concrete
Anchor, 6,000 lbs



FallTech - Rotating
D-ring Anchor with
Concrete Screw



Anchorage
Connector 3/4"



Fall Protection Kit
Roofer Fall Protection
Kit with 50' Lifeline



Fall Protection
O-Ring



Kwiklock Carabiner



Automatic Dorsal
Panic Rope Grab for
5/8" Poly Steel Lifeline

Accessories



D-Ring Extender
D-ring at one end, snap
hook at other
45 cm (18 in)



Tool Lanyard - Spring
Carabiner & Adjustable
Loop



Roof Anchor Single D-Ring
Permanent with nails



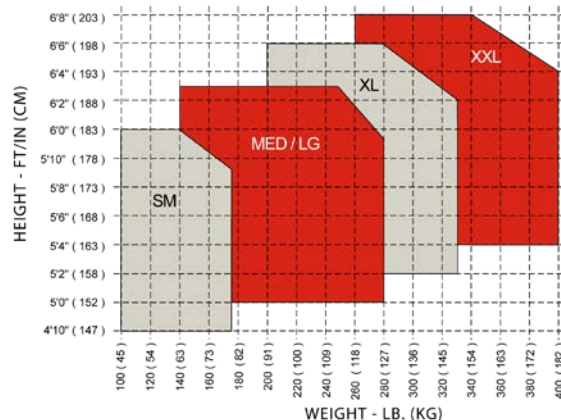
Miners Belt

Climbing Harnesses

Vest-Style Climbing Harness
Back/front D-rings, tongue
buckle leg, pass-through chest
connection.



PROHARNES SIZING CHART



FALL PROTECTION EQUIPMENT

Protecta® Rebel™ Leading Edge Self-Retracting Lifelines

Part #	3590541	3590544	3590547	3590549
Cable Length	20 ft	33 ft	50 ft	66 ft
L x W x H	42" x 10" x 4.5"	42" x 11" x 4.5"	46" x 13" x 5.5"	46" x 13" x 5.5"
Weight	17 lbs	19 lbs	25 lbs	26 lbs



LANYARDS

PRO Pack

PRO Shock Absorbing lanyards feature durable 1" (25 mm) polyester webbing, 1/2" (13 mm) nylon rope or 1/4" (6 mm) vinyl covered cable with 3,600 lb. (16kN) gated hooks and an energy absorbing design that limits the average fall arresting forces to 900 lbs (4kN) for added safety.



Single-leg with snap hooks at each end



Single-leg with snap hook and flat steel rebar hook



Double-leg with snap hook and flat steel rebar hooks at leg ends



Double-leg with snap hooks at each end

PRO Stop

PRO-Stop lanyards feature polyester tubular web, as opposed to a traditional shock pack, 3,600 lb. (16kN) gated hooks and an energy absorbing design that limits the average fall arresting forces to 900 lbs (4kN) for added safety.



Single-leg with snap hooks at each end



Single-leg with snap hook and flat steel rebar hook



Double-leg with snap hook and flat steel rebar hooks at leg ends



Double-leg with self locking snap hooks at each end

SUSPENDED ACCESS SYSTEMS AND EQUIPMENT



Northern Strands offers the largest suspended access rental fleet in Western Canada. Within the Suspended Access Division, Northern Strands offers swing stages, specialized work platforms, lifting systems, and material handling solutions for both rental and purchase. Skilled technicians are available to provide on-site system assembly and expert consultation for material handling and rigging requirements.

SYSTEMS

- Swing Stages
- Spider Hoists
- Lifeline Ropes
- Multi Hoist Control
- Tieback Anchors
- Low Pressure Incline Platforms
- Single & Multi-Point Suspension Applications

LOCATIONS & APPLICATIONS

- High-rise Buildings
- Bridges
- Mine Shafts
- Sloped Roofs
- Glazing Applications
- Sheeting
- Concrete Restoration
- Inspections
- Beehives & Ore Barns

SERVICES

- On-site Technical Assistance
- Consulting
- System Setup & Demobilization
- Reconfiguration
- Training
- Material Hoisting
- Rigging Consultation
- Hoist Recertification
- System Maintenance

PLATFORMS

Using modular components Northern Strands can assemble custom lengths between 1m to 19m.

Manual 2 Meter Modular Platform



2 Meter Modular Platform



1 Meter Return Platform



Incline Access Platform



Extra Wide & Narrow Platforms



CONFINED SPACE PERSONNEL BASKETS

1 Meter Work Baskets



Bosuns Chair



Folding Aluminum 2 Person Work Cage



MATERIAL HANDLING

Hoisting Beam Assembly



Counterweight Tugger WLL 1,000lbs



RESCUE PLAN & EQUIPMENT

Northern Strands can work with clients to develop rescue plans as well as supply the equipment needed.



RIGGING EQUIPMENT

Lifelines



Cushion Slings



Suspension & Tie Back Cables



SUSPENSION SYSTEMS

Parapet Clamp



Rolling Davit Outrigger



Cable Truss



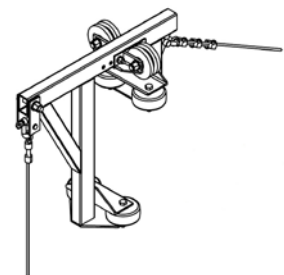
Angel Wing Basket



Through Hole Support



Tank Hook



Rolling Outrigger



FALL ARREST



Our course is one of the few that addresses suspension syndrome using up-to-date research and recommendations. The course also includes hands-on training for harness donning and inspection techniques as well as other critical elements of working at heights, such as:

Fall hazard assessment training

- Rescue plan development
- Recommended equipment selection based on CSA guidelines
- Fall clearance calculations when using lanyards, SRLs, Leading Edge SRLs, and Vertical Lifelines

Participants can pair Fall Arrest and Aerial Work Platform training on the same day.

SUSPENDED ACCESS EQUIPMENT



This course explains existing industry best practices/procedures and applicable regulations. Participants will be educated about suspended access equipment and how to reduce or eliminate incidents and accidents related to its use.

A valid Fall Arrest certificate is a prerequisite for the Suspended Access course.

The course also gives hands-on guidance in the assembly, inspection, and use of a suspended powered scaffold or “swing stage.”

BELOW THE HOOK RIGGING



This program offers a diverse set of hands-on exercises and also serves as 8 of the required 40 hours as per the Table 13 Minimum Training Requirements for Competent Operator of a Crane.

WIRELOCK SOCKETING SEMINARS



Northern Strands' Wirelock® Socketing Seminar is designed for anyone required to terminate wire rope using Wirelock® resin and socket style terminations.

Northern Strands Wirelock® Socketing Seminar:

- Includes a Wirelock® manual to each learner that is vital for future reference during socket installations
- Consists of a brief theory review with most of the course being hands-on
- Instructs on the proper application of Wirelock® Socketing compound

A destructive pull test is used to ensure each learner properly installs their socket in accordance with manufacturer's specifications.

OVERHEAD TRAVELING CRANE



In order to be officially 'competent', an overhead crane operator must have either completed, or be in the process of completing, a training program that follows the guidelines of Table 13 in the Appendix of the OH&S Regulations.

Overview of Rigging & Crane course topics:

- Rigging Safety: Delineation practices, PPE, inspection intervals, hand signals, tagline requirements, critical lifts
- Working Load Limit: Commonly used safety factors in rigging, ultimate loads, wire rope termination efficiencies
- Rigging Forces: Determining load weight, calculate location of Centre of Gravity, effect of angular rigging tension
- Slings: Sling configurations (hitches) and their effect on working load limits, application, limitations of use, and inspection guidelines for all common sling types
- Hardware: Application, limitations of use, and inspection guidelines for shackles, hooks, links/rings, turnbuckles, eye bolts, swivel hoist rings, fist grip/U-bolt clips and wedge sockets
- Load Handling: Application, limitations of use and inspection guidelines for snatch blocks, multi-part line blocks, lever hoists, chain falls and plate clamps
- Overhead Cranes: Inspection, nomenclature of common components, legal requirements, safe operation

GRAIN TERMINAL EQUIPMENT & PROGRESSIONERS



Northern Strands offers a comprehensive range of products and services catering to car progressioners and grain terminals. Northern Strands' car progressioner and grain terminal offerings include system design, installations, repair, refurbishment, fabrication, and ongoing maintenance support. A comprehensive selection of inventory includes internally manufactured components, readily available Nordstrong parts, cables, accessories, motors, brakes, specialized bearings and housings, connection links, and gearboxes tailored to suit all sizes of car progressioners.

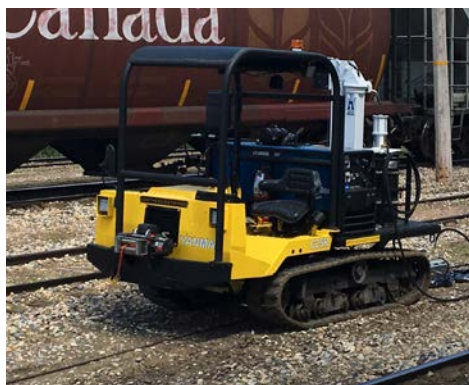
SYSTEMS – IN STOCK

- New & Refurbished
- Progressioners
- Gear Boxes
- Braked Motors
- Reconditioned Drums
- SEW Parts
- Pillow Blocks & Bearings
- Sheaves
- Buckets, Bucket Elevator Belts & Accessories
- Drive Chain
- Limit Switches
- Drag Chain Assemblies
- Head Pulley Lagging
- Thern Winches

SERVICES

- On-site Technical Assistance
- Replacement Cable & Rope
- Assemblies
- Maintenance & Greasing
- Gear Box Rebuilds
- Design & Installation
- Drum Replacements
- Emergency Repairs
- Service & Inspections
- Supply & Installation of Buckets, Bucket Elevator Belts & Accessories
- Bucket Elevator Boot
- Replacement
- Head Pulley Replacements
- Shutdowns & Turn-Arounds
- Spouting & Chute Turning & Rebuilding
- Design, Supply & Installation of Load-out Spout Systems & Upgrades
- Terminal-related Parts & Specialty Item Sourcing
- Gin Pole & Lifting System
- Inspections & Certifications
- General Repairs
- Manual Man Lift Repairs
- Bulk Weigher Test Weight
- Recertification
- Weight Exchanges
- Supply & Installation

MOBILE RAILCAR PROGRESSIONER SERVICING UNIT



Northern Strands has built a custom Mobile Railcar Progressioner Servicing Unit to cater to various railcar loadout facility maintenance needs. This all-terrain unit is based on a Yanmar C25R Track Machine and features a service deck equipped with a rope greasing system, socketing vice, heavy-duty winch, hoisting davit, service greasing system, and a welder/generator/air compressor combination unit. The unit can effectively address loadout servicing requirements like rope greasing, component replacements, general system inspections/servicing, rope tensioning, welding repairs, and more. The Mobile Railcar Progressioner Servicing Unit meets all site compliance regulations with a positive air shutoff, fire extinguisher, beacon, lighting, and ROPS.

TRACKMOBILE RENTAL



Trackmobile rentals are a great option to keep the project on track in the case of a equipment breakdown. Northern Strands is able to quickly deploy trackmobiles to minimize downtime.

PROGRESSIONER PARTS

- Pull cables
- Anticrash cables
- Counterweight cables
- Connection kit chain and accessories
- SEW Eurodrive gearboxes, motors, brake assemblies and components
- Rotary limit switches
- Jack shaft assemblies
- Drums
- Refurbished parts and reconditioned machines
- 160, 160-2, and 200 riv roller chain for progressioner drive



RAILCAR PROGRESSIONERS

Rugged, Adaptable, Easy to Use

Designed to make the movement of railcars easier and more efficient, the Railcar Progressioner is a double drum traction type unit that allows a single operator to handle the loading, unloading and movement of cars.

The unit features a continuous run of cable which moves railcars in both directions. Once railcars are hooked to the cable, the unit can be operated from a remote location.

Main Frame

All railcar progressioner components mount on a single rigid steel frame, which bolts directly to the site's foundation.

Counterweight Assembly

The counterweight assembly automatically compensates for cable stretch by keeping tension on the main cable. Tension sheaves are mounted on anti-friction bearings and housed in heavy duty frames. The assembly includes a solid steel counterweight and a self-contained mast. The complete system mounts directly on top of the railcar progressioner frame.

Safety Guards

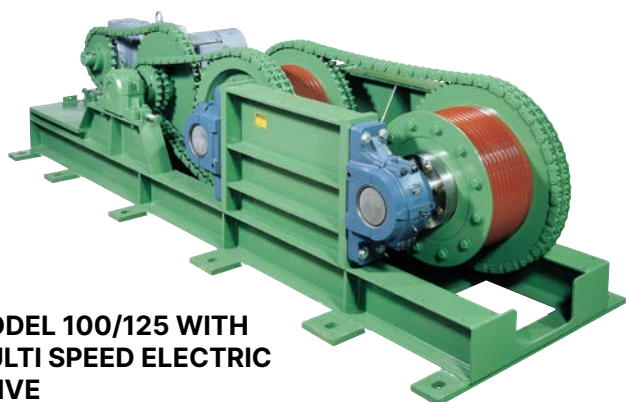
The railcar progressioner is completely enclosed by a protective cage. Expanded metal panels and lockable doors provide complete visual access to all components for inspection and maintenance.

Drive

The Railcar Progressioner's main drive is a rugged parallel-helical gear brake motor. A hydraulically driven gear reducer is available as an option. Both come factory-filled with lubrication suitable for year-round use in all climates. Final reduction of the main drive train is through a high strength roller chain and sprocket combination. Drive sprockets have hardened teeth, are piloted and bolt directly to the drums.



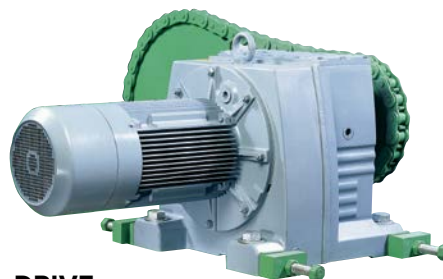
**MODEL 100/125 WITH DTC DRIVE
45,000 lbs LINE PULL**



**MODEL 100/125 WITH
MULTI SPEED ELECTRIC
DRIVE**

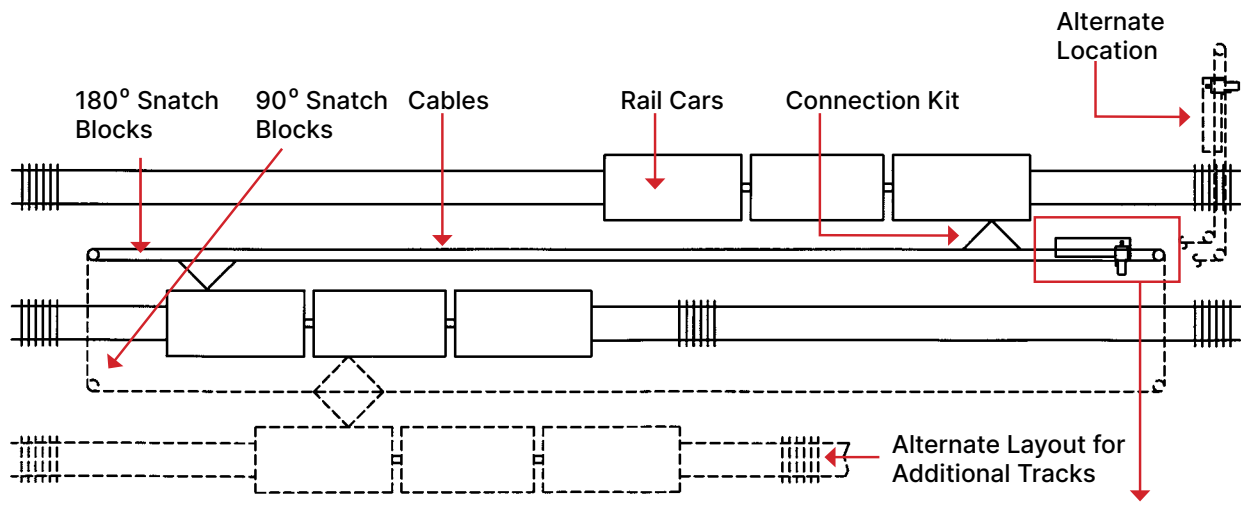
(Counterweight assembly
and guards not shown)

DRUM ASSEMBLY



DRIVE

PROGRESSIONER LAYOUT



Railcar Progressioner (fig. 1)

Northern Strands Railcar Progressioner Systems can be adapted to a variety of track arrangements. Up to four tracks can be handled by one progressioner. A typical layout for one or two tracks is shown here, with an alternate layout for additional tracks.

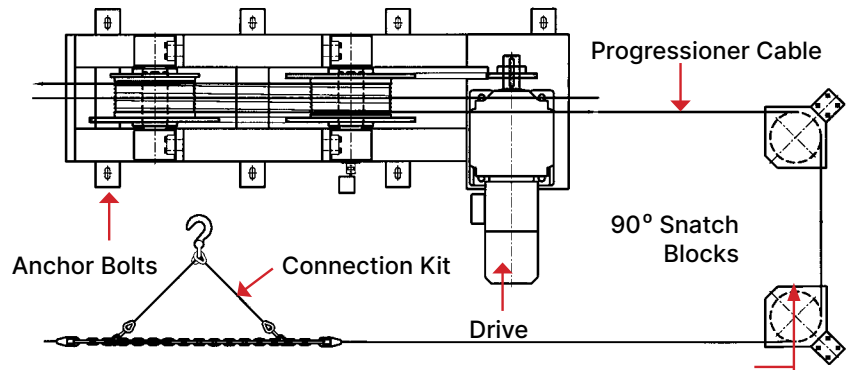
Cable and Connections

Northern Strands supplies die-drawn, compacted strand cables, which offer higher strength and improved flexibility. Complete cable connection kits, featuring a variety of different sling arrangements, are available for joining the cable ends and hooking to the railcars. Each type of sling is supplied with a break-away link to protect the main cable and railcar progressioner from accidental overloads.

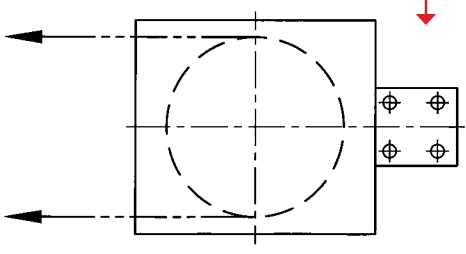
Snatch Blocks

A wide range of railcar progressioner and track configurations, both 90" and 180" models are available. Both feature steel sheaves and anti-friction bearings housed in substantial frames.

Fig 1.



90° SNATCH BLOCK



180° SNATCH BLOCK

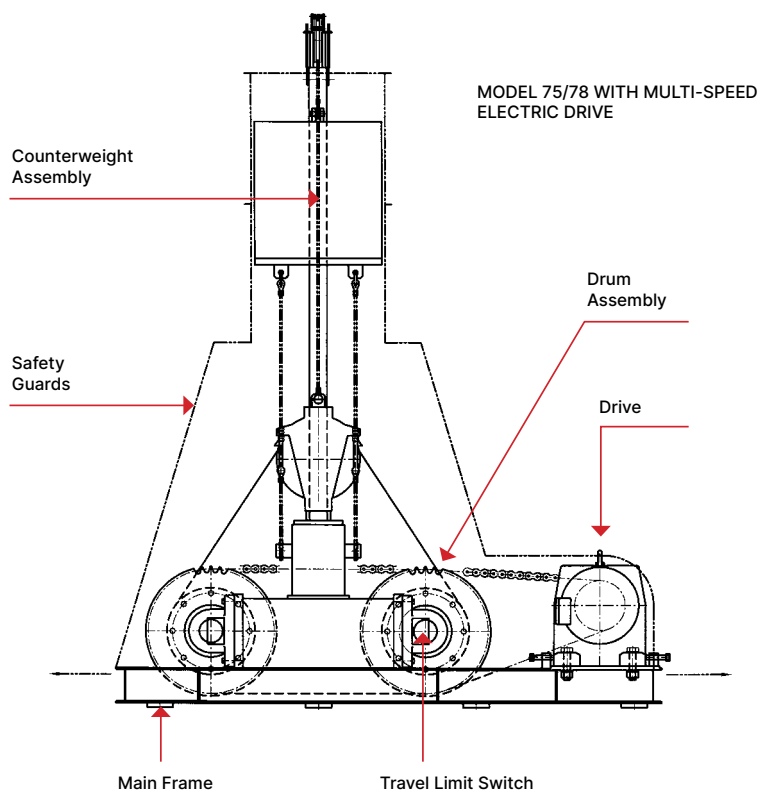
PROGRESSIONERS

Model	Drive	Cable Dia.	Line Pull**	Line Speed***	Weight
75/78 Single Speed Electric	10 HP (7.5 kw)	7/8" (22 mm)	20,000 lbs starting (90 kN) 10,000 lbs running (45 kN)	33 fpm (.18 m/s)	10,000 lbs (4,500 kg)
75/78 Multi-Speed Electric	25 HP-DT* (17 kw)	7/8" (22 mm)	23,000 lbs (100 kN)	Multiple	10,000 lbs (4,500 kg)
75/78 Multi-Speed Hydraulic	30 HP-HYD (22 kw)	7/8" (22 mm)	23,000 lbs (100 kN)	Multiple	12,000 lbs (5,400 kg)
78/112 Multi-Speed Electric	40 HP-OTC* (30 kw)	1 1/8" (29 mm)	37,000 lbs (160 kN)	Multiple	13,000 lbs (5,900 kg)
78/112 Multi-Speed Hydraulic	50 HP-HYD (37 kw)	1 1/8" (29 mm)	37,000 lbs (160 kN)	Multiple	15,000 lbs (6,800 kg)
100/125 Multi-Speed Electric	50 HP-OTC* (37 kw)	1 1/4" (32 mm)	45,000 lbs (200 kN)	Multiple	19,000 lbs (8,600 kg)
100/125 Multi-Speed Hydraulic	60 HP-HYD (45 kw)	1 1/4" (32 mm)	45,000 lbs (200 kN)	Multiple	21,000 lbs (9,500 kg)

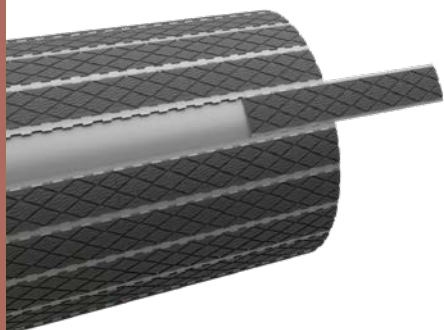
* Direct Torque Control (DTC) technology is patented by ABB.

** Line Pulls represent a minimum factor of safety of 4 on the main cable. Based on use of die-drawn, compacted strand wire rope.

*** Multiple speed units are set at 25 fpm and 35 tpm (.13 m/s and .18 m/s) at maximum line pull. A high speed of 70 fpm (.36 m/s) is for moving the cable when not hooked to railcars.



EZ-LAG



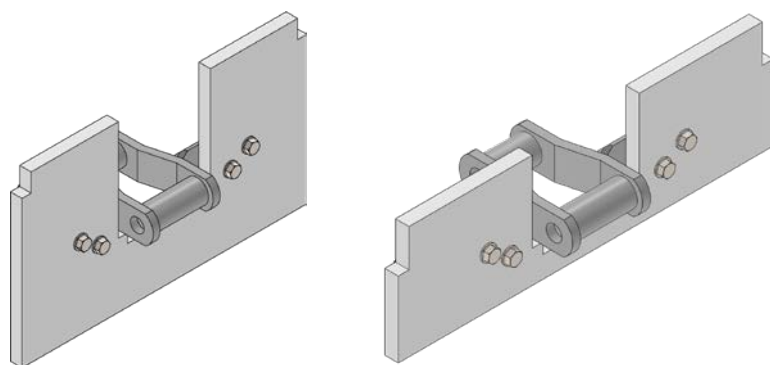
EZ-LAG™ is a field replaceable lagging that's bonded to a 5" wide steel backer, similar to Craft-Lag®. However, unlike Craft-Lag®, EZ-LAG™ has perforations in the steel backer that allow it to be formed in the field to fit any pulley diameter 12" and over. It is ideal for pulleys in locations where removal and replacement is difficult.

Features And Benefits

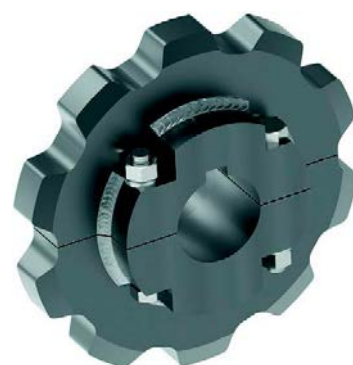
- On the spot re-lagging
- Available in 60 durometer - SBR and Neoprene
- Reduces Inventory by eliminating the need to stock various sizes
- Field Formable
 - Pads can be bent in the field to fit different pulley diameters
 - Not recommended for diameters less than 12"
- Interchangeable with PPI Craft-Lag® and Holz lagging

SPROCKET AND DRAG CHAIN

WR 124 Chain Assembly



Split Sprocket



BUCKETS, BELTING & ACCESSORIES

Northern Strands carries all Maxi-Lift products, including six bucket variations which are available in different materials to meet your needs. Northern Strands also offers a complete, all-in-one package for a convenient upgrade/replacement with guaranteed compatibility.



Elevator Buckets (HD-STAX)



Mechanical Splices



Elevator Bundles



Ceramic Tile

Slide Lagging



Elevator Bundles



Urethane Sheeting

Bolts & Hardware



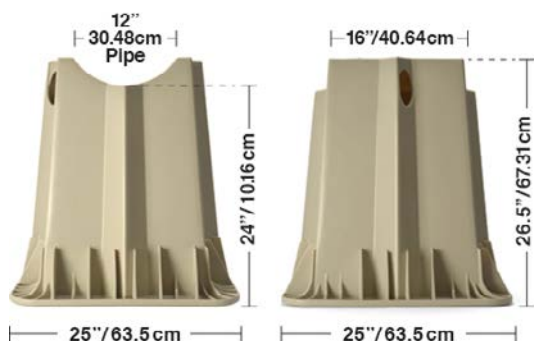
Hanger Bearings



Maxi-Lift Inc.

PIPE STANDS

12" TUFF STAND™



The DuraPlas 12" TuffStand is designed to be the strongest, safest, and most durable 12" pipe stand in the oil and gas industry. Utilizing a wide square base and angled side walls, the 12" TuffStand can withstand the extreme conditions of any pipeline job using 2-12" pipe. When developing this pipe stand, our goal was to create the absolute best product that provides the safety and efficiency the industry deserves. The 12" TuffStand weighs just 28.5 lbs and is made with a high-density polyethylene resin, making it an ideal replacement for wood skids. Eliminating cracked, wet and rotten wood skids increases safety and job efficiency while reducing labor costs associated with hauling and moving skids.



25" / 63.5 cm



25" / 63.5 cm

MAXIMUM PIPE DIAMETER: Saddle holds 2-12" pipe

MAXIMUM LOAD: Each 12" TuffStand is rated at 3,500 lbs, but supported over 20,000 lbs in independent laboratory tests

ACCESS HEIGHT: Pipe sits 24" off the ground for ease of working

SAFETY: Eliminates hazards associated with wood skids

STABILITY: Square Design provides a wider footprint increasing safety and contact with the ground

STRENGTH: Angled Sidewalls redistribute weight for increased strength and stability

HIGH DENSITY PLASTIC: Improved performance under extreme heat and stress

LONG LIFE: DuraPlas TuffStands feature a UV resistant additive

EASY HANDLING: Side Handle (cut out) allows for ease of handling

STACKABLE: TuffStands nest together for easy storage and transportation

24" TUFF STAND™



The new 24" TuffStand is capable of handling 12"-24" pipe diameters and has set the bar as the new industry standard. It is the first plastic pipe stand manufactured out of Nylon resin and has a first-of-it's-kind design. The 24" TuffStand's Nylon construction allows it to thrive under the harshest conditions, resisting abrasion, impacts, and heavy workloads. Each

24" TuffStand replaces up to 11 wood skids, and up to 10X the weight in the field. With the 24" TuffStand, you can tackle larger pipe projects while saving money on freight, labor, and time.



40" / 101.6 cm



40" / 101.6 cm

NYLON CONSTRUCTION: Improved performance under extreme heat and stress

MAXIMUM PIPE DIAMETER: Saddle holds up to 2-24" pipe

MAXIMUM LOAD: Each 24" TuffStand is rated at 10,500 lbs, but supported over 75,000 lbs in independent laboratory tests

ACCESS HEIGHT: Pipe sits 19" off the ground for ease of working

SAFETY: Eliminates hazards associated with wood skids

STABILITY: Round Design provides a 40" diameter base, increasing contact with the ground and provides enhanced safety

STRENGTH: Engineered Sidewalls redistribute weight for increased strength and stability

LONG LIFE: DuraPlas TuffStands feature a UV resistant additive

EASY HANDLING: Two Side Handles allow for ease of handling

STACKABLE: TuffStands nest together for easy storage and transportation

Saskatchewan's Sole XCMG Dealer Equipment Built For Canada

- Boom Lifts
- Excavators
- Forklifts
- Scissor Lifts
- Skid-steers
- Telehandlers



EQUIPMENT ATTACHMENTS

Certified Sales and Rentals offers engineered equipment attachments, that are engineered, extremely durable and expertly manufactured here in Saskatoon, Saskatchewan.

- Skid-steer Stump Bucket
- Skid-steer Tree Bucket
- Fork Mounted Telescoping Lifting Boom Available in 12' OR 16'4"
- Telescoping Skid-steer Jib Boom – 15'
- Fork Extensions Available in 72" OR 84"
- High-Back Skid-steer Snow Buckets



NORTHERN STRANDS

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northernstrands.com