

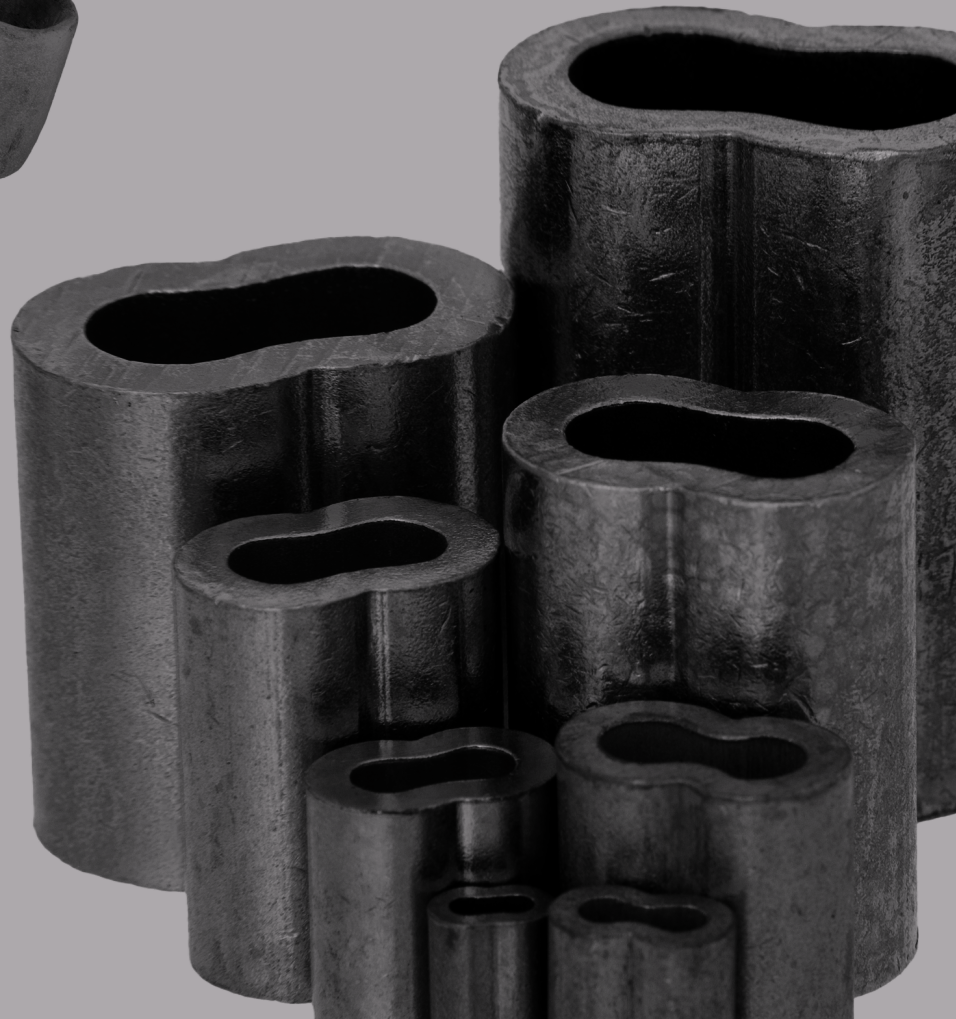



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## WIRE ROPE END TERMINATORS

Rigging Equipment.....	277 - 281
Die Lube.....	282
Wire Rope Sleeves, Ferrules, Stops & Buttons .....	283 - 289
Marlin Spikes.....	289
Thimbles.....	290 - 296
Choker Buttons & Hooks .....	297
Go-No-Go Guages & Cable Joiners .....	297 - 298
Wire Rope Clips .....	299 - 301
Spelter, Swage, & Wedge Sockets.....	302 - 312
Socket Lock, Broom Degreaser & Socketing Putty.....	307 - 308

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## RIGGING EQUIPMENT

Wirop Industrial Company Ltd was established in 1979 by Mr. Ben Chiu. Our modern factory is located in Kaohsiung, the southern hub of Taiwan, close to the international airport, harbor and rail ways. We have been providing for the needs of wire rope fabricators for more than 35 years.

The main products we make are hydraulic swaging machines (wire rope clamping machines) [capacity 30 ton - 4000 ton for wire rope [1mm - 120mm], dies, horizontal testing benches (capacity: 50 ton~3000 ton), annealing and tapering machines, recoiling machines, marking machines, auto-measuring & cutting machines as well as others. Besides this, we offer Aluminum ferrules according to EN 13411-3 (DIN 3093), Flemish eye steel sleeves from 1/4" to 6" and other swaging products for wire ropes of different kinds of material, i.e. copper, stainless steel, swage sockets and thread stud terminals.



Wire Rope Grip System



200 ton x 22.5 m  
Horizontal Tension tester



Power Hydraulic Pump Unit



Measuring &  
Cutting Machine



Hand Press Portable



Coiling Machine



Table Swager



Portable Hydraulic Press



Annealing & Tapering Machine



Portable Hydraulic Wire Rope Cutter

## FAST FLEMISH SWAGE SYSTEM

This swaging is not only faster and more efficient but it greatly reduces the possibility of over or under swaging the sleeve. In the first swage step, the sleeve cannot be over swaged because of the precise notching of the die; the second step allows a controlled closing of the dies to slightly less than full closure whereby the third and final step allows full closure of the dies. The end result is a nearly smooth round swaged sleeve without the usual "wrinkles" one gets from the conventional swaging methods.

Conventional swaging of a round carbon steel sleeve on the wire rope has repeated multiple closing of the dies until the sleeve is completely swaged. This "multi-swage" system of swaging requires several die closures that are dependent on the wire rope diameter. On rope diameters 1" and larger, two dies are necessary to swage the sleeve, requiring an extra die change. The total number of die closures for sleeves larger than 1" diameter can be as many as ten total closures for the two sets of dies.

In the Wiroop "Fast Flemish Swage" system not only are the number of swages minimized and simplified, over and under swaging are eliminated, multi-swages on sleeves over 1" in size are greatly

reduced. Die changes from 1st open stage to 2nd taper is also eliminated.

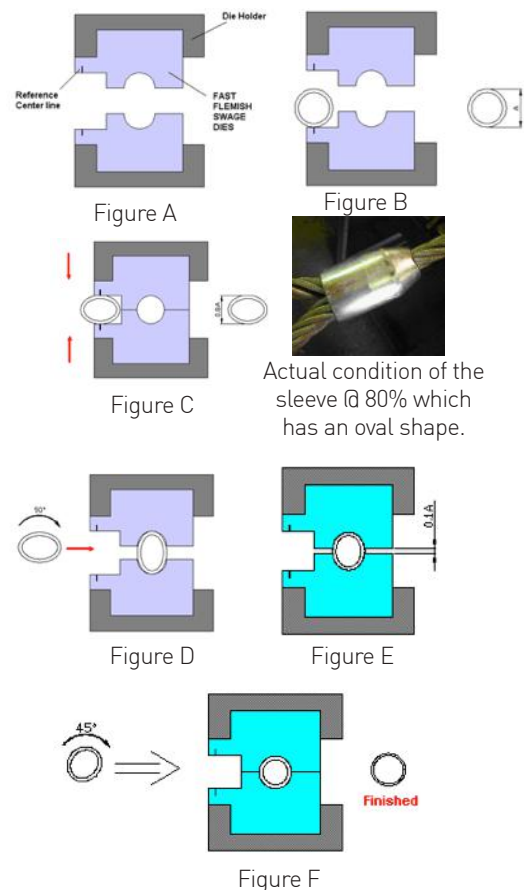
Fast Flemish Swage system is available up to 2-1/2" sleeve diameters. Bigger sizes are under development.

Wiroop swaging machines are packed with functions that add to the efficiency and speed in swaging. Should the users choose to use the machine to swage sleeves conventionally; the operator is able to adjust the hydraulic pressure simply by setting the sleeve size on a round dial. This function alone eliminates the guesswork for how much pressure to apply for a given size sleeve. Another simple dial but extremely useful function allows the die openings to be fixed to any desired amount of opening. Aluminium oval ferrules are swaged in just one step as the dies have cutting edges that remove the excess flash. Fully automatic one button swage for Aluminium oval ferrules is a huge time saver. In the automatic mode the dies close and open with the push of a button. The dies opening can be pre-set to just enough space to allow the swage sleeve to be removed, again saving time to insert the next sleeve to be swaged quickly and efficiently.

### WIROP "FAST FLEMISH SWAGE" swaging instruction

(Instructions vary for different size sleeves)

1. Place the Flemish Eye steel sleeves on the "Flat Side" (Notched Side) by lining the center line of sleeves with the reference center line (see Figure A) of the die as shown in Figure B
2. Close the dies completely. The sleeves will be swaged to 80% of diameter A and turn into an oval shape as in Figure C
3. Turn the swaged sleeve 90 degrees and place the sleeve on the die as shown below in Figure D
4. Close the die until gap is about 0:1 A as shown in Figure E
5. Turn the sleeve 45 degree again and close the dies completely as shown in Figure F



## RIGGING EQUIPMENT



Description	Value
Column	1
Max. Pressure Capacity	1350 (t)
Power Supply	25 Hp
Max. Oil Pressure	300 kg/cm2
Max. Piston Stroke	120 mm
Unloaded Speed	8.1 mm/s
Loaded Speed	1.2 mm/s
Reversing Speed	12.4 mm/s
Operating Height	1250 mm
Dimensions L*W*H	3100*1050*2480
Approximate Weight	19000 kg

Capacity		
Aluminium Ferrules ( one/multi-stage)		# 58 / # S66
Flemish Eye Steel Sleeve		3-1/4"
Swage Sockets	Full Shank	1-1/8"
	Progressive	2"

## SWAGING MACHINE NEW-TECH "SMART PRESS"

Wirop is pleased to introduce a new generation swaging machine.

### NEW CONCEPT:

HMI (Human Machine Interface), PLC, Pressure Sensor, Temperature Sensor and Special design die No. sensor system combined as Wirop NEW-TECH swaging machine. The dies No. can be detected by Special Sensor System on die holder and show the Die No. on screen.

### NEW OPERATION MODE:

The FUZZY mode allows swaging pressure to be set automatically according to the detected Die No. by Special Sensor System. The operator does not need to set the swaging pressure manually.

### SELF-DETECTION:

The troubles such as overload, high oil temperature, imperfect die installation and so on can be detected and appear on the troubleshooting screen.

### ON-LINE HELP:

On-line Help is available. The swaging information is stored in memory. It is easy to get the swaging information such as splicing table, swaging method, and operation menu on screen.



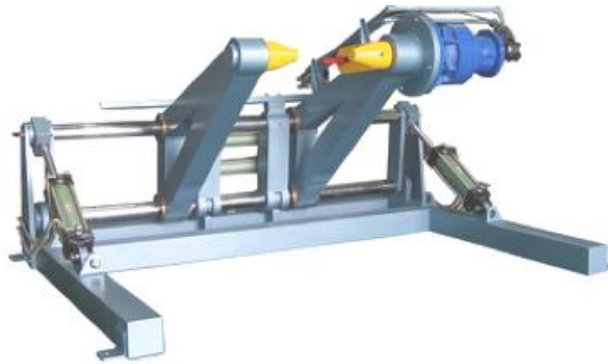
WP-1300C



WP-600CN



## REELING MACHINES WIROP SHAFTLESS



Model	WPRC-3500	WPRC-4500	WPRC-8000
Power supply, (HP)	15 HP/4P	15 HP/4P	25 HP/4P
Outside diameter of reels, (mm)	500~1500	500~1700	500~2100
Width of reels, (mm)	400~1500	400~1500	400~1700
Drum weight with wire rope wound on, (kg)	3500	4500	8000
Inner reel hole diameter (stepped up type)	30~90mm	30~90mm	30~90mm
Adjustable speed, (RPM)	0~40	0~40	0~45
Oil tank capacity, Liter (l)	330	350	400
Dimensions (W x L x H) (mm)	2600x3000x1200	2800x3000x1200	2800x3500x1350

\* WIROP® reserves the right to change specifications.

- Easier loading and unloading
- User friendly operation control
- Motorized opening /closing of pintles with mechanical torque limiters (by hydraulic cylinders)
- Motorized lifting and lowering of pintles to fit appropriate reels (by hydraulic cylinders)
- Adjustable winding speed and the rotation direction (forward or reverse) can be switched
- The system has braked control in the winding process to avoid over coiling
- Wireless remote control box



### OPTIONAL EQUIPMENT:

Power Traverse System



Collapsible Coiling Arm



# SWAGING MACHINES FROM 150 TE TO 4,000 TE



WP-150C



WP-300C



WP-600C



WP-300H



WP-600H



WP-1000



WP-1500



WP-2000



WP-3000/4000



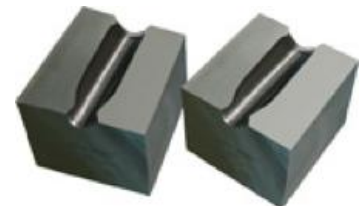
Wirop Swag Dies



Swage Socket Dies



Flemish Eye Steel Sleeve Dies  
(Fast Flemish Wage System)



Flemish Eye Steel Sleeve Dies  
(Conventional)

## DIE LUBE - SWAGING LUBRICANT

### EXTREMELY LOW COEFFICIENT OF FRICTION FOR HIGH PRESSURE APPLICATIONS

- Specially formulated to prevent pre-mature wearing of dies
- Minimizes friction to allow swage fitting to "flow" while pressing
- Helps to produce higher quality surface finish on swage fitting
- Lubrication of swaging dies is necessary to properly press all types of swage fittings

Size	Price / ea.	Part Number
1 gallon pail	<b>290.29</b>	<b>38-DIELUBE1G</b>
5 gallon pail	<b>1,253.81</b>	<b>38-DIELUBE5G</b>



#### What happens during the swaging process?

While being pressed, swage fittings will actually elongate. After swage lengths are always longer than before swage lengths. This shows that there is heat and wear being generated by metal to metal contact under great pressure. By design, dies are harder than swaging fittings. Despite the difference in hardness between the dies and swage fittings, the dies will wear during the swaging process.

#### Why is it necessary to lubricate while swaging?

Because you have two metal surfaces grinding against each other under great pressure, a lubricant is required to minimize the friction between the surfaces. Lubrication assists the metal of the swage fitting to flow more freely and therefore minimize wear on the die surface. It is important to note that not only does lubricating minimize

die wear; it promotes the elongation of swage fittings rather than squeezing the metal of the fitting to the sides which then produce excessive metal "flesh". This metal "flesh" tends to produce an ugly finish on the fitting and can cause the fitting to crack.

#### What makes "Die-Lube" such a good lubricant for its application?

"Die-Lube" is formulated to possess a high coefficient of friction under high pressure, compressive loads. This means friction is absolutely minimized. Common heavy greases are certainly better than no lubrication, but most grease is not formulated to perform under high pressure and for dies with swage fittings. Besides being a quality high pressure lubricant, "Die-Lube" is affordably priced and will protect the investment you have in your dies.

## SLEEVE (FERRULE) - FLEMISH SPLICE, CARBON STEEL

Larger sizes available on request to 6" diameter wire rope.

Wirop Flemish Splice Steel Sleeves are stamped with size and PIC (product identification code) to assure traceability and come with a galvanized finish for prolonged life in harsh environments. When a self colored and galvanized sleeve are left out in the elements for a prolonged period of time the results are obvious. The self colored sleeve shows severe signs of surface rust and pitting while the galvanized sleeve shows little to no effect. Each sleeve shown below (center) was put side by side and left outside for one month.



Wire Rope Size (in)	Max. after swage Dim. (in)	Weight (lb) / 100 pcs	Dimensions (mm)					Qty./ box	Price / ea.	Part Number
			A	B	C	D	E			
1/4	0.57	5	1.00	0.66	0.47	0.31	0.28	1000	1.40	139-1/4"
5/16	0.75	14	1.50	0.91	0.62	0.38	0.44	300	1.95	139-5/16"
3/8	0.75	14	1.50	0.91	0.66	0.47	0.39	350	1.95	139-3/8"
7/16	1.01	33	2.00	1.22	0.85	0.53	0.65	130	3.91	139-7/16"
1/2	1.01	29	2.00	1.22	0.91	0.63	0.56	150	3.47	139-1/2"
9/16	1.24	64	2.75	1.47	1.03	0.70	0.63	60	6.87	139-9/16"
5/8	1.24	56	2.75	1.47	1.09	0.75	0.63	70	6.32	139-5/8"
3/4	1.46	88	3.19	1.72	1.28	0.91	0.84	50	10.05	139-3/4"
7/8	1.68	131	3.56	2.03	1.53	1.03	1.00	30	17.27	139-7/8"
1	1.93	195	4.00	2.28	1.72	1.16	1.13	20	23.31	139-1"
1- 1/8	2.13	260	4.81	2.50	1.94	1.28	1.25	16	30.82	139-1-1/8"
1- 1/4	2.32	355	5.19	2.78	2.16	1.44	1.41	11	41.50	139-1-1/4"
1- 3/8	2.52	423	5.81	3.00	2.38	1.56	1.56	9	50.75	139-1-3/8"
1- 1/2	2.71	499	6.25	3.25	2.63	1.69	1.69	8	60.80	139-1-1/2"
1-3/4	3.1	805	7.25	3.84	3.13	1.94	1.97	5	111.25	139-1-3/4"
2	3.56	1132	8.50	4.38	3.63	2.25	2.25	Bulk	193.20	139-2"
2-1/4	4.12	1936	9.56	5.03	4.03	2.50	2.53	Bulk	322.42	139-2-1/4"
2-1/2	4.5	2352	10.5	5.50	4.50	2.75	2.81	Bulk	389.90	139-2-1/2"

Stamping of swaged steel sleeves for identification is allowed without concern of fractures if the following directions are followed:

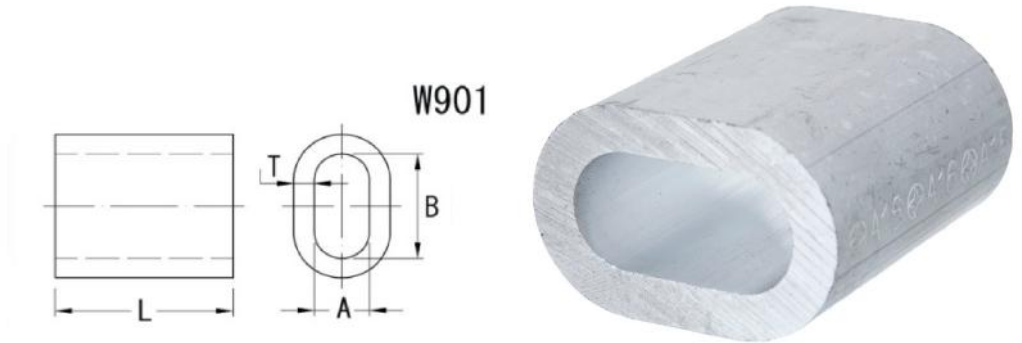
1. Use round corner stamps.
2. The maximum depth of stamps is not over 0.015 inch (0.4mm).
3. The area for stamping should be on the side of the sleeve in the plane of the sling eye, and no less than 0.25 inch (6.35mm) from either end of sleeve.



SLEEVES (FERRULES) SIZE NUMBER TABLE A.2

Rope Diameter			Ferrule Size Number Table A.2			
			Case 1	Case 2	Case 3	Case 4
Nominal	Measured		single layer round strand ropes with FC and cable laid ropes C ≥ 0,283	single layer round strand ropes with IWRC and rotation-resistant round strand ropes C ≤ 0,487	single layer round strand ropes with IWRC, rotation-resistant ropes and parallel-closed ropes 0,487 ← C ≤ 0,613	spiral strands 2 ferrules C ≥ 0,613
Dia.	from:	to:				
(mm)	(mm)	(mm)				
2.5	2.5	2.7	2.5	3	-	-
3	2.8	3.2	3	3.5	-	-
3.5	3.3	3.7	3.5	4	-	-
4	3.8	4.3	4	4.5	-	5
4.5	4.4	4.8	4.5	5	-	6
5	4.9	5.4	5	6	-	6.5
6	5.5	5.9	6	6.5	-	7
	6	6.4			7	
6.5	6.5	6.9	6.5	7	8	8
7	7	7.4	7	8	9	9
8	7.5	7.9	8	9	9	10
	8	8.4			10	
9	8.5	8.8	9	10	10	11
	9	9.5			11	
10	9.6	9.9	10	11	11	12
	10	10.5			12	
11	10.6	10.9	11	12	12	13
	11	11.6			13	
12	11.7	11.9	12	13	13	14
	12	12.6			14	
13	12.7	12.9	13	14	14	16
	13	13.7			16	
14	13.8	13.9	14	16	16	18
	14	14.7			18	
16	14.8	15.9	16	18	18	20
	16	16.8			20	
18	16.9	17.9	18	20	20	22
	18	18.9			22	
20	19	19.9	20	22	22	24
	20	21			24	
22	21.1	21.9	22	24	24	26
	22	23.1			26	
24	23.2	23.9	24	26	26	28
	24	25.2			28	
26	25.3	25.9	26	28	28	30
	26	27.3			30	
28	27.4	27.9	28	30	30	32
	28	29.4			32	
30	29.5	29.9	30	32	32	34
	30	31.5			34	
32	31.6	31.9	32	34	34	36
	32	33.6			36	
34	33.7	33.9	34	36	36	38
	34	35.7			38	
36	35.8	35.9	36	38	38	40
	36	37.8			40	
38	37.9	37.9	38	40	40	44
	38	39.9			44	
40	40	42	40	44	48	48
44	42.1	43.9	44	48	48	48
	44	46.2			52	
48	46.3	47.9	48	52	52	52
	48	50.4			56	
52	50.5	51.9	52	56	56	60
	52	54.6			60	
56	54.7	55.9	56	60	-	-
	56	58.8			-	
60	58.9	59.9	60	-	-	-
	60	63			-	

## SLEEVE (FERRULE) - ALUMINIUM



Ferrule Code	Dimensions (mm)				Weight (lb) / 100 pcs	Price / ea.	Part Number
	A	B	T	L			
11	12.1	24.2	4.5	39	7.89	1.87	176-W901-011
12	13.2	26.4	4.9	42	10.09	2.10	176-W901-012
13	14.2	28.4	5.4	46	13.16	2.87	176-W901-013
14	15.3	30.6	5.8	49	16.20	3.27	176-W901-014
16	17.5	35	6.7	56	24.46	5.25	176-W901-016
18	19.6	39.2	7.6	63	34.38	6.87	176-W901-018
20	21.7	43.4	8.4	70	47.83	8.47	176-W901-020
22	24.3	48.6	9.2	77	64.36	11.05	176-W901-022
24	26.4	52.8	10	84	82.87	15.12	176-W901-024
26	28.5	57	10.9	91	106.01	18.27	176-W901-026
28	31	62	11.7	98	132.90	22.62	176-W901-028
30	33.1	66.2	12.5	105	162.88	27.30	176-W901-030
32	35.2	70.4	13.4	112	197.70	35.30	176-W901-032
34	37.8	75.6	14.2	119	237.44	44.47	176-W901-034
36	39.8	79.6	15	126	281.01	53.12	176-W901-036

All WIROP® aluminium ferrules are made of seamless aluminium. Random samples have been **passed with 75,000 cycles fatigue test**, and strictly follow the material composition and mechanical property requirements of the EN 13411-3 (DIN 3093) standard.

Dies for EN 13411-3 Form A (DIN 3093) Aluminium Ferrules Swaging are needed in order to swage these aluminium ferrules.

Swaging is finished in one step. Turn the ferrule 90 degrees and swage again is NOT recommended. WIROP® reserves the right to change specifications.

Please refer to the Ferrule Size Selection Chart on the previous page to find the correct size ferrule for the type of wire being used - Table A.2, Ferrule Size Numbers from the BS EN 13411-3:2004 standard.

The efficiency of the termination for Aluminum Ferrule splicing is 90% of the wire rope breaking strength with proper splicing technique and standard-length ferrule.

## SLEEVE (FERRULE) - ALUMINIUM DUPLEX

Generally used with galvanized wire

Cable Size (in)	Weight / 100 pcs (lb)	Dimensions (in)			O.D After Swage (in)	Price / ea.	Part Number
		Length	Depth	Width			
1/16	0.10	3/8	11/64	1/4	0.187	0.16	6-1/16ALDUP
3/32	0.30	1/2	9/32	13/32	0.281	0.19	6-3/32ALDUP
1/8	0.66	5/8	11/32	1/2	0.312	0.25	6-1/8ALDUP
5/32	0.88	11/16	3/8	9/16	0.375	0.26	6-5/32ALDUP
3/16	1.6	1	7/16	21/32	0.437	0.40	6-3/16ALDUP
1/4	2.8	1-1/8	17/32	13/16	0.563	0.64	6-1/4ALDUP
5/16	4.6	1-1/4	11/16	1-1/32	0.687	1.05	6-5/16ALDUP
3/8	5.9	1-7/16	3/4	1-5/32	0.812	1.30	6-3/8ALDUP
7/16	12	1-11/16	15/16	1-7/16	1.000	2.92	6-7/16ALDUP
1/2	17	2	1-1/16	1-5/8	1.120	4.65	6-1/2ALDUP



## SLEEVE (FERRULE) - ALUMINIUM STOP

Generally used with galvanized wire

Cable Size (in)	Weight / 100 pcs (lb)	Outside Dia. (in)	Inside Dia. (in)	O.D After Swage (in)	Price / ea.	Part Number
1/16	0.06	1/4	3/32	0.187	0.20	6-AST116
3/32	0.25	11/32	1/8	0.245	0.20	6-AST332
1/8	0.24	11/32	5/32	0.245	0.20	6-AST18
5/32	0.38	7/16	3/16	0.325	0.24	6-AST532
3/16	0.35	7/16	7/32	0.325	0.24	6-AST316
1/4	2.06	11/16	9/32	0.508	0.50	6-AST14
5/16	1.74	11/16	3/8	0.508	0.65	6-AST516



## SLEEVE (FERRULE) - COPPER OVAL

Generally used with stainless steel wire

Cable Size (in)	Weight / 100 pcs (lb)	Dimensions (in)			O.D After Swage (in)	Price / ea.	Part Number
		Length	Depth	Width			
1/16	0.3	25/64	11/64	1/4	0.190	0.30	91-CSL116
3/32	0.65	29/64	15/64	3/8	0.265	0.74	91-CSL332
1/8	1.6	9/16	21/64	1/2	0.353	1.11	91-CSL18
5/32	2.3	5/8	3/8	19/32	0.390	1.64	91-CSL532
3/16	5.1	7/8	7/16	43/64	0.475	3.30	91-CSL316
1/4	7.5	1-1/8	13/16	1/2	0.585	4.57	91-CSL14
5/16	11.8	1-1/8	21/32	1-1/64	0.730	8.34	91-CSL516
3/8	17	1-1/2	23/32	1-1/8	0.795	11.10	91-CSL38



## SLEEVE (FERRULE) - COPPER STOP

Generally used with stainless steel wire

Cable Size (in)	Weight / 100 pcs (lb)	Outside Diameter (in)	Inside Diameter (in)	O.D After Swage (in)	Price / ea.	Part Number
1/16	0.20	13/64	5/64	0.182	0.49	91-CST116
3/32	0.80	21/64	7/64	0.261	1.25	91-CST332
1/8	0.80	21/64	5/32	0.261	1.03	91-CST18
5/32	1.3	27/64	3/16	0.350	1.90	91-CST532
3/16	1.2	27/64	7/32	0.350	1.70	91-CST316
1/4	6	21/32	9/32	0.600	4.45	91-CST14
5/16	9	21/32	5/16	0.600	4.05	91-CST516



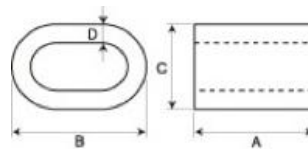
## SLEEVE (FERRULE) - STAINLESS STEEL DUPLEX



Material: 304 Stainless Steel

Cable Size (in)	Weight / each (lb)	Before Swage (in)			After Swage (in)		Price/ ea.	Part Number
		Length	Width	Height	Length	Dia.		
1/4	0.03	7/8	9/16	3/4	1	0.53	9.25	15-1/4SSSLEEVE
5/16	0.18	1-19/32	25/32	1-1/8	1-9/16	0.76	16.55	15-5/16SSSLEEVE
3/8	0.14	1-23/32	13/16	1-1/8	1-7/8	0.76	23.55	15-3/8SSSLEEVE
7/16	0.35	2-1/32	1-1/32	1-7/16	1-15/16	1.01	38.75	15-7/16SSSLEEVE
1/2	0.31	2	1	1-7/16	2-1/4	1.01	43.30	15-1/2SSSLEEVE
9/16	0.6	2-1/4	1-3/16	1-3/4	2-1/2	1.27	58.75	15-9/16SSSLEEVE
5/8	0.6	2-23/32	1-1/4	1-13/16	2-5/8	1.27	60.35	15-5/8SSSLEEVE
3/4	1	3	1-7/16	2-1/8	3-3/8	1.53	88.30	15-3/4SSSLEEVE

## SLEEVE (FERRULE) - DUPLEX OVAL



Rope Size (in)	Weight / 100 pcs (lb)	Dimensions (in)				After Swage Dia. (in)	Price / ea.	Part Number
		A	B	C	D			
5/16	17	1.25	1.08	0.81	0.19	0.77	15.22	33-903-08
3/8	13	1.25	1.12	0.81	0.14	0.77	15.10	33-903-10
7/16	31	1.63	1.41	1.02	0.19	1.03	18.50	33-903-11
1/2	27	1.63	1.44	1.02	0.16	1.03	18.55	33-903-13
9/16	63	2.25	1.72	1.23	0.23	1.29	20.30	33-903-14
5/8	54	2.25	1.84	1.28	0.20	1.29	20.17	33-903-16
3/4	90	2.63	2.16	1.52	0.23	1.55	28.20	33-903-19
7/8	126	2.88	2.50	1.75	0.27	1.80	40.60	33-903-22
1	187	3.06	2.84	2.00	0.33	2.05	53.67	33-903-25
1-1/4	384	4.06	3.50	2.50	0.38	2.56	156.12	33-903-32

## SLEEVE (FERRULE) - BUTTON STOP



Cable Size (in)	Weight / 100 pcs (lb)	Before Swage Dimension (in)			After Swage Dimension (in)		Price / ea.	Part Number
		O.D.	Length	Hole Dia.	Max Dia.	Length		
1/4	8	0.63	1.06	0.30	0.58	1.41	4.10	16-1/4"BUTTON
5/16	16	0.88	1.13	0.36	0.77	1.33	4.52	16-5/16"BUTTON
3/8	15	0.88	1.48	0.42	0.77	1.69	5.64	16-3/8"BUTTON
7/16	30	1.13	1.63	0.48	1.03	1.94	7.06	16-7/16"BUTTON
1/2	50	1.31	1.89	0.55	1.16	2.17	9.01	16-1/2"BUTTON
5/8	100	1.56	2.42	0.67	1.42	2.89	13.14	16-5/8"BUTTON
3/4	131	1.69	2.73	0.79	1.55	3.25	16.79	16-3/4"BUTTON
7/8	220	2.00	3.27	0.94	1.80	3.86	28.83	16-7/8"BUTTON
1	310	2.25	3.67	1.06	2.05	4.36	36.97	16-1"BUTTON
1-1/8	450	2.56	4.05	1.19	2.30	4.81	62.92	16-1-1/8"BUTTON
1-1/4	650	2.81	4.58	1.33	2.56	5.42	88.02	16-1-1/4"BUTTON

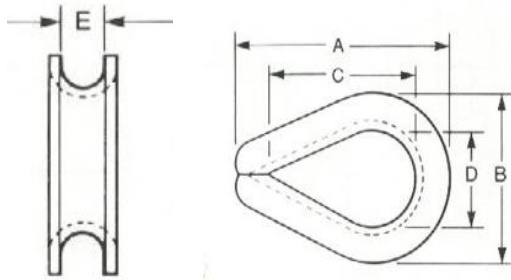
## MARLIN SPIKE



Size (in)	Price / ea.	Part Number
6	20.05	99-MS06
8	29.70	99-MS08
10	34.30	99-MS10
12	43.50	99-MS12
14	53.25	99-MS14
16	89.15	99-MS16
18	92.65	99-MS18
20	109.95	99-MS20

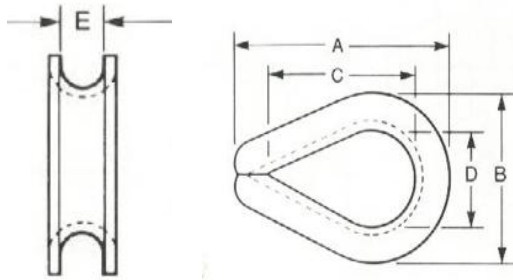
## THIMBLE - HEAVY DUTY

- Material: Steel.
- Standard: FF-T-276C
- Finish: Hot Dip Galvanized



Rope Dia. (in)	Wt. / 100 pcs. (lb)	Dimensions (in)						Qty. / Box	Price / ea.	Part Number
		A	B	C	D	E	Thickness			
1/4	6.5	2.19	1.50	1.63	0.88	0.28	0.41	1000	0.40	6-1/4GT
5/16	11.8	2.50	1.81	1.88	1.06	0.34	0.50	500	0.80	6-5/16GT
3/8	21.6	2.88	2.13	2.13	1.13	0.41	0.63	250	1.48	6-3/8GT
7/16	34.7	3.25	2.38	2.38	1.25	0.47	0.72	150	1.75	6-7/16GT
1/2	51.0	3.63	2.75	2.75	1.50	0.53	0.81	100	2.55	6-1/2GT
9/16	51.0	3.63	2.69	2.75	1.50	0.59	0.88	100	3.20	6-9/16GT
5/8	75.7	4.25	3.13	3.25	1.75	0.66	0.97	80	3.60	6-5/8GT
3/4	158.1	5.00	3.81	3.75	2.00	0.78	1.22	50	6.65	6-3/4GT
7/8	177.8	5.50	4.25	4.25	2.25	0.94	1.38	30	9.60	6-7/8GT
1	313.9	6.13	4.94	4.50	2.50	1.06	1.56	20	12.40	6-1GT
1 1/8 - 1 1/4	400.0	7.00	5.88	5.13	2.88	1.31	1.81	15	17.15	6-11/8-11/4GT
1 1/4 - 1 3/8	811.0	9.00	6.81	6.25	3.50	1.44	2.19	6	39.65	6-11/4-13/8GT
1 3/8 - 1 1/2	1295	9.06	7.13	6.50	3.50	1.56	2.56	5	56.65	6-1-1/2GT
1 3/4	1775	12.19	8.50	9.00	4.50	1.84	2.84	4	80.50	6-1-3/4GT
2	2775	15.13	10.38	12.00	6.00	2.09	3.09	2	120.37	6-2GT
2 1/4	3950	17.13	11.88	14.00	7.00	2.38	3.63	1	257.00	6-2-1/4GT
2 1/2	6350	18.50	12.75	15.00	7.00	3.00	4.50	1	460.00	6-2-1/2GT
3	11 000	21.50	13.00	18.00	8.00	3.50	5.25	1	625.00	6-3GT

## THIMBLE - LIGHT DUTY

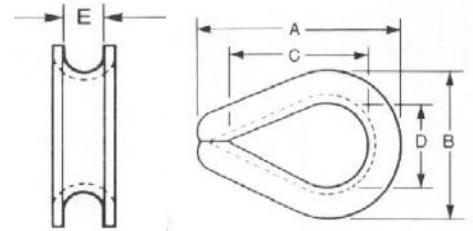


Rope Dia. (in)	Wt. / 100 pcs. (lb)	Dimensions (in)					Price / ea.	Part Number
		A	B	C	D	E		
1/8	3.50	1.94	1.06	1.31	0.69	0.16	0.30	6-1/8"GLDT
3/16	3.50	1.94	1.06	1.31	0.69	0.22	0.30	6-3/16"GLDT
1/4	3.50	1.94	1.06	1.31	0.69	0.28	0.30	6-1/4"GLDT
5/16	4.00	2.13	1.25	1.50	0.81	0.34	0.35	6-5/16"GLDT
3/8	6.70	2.38	1.47	1.63	0.94	0.41	0.45	6-3/8"GLDT
1/2	12.5	2.75	1.75	1.88	1.13	0.53	0.82	6-1/2"GLDT
5/8	34.50	3.50	2.38	2.25	1.38	0.66	2.02	6-5/8"GLDT
3/4	47.10	3.75	2.69	2.50	1.63	0.78	3.17	6-3/4"GLDT
7/8	84.60	5.00	3.19	3.50	1.88	0.94	4.89	6-7/8GLDT
1	97.50	5.69	3.75	4.25	2.50	1.06	5.87	6-1"GLDT



## THIMBLE - HEAVY DUTY

- Material: 304 Stainless Steel.
- Standard: FF-T-276C
- Finish: Stainless Steel



Rope Dia. (in)	Wt. / 100 pcs. (lb)	Dimensions (in)					Thickness	Price / ea.	Part Number
		A	B	C	D	E			
1/4	6.5	2.19	1.43	1.65	0.88	0.28	0.41	2.15	6-1/4"SSHDTH
5/16	11.8	2.75	1.88	2.00	1.06	0.34	0.50	3.10	6-5/16"SSHDTH
3/8	21.6	2.88	2.00	2.13	1.13	0.41	0.63	5.95	6-3/8"SSHDTH
1/2	51.0	3.63	2.75	2.75	1.50	0.53	0.81	13.20	6-1/2"SSHDTH
5/8	75.7	4.25	3.25	3.13	1.75	0.66	0.97	17.15	6-5/8"SSHDTH
3/4	158.1	5.00	3.75	3.81	2.00	0.78	1.22	37.49	6-3/4SSHDTH

## THIMBLE - LIGHT DUTY

- Material: 304 Stainless Steel.
- Standard: FF-T-276C
- Finish: Stainless Steel

Size (in)	Price / ea.	Part Number
1/8	1.25	6-1/8"SSLDTH
3/16	1.46	6-3/16"SSLDTH



## THIMBLE - TUBE

- Material: Steel.
- Standard: FF-T-276C
- Finish: Painted Yellow



Size (mm)	Type	Price / ea.	Part Number
12	215	15.25	6-TT1/2
14	217	18.03	6-TT9/16
16	219	25.50	6-TT5/8
18	222	32.91	6-TT3/4
22	225	46.87	6-TT7/8
24	228	59.93	6-TT15/16
26	230	62.66	6-TT1
32	235	85.26	6-TT1-1/4

## THIMBLE - WIRE TUBE



- Material: Steel
- Finish: Hot Dip Galvanized



Size (mm)	Wire Size Max. (mm)	Type	Weight (kg)	Dimensions (mm)					Price / ea.	Part Number
				A	B	C	D	E		
19	16	G219	0.60	19	125	32	5	12	17.25	6-TT19
35	32	G235	2.40	35	210	60	7	22	64.10	6-TT35

## THIMBLE - WIRE TUBE WITH GUSSET

- Material: Steel
- Finish: Blue Painted



Size (mm)	Wire Size Max. (mm)	Type	Weight (kg)	Dimensions (mm)						Price / ea.	Part Number
				A	B	C	D	E	F		
28	24	G228	1.62	28	176	45	7	16	61	39.10	6-TT28G
35	32	G235	2.73	35	210	60	7	22	93	64.00	6-TT35G

## THIMBLE - WIRE TUBE WITH GUSSET

- Material: Steel
- Finish: Blue Painted

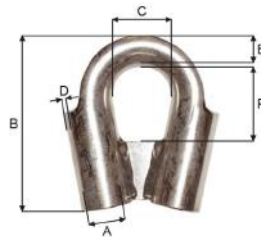


Size (mm)	Wire Size Max. (mm)	Type	Weight (kg)	Dimensions (mm)						Price / ea.	Part Number
				A	B	C	D	E	F		
30	25	G730	2.02	30	170	47	7	18	68	40.10	6-TT30G



## THIMBLE - WIRE TUBE WITH GUSSET

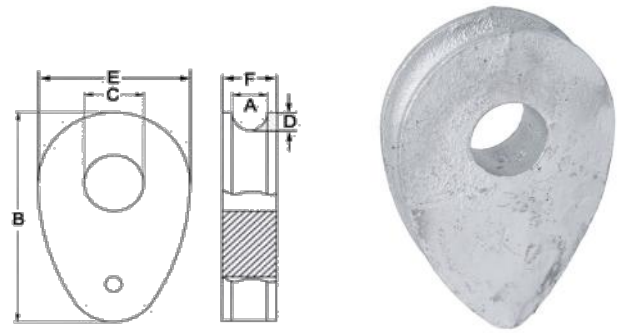
- Material: 304 SS
- Finish: Stainless Steel



Size (mm)	Wire Size Max. (mm)	Type	Weight (kg)	Dimensions (mm)						Price / ea.	Part Number
				A	B	C	D	E	F		
31	28	G831K	1.92	31	163	48	7	19	66	174.00	6-TTSS31G

## SOLID THIMBLE - DIN 3091

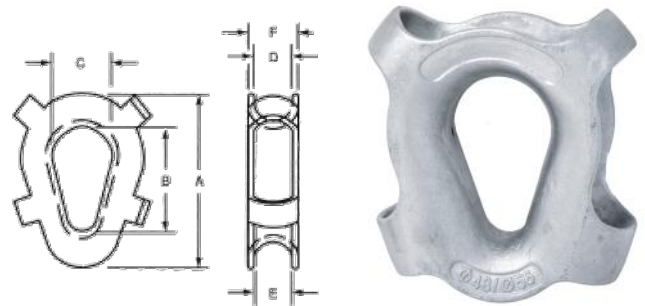
- Material: Cast Iron
- DIN 3091
- Finish: Hot Dip Galvanized



Size	Dimensions (mm)						Weight / ea. kgs	Price / ea.	Part Number
	A	B	C	D	E	F			
10	11	70	18	6	50	17.5	0.24	16.12	6-10MMST
12	13	84	21	7.5	60	20	0.39	21.00	6-12MMST
14	16	98	25	9	70	23.5	0.61	32.80	6-14MMST
16	18	110	28	10.5	80	26	0.84	45.20	6-16MMST
18	20	130	31	12	90	28.5	1.21	48.82	6-18MMST
20	22	140	35	13.5	100	31	1.55	62.25	6-20MMST
22	24	150	38	15	110	33.5	1.90	79.05	6-22MMST
24	26	170	41	16.5	120	36	2.75	108.45	6-24MMST
26	29	180	44	18	130	39.5	3.16	132.00	6-26MMST
28	31	200	47	20	140	42	3.29	143.40	6-28MMST
32	35	220	53	23	160	47	6.05	244.65	6-32MMST
36	40	250	59	26	180	53	8.60	345.00	6-36MMST

## THIMBLE - SYNTHETIC ROPE

- Material: Steel
- Standard: FF-T-276C
- Finish: Hot Dip Galvanized



Size (in)	Rope Dia. (mm)	Wt. (lb)	Dimensions (mm)						Price / ea.	Part Number
			A	B	C	D	E	F		
1-1/4 - 1-5/8	32 - 40	6.6	196	127	85	50	50	60	225.40	6-1-1/4-1-5/8SRT
2 - 2-1/4	48 - 56	15	247	149	92	72	72	89	408.36	6-2-2-1/4SRT
2-5/8	64	19.4	276	159	102	75	75	79	496.80	6-2-5/8SRT
3	72	30.2	320	195	120	87	87	105	643.60	6-3SRT
3-1/4	80 - 86	41.8	360	220	128	101	101	114	961.68	6-3-1/4SRT

## CHOKER BUTTON



Size (in)	Price / ea.	Part Number
7/16	3.90	31-7/16"CB
1/2	3.90	31-1/2"CB

## HOOK - MICRO MIDGET CHOKER

- New improved manufacturing process
- Material: 35CMRO Alloy Steel Heat treated



Price / ea.	Part Number
16.55	90-CHCM

## GO-NO-GO GUAGES - FOR FLEMISH EYE STEEL SLEEVES (FERRULES)

For measuring after swage dimensions of Flemish eye steel sleeves to ensure the sleeve is swaged to proper dimensions for reasons such as worn dies and / or incorrect swaging procedures.



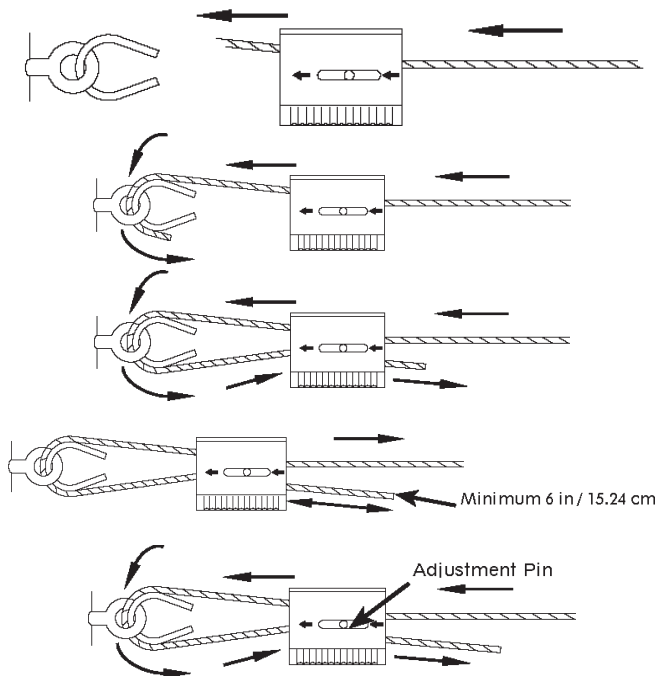
For Sleeve Sizes	Price / ea.	Part Number
1/4" ~ 1-1/4"	185.70	176-1/4-1-1/4NKG
1-3/8" ~ 1-1/2"	185.70	176-1-3/8-1-1/2NKG
1-3/4" ~ 2"	185.70	176-1-3/4-2NKG
2-1/4" ~ 2-1/2"	185.70	176-2-1/4-2-1/2NKG

## CABLE JOINER - SELF-LOCKING

WLL (lb)	Wire Diameter (in)	Wire Construction	Material	Price	Part Number
10 - 75	1/16	7 x 7	Galvanised Steel	10.01	27-KL75
0 - 75 25 - 150	1/16 3/32	7 x 7 7 x 7	Galvanised Steel	Pricing on Request	27-KL100
25 - 150 25 - 250	3/32 1/8	7 x 7 7 x 7	Galvanised Steel		27-KL150
25 - 250 50 - 640	1/8 3/16	7 x 7 7 x 19	Galvanised Steel		27-KL200
50 - 1000	1/4	7 x 19	Galvanised Steel		27-KL600



### Assembly Instructions:



Pull adjustment pin back and pass wire through joiner. Failure to pull adjustment pin first may cause damage to serrated teeth and reduce holding capacity.

Lop wire through anchor.

Pull adjustment pin back and pass wire back through joiner. Push through at least 6" of wire rope.

Always confirm engagement of joiner on wire before applying load by pushing the adjustment pin in the opposite direction of the arrows on the cable lock and then pulling the cable also in the opposite direction of the arrows on the cable lock.

To adjust, take the load off and pull the tail slightly to disengage teeth, then release using adjustment pin.

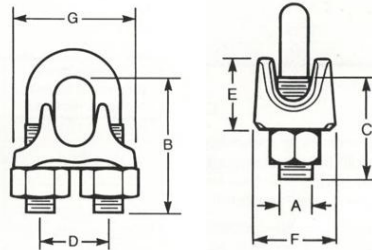
### Warning Instructions:

- To ensure hanging system integrity and safety, use only properly sized wire rope.
- Always pull adjustment pin back before passing wire rope through rise cable lock. Failure to pull adjustment pin first may cause damage to serrated teeth and reduce holding capacity.
- Always confirm engagement of joiner on wire before applying load by pushing the adjustment pin in the opposite direction of the arrows on the cable lock and then pulling the cable also in the opposite direction of the arrows on the cable lock.
- Do not use for loads outside the stated range of the product.

- Do not exceed the safe working range of the product.
- Do not use on coated wire rope, paint, lubricant, or other coating.
- Do not use for lifting or dynamic loads.
- Keep the product clean and free from dirt.
- Remove damaged cable end prior to inserting into the joiner.
- Do not use in chlorinated atmospheres.
- For use on static load applications only.

## CLIP - WIRE ROPE, MALLEABLE

- To be used for light Duty, NON CRITICAL applications only.
- Typical uses include: guard line and fencing.
- Material: Malleable Steel
- Standard: FF-C-450, Type 1 Class 2.
- Finish: Electro-Galvanized
- Identification: Size



Rope Size (in)	Weight / 100 pcs. (lb)	Dimensions (in)							Price / ea.	Part Number
		A	B	C	D	E	F	G		
1/8	4	0.18	0.81	0.50	0.50	0.50	0.56	0.94	0.23	6-1/8"MC
3/16	6.3	0.25	0.94	0.56	0.56	0.56	0.63	1.06	0.37	6-3/16"MC
1/4	13	0.31	1.19	0.75	0.75	0.69	0.75	1.31	0.55	6-1/4"MC
5/16	15	0.31	1.31	0.84	0.75	0.75	0.75	1.44	0.60	6-5/16"MC
3/8	21	0.38	1.63	1.00	0.88	0.84	0.88	1.63	0.88	6-3/8"MC
1/2	37	0.44	2.00	1.19	1.06	1.00	1.06	1.88	1.39	6-1/2"MC
5/8	59	0.50	2.31	1.38	1.25	1.25	1.28	2.09	2.08	6-5/8"MC
3/4	84	0.56	2.56	1.56	1.31	1.44	1.56	2.38	2.96	6-3/4"MC
7/8	125	0.63	3.06	1.81	1.63	1.75	1.81	2.88	4.48	6-7/8"MC
1	166	0.63	3.44	2.00	1.88	2.06	2.00	3.00	5.32	6-1"MC

## CLIP - WIRE ROPE, STAINLESS

- Material: 304 Stainless Steel
- Standard: FF-C-450
- Finish: Stainless Steel
- Identification: Size

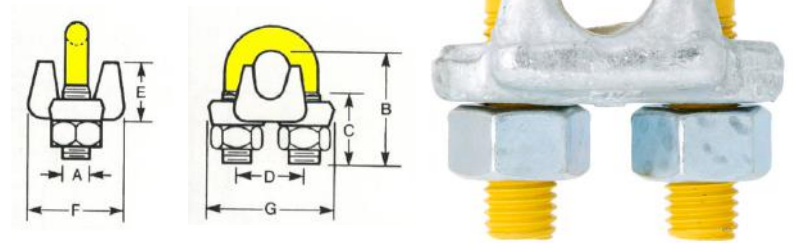
Size (in)	Price / ea.	Part Number
1/8	2.05	6-1/8"304SS
3/16	2.55	6-3/16"304SS
1/4	3.75	6-1/4"304SS
5/16	4.65	6-5/16"304SS
3/8	7.50	6-3/8"304SS
1/2	12.00	6-1/2"304SS
5/8	16.85	6-5/8"304SS





## CLIP - WIRE ROPE, FORGED

- Only genuine 'OCEAN' clips have yellow U-Bolt for instant recognition.
- 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



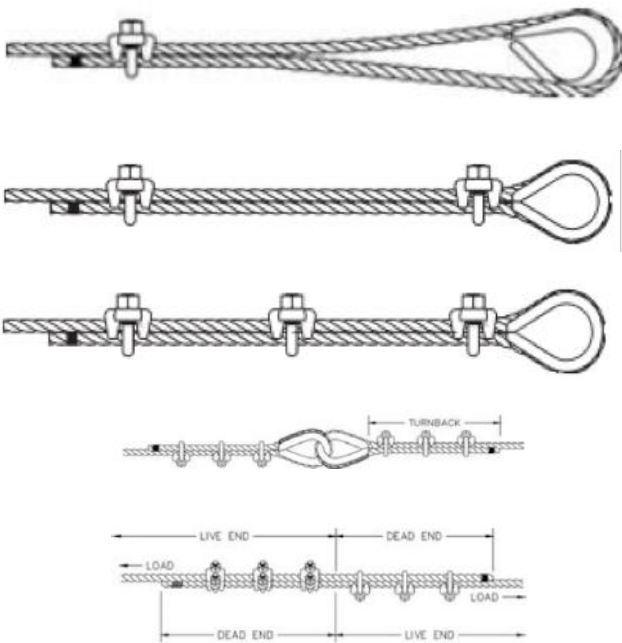
Rope Size (in)	Weight / 100 pcs. (lb)	Dimensions (in)						Use			Qty. / Box	Price / ea.	Part Number
		A	B	D	E	F	G	*Min #	Torque (lbf * ft)	Min. rope turn back (in)			
1/8	6	0.22	0.72	0.47	0.41	0.81	0.94	2	4.5	3 1/4	1000	0.93	6-1/8"FC
3/16	10	0.25	0.97	0.59	0.50	0.94	1.16	2	4.5	3 3/4	500	1.30	6-3/16"FC
1/4	20	0.31	1.03	0.75	0.66	1.19	1.44	2	15	4 3/4	250	1.35	6-1/4"FC
5/16	30	0.38	1.38	0.88	0.72	1.31	1.69	2	30	5 1/4	150	1.62	6-5/16"FC
3/8	47	0.44	1.50	1.00	0.91	1.63	1.94	2	45	6 1/2	100	2.36	6-3/8"FC
1/2	80	0.50	1.88	1.19	1.13	1.91	2.28	3	65	11 1/2	75	3.75	6-1/2"FC
9/16	104	0.56	2.25	1.31	1.22	2.06	2.50	3	95	12	50	5.08	6-9/16"FC
5/8	106	0.56	2.38	1.31	1.34	2.06	2.50	3	95	12	50	5.65	6-5/8"FC
3/4	150	0.62	2.75	1.50	1.41	2.25	2.84	4	130	18	35	8.49	6-3/4"FC
7/8	212	0.75	3.12	1.75	1.59	2.44	3.16	4	225	19	25	13.55	6-7/8"FC
1	260	0.75	3.50	1.88	1.78	2.63	3.47	5	225	26	20	14.81	6-1"FC
1 1/8	290	0.75	3.88	2.00	1.91	2.81	3.59	6	225	34	15	16.92	6-1-1/8"FC
1 1/4	430	0.88	4.25	2.31	2.19	3.13	4.13	7	360	44	12	23.85	6-1-1/4"FC
1 1/2	540	0.88	4.94	2.59	2.44	3.41	4.44	8	360	54	9	26.31	6-1-1/2"FC
1 3/4	925	1.13	5.75	3.06	2.94	3.81	5.28	8	590	61	6	103.12	6-1-3/4"FC
2	1300	1.25	6.44	3.38	3.28	4.44	5.88	8	750	71	4	139.60	6-2"FC
2 1/4	1540	1.25	7.13	3.86	3.19	4.49	6.38	8	750	73	3	Pricing on Request	116-2-1/4"FC
2 1/2	1980	1.25	7.68	4.13	3.70	4.06	6.67	9	750	84	Bulk		116-2-1/2"FC
2 3/4	2200	1.25	8.31	4.37	4.88	5.00	6.89	10	750	100	Bulk		116-2-3/4"FC
3	3080	1.50	9.77	4.76	4.69	5.87	7.64	10	1200	106	Bulk		116-3"FC
3 1/2	3960	1.50	10.75	5.51	5.98	6.18	8.39	12	1200	149	Bulk		116-3-1/2"FC

## CLIPS WIRE ROPE 'OCEAN' - WARNINGS AND APPLICATION INSTRUCTIONS

Efficiency ratings for wire rope end terminations are based on the catalog strength of standard EIPS wire rope. The efficiency rating of a properly prepared loop or thimble eye termination for clip sizes 1/8" through 7/8" is 80%, and for 1" through 3-1/2" is 90%.

Based on RRL or RLL wire rope class 6x19 or 6x37, FC or IWRC, EEIPS. If Seale construction or similar large outer wire type construction in the 6x19 class is to be used add one extra clip. If a pulley or sheave is to be used, add one extra clip.

For elevator, personal hoist, and scaffold applications refer to ANSI A17.1 and ANSI A10.4. These standards do not recommend U-Bolt wire rope terminations.



Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope, live end rests in saddle. Use torque wrench to tighten evenly alternating from one nut to the other until achieving recommended torque.

Apply the second clip as near the loop or thimble as possible, if more than two clips are required, tighten firmly but do not torque, go to the next step. If only two clips are required tighten evenly while alternating nuts until reaching the recommended torque.

Space additional clips evenly between the first two clips, take up the rope slack, and tighten evenly on each U-Bolt including the clip closest to the eye, alternating nuts until reaching recommended torque.

The recommended method of joining two wire ropes together with U-Bolt clips is to use interlocking turn back eyes with thimbles while using the recommended number of clips on each eye.

An alternate method is to use twice the number of clips as used by a turn back termination. The rope ends are placed parallel to each other overlapping by twice the turn back amount recommended, while using the minimum amount of clips on each dead end. Tighten evenly on each U-Bolt alternating nuts until reaching recommended torque.

\*\* Remember apply the first load to test the assembly as mentioned in the warnings \*\*

If a greater number of clips are used than shown in the chart, the amount of turn back should be increased proportionately.

- **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 RETIGHTEN NUTS TO RECOMMENDED TORQUE**

## SOCKET - SPELTER, OPEN, FORGED, OCEAN

- Spelter sockets are forged from special bar quality carbon steel with the very finest in hardness controls.
- Spelter sockets properly applied have an efficiency rating of 100% based on catalog strength of wire rope.
- Socket size range 1/4" through 3/4" using one groove, 7/8" through 1-1/2" uses 2 grooves. Ocean Open Spelter Sockets meet the performance requirements on Federal Specification RR-S-550E, Type A.



Wire Size (in)	Structural Strand Dia. (in)	Dimensions (in)										Wt./ea.(lb)	Price / ea.	Part Number
		L	W	D1	d	D	T	H	K	A	C			
5/16 - 3/8	--	4.84	0.83	0.79	0.51	0.83	1.73	2.25	1.77	1.50	0.44	1.3	65.84	3-3/8OSP
7/16 - 1/2	--	5.62	1.00	0.98	0.56	0.98	1.96	2.48	2.13	1.91	0.50	2.3	86.95	3-1/2OSP
9/16 - 5/8	1/2	6.77	1.26	1.19	0.70	1.14	2.25	3.00	2.52	2.28	0.55	3.7	100.81	3-5/8OSP
3/4	9/16 - 5/8	7.96	1.50	1.38	0.81	1.26	2.64	3.62	3.00	2.64	0.62	5.8	150.25	3-3/4OSP
7/8	11/16 - 3/4	9.25	1.77	1.63	0.94	1.50	3.35	4.02	3.50	3.17	0.80	10.4	232.90	3-7/8OSP
1	13/16 - 7/8	10.55	2.05	2.00	1.14	1.75	3.75	4.48	4.02	3.78	0.91	16.3	399.90	3-10SP

## SOCKET - SPELTER, CLOSED, FORGED, OCEAN

- Spelter sockets are forged from special bar quality carbon steel with the very finest in hardness controls.
- Spelter sockets properly applied have an efficiency rating of 100% based on catalog strength of wire rope.
- Socket size range 1/4" through 3/4" using one groove, 7/8" through 1-1/2" uses 2 grooves. Ocean Closed Spelter Sockets meet the performance requirements on Federal Specification RR-S-550E, Type A.

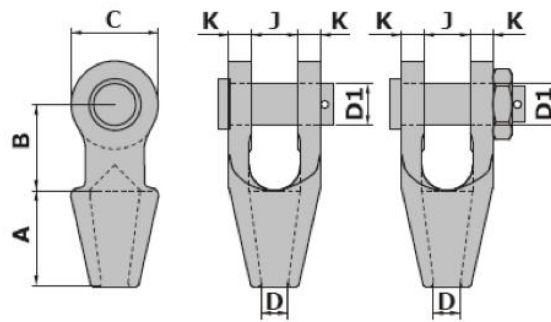


Wire Size (in)	Structural Strand Dia. (in)	Dimensions (mm)										Wt./ea.(lb)	Price / ea.	Part Number
		L	B	A	D1	d	D	T	H	W	K			
5/16 - 3/8	--	4.88	0.62	1.69	0.98	0.50	0.83	1.70	2.25	0.71	2.00	0.8	52.65	3-3/8CSP
7/16 - 1/2	--	5.43	0.71	2.00	1.19	0.55	0.98	1.96	2.52	0.87	2.25	1.5	71.28	3-1/2CSP
9/16 - 5/8	1/2	6.31	0.83	2.63	1.41	0.71	1.12	2.50	3.00	0.98	2.52	2.6	88.27	3-5/8CSP
3/4	9/16 - 5/8	7.58	1.06	3.00	1.61	0.81	1.26	2.75	3.50	1.26	3.00	4.3	123.55	3-3/4CSP
7/8	11/16 - 3/4	8.75	1.26	3.63	1.89	0.94	1.50	3.46	3.98	1.50	3.50	7.9	190.22	3-7/8CSP
1	13/16 - 7/8	9.88	1.38	4.13	2.28	1.14	1.77	3.78	4.50	1.77	4.02	10.5	273.10	3-1CSP

# SOCKET - SPELTER, OPEN, GN®

## Made in Holland

Cast material, 5:1 safety, 3.1B certificates and material certificate, galvanized finish, c/w cotter pin. Rated in Metric Ton(s)



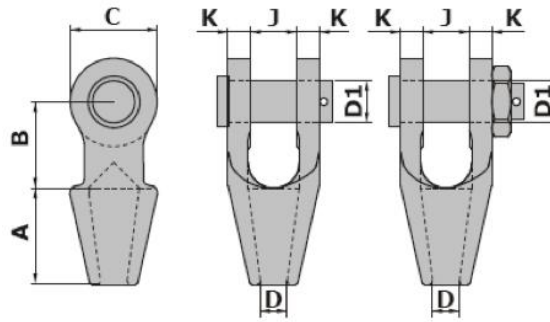
## Galvanized Finish

Wire Size (in)	MBL (t)	Dimensions (mm)							Wt./ea. (kg)	Price / ea.	Part Number
		A	B	C	D	D1	J	K			
1 1/8	100	127	114	123.5	32	57	57	25	11.6	683.28	116-1-1/80SPG
1 1/4 - 1 3/8	125	139	127	135	38	63	63	28	16.3	834.00	116-1-1/40SPG
1 1/2	150	152	162	160	41	70	76	30	24	1,109.00	116-1-1/20SPG
1 5/8	200	165	165	176	44	76	76	33	27	1,350.99	116-1-5/80SPG
1 3/4 - 1 7/8	260	190	178	200	51	89	89	39	38	2,040.20	116-1-7/80SPG
2 - 2 1/8	280	216	228	216	57	95	101	46	59	2,767.20	116-2-1/80SPG
2 1/4 - 2 3/8	360	228	250	236	63	108	113	53	87	3,666.98	116-2-3/80SPG
2 1/2 - 2 5/8	450	248	273	264	73	121	127	60	130	5,219.85	116-2-5/80SPG
2 3/4 - 2 7/8	480	279	279	276	79	127	133	73	157	P.O.R	116-2-7/80SP
3 - 3 1/8	520	305	286	284	86	133	146	76	192	5,787.13	116-3-1/80SP
3 1/4 - 3 3/8	600	330	298	296	92	140	159	79	243	Pricing on Request	116-3-3/80SP
3 1/2 - 3 5/8	700	356	318	340	99	152	171	83	287		116-3-5/80SP
3 3/4 - 4	875	381	343	362	108	178	191	89	370		116-40SP
4 1/2	1100	460	480	440	125	190	208	101	447		116-4-1/20SP
5	1250	500	500	560	138	250	210	120	750		116-50SP
5 1/2 - 6	1400	580	500	600	160	275	230	140	880		116-60SP
6 1/2	1600	675	600	650	175	290	310	175	1040		116-6-1/20SP

## SOCKET - SPELTER, OPEN, GN®

### Made in Holland

Cast material, 5:1 safety, 3.1B certificates and material certificate, painted finish, c/w cotter pin. Rated in Metric Ton(s)



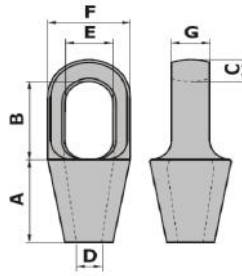
### Painted Finish

Wire Size (in)	MBL (t)	Dimensions (mm)							Wt./ea. (kg)	Price / ea.	Part Number
		A	B	C	D	D1	J	K			
1 1/2	150	152	162	160	41	70	76	30	24	927.14	116-1-1/20SP
1 5/8	200	165	165	176	44	76	76	33	27	1,044.34	116-1-5/80SP
1 3/4 - 1 7/8	260	190	178	200	51	89	89	39	38	1,655.67	116-1-7/80SP
2 - 2 1/8	280	216	228	216	57	95	101	46	59	2,093.79	116-2-1/80SP
2 1/4 - 2 3/8	360	228	250	236	63	108	113	53	87	2,904.20	116-2-3/80SP
2 1/2 - 2 5/8	450	248	273	264	73	121	127	60	130	4,167.20	116-2-5/80SP

## SOCKET - SPELTER, CLOSED, GN®

### Made in Holland

Cast material, 5:1 safety, 3.1B certificates and material certificate, galvanized or painted finish. Rated in Metric Ton(s)



Tolerance + 5%



Galvanized Finish



Painted Finish

### Galvanized Finish

Wire Size (in)	MBL (t)	Dimensions (mm)							Wt./ea. (kg)	Price / ea.	Part Number
		A	B	C	D	E	F	G			
1	75	114	103	36	28	57	106	45	6	296.39	116-1CSPG
1 1/8	100	127	116	39	32	63	114	51	7.5	379.10	116-1-1/8CSPG
1 1/4 - 1 3/8	125	139	130	44	38	70	128	58	11	611.87	116-1-1/4CSPG
1 1/2	150	152	155	51	41	79	136	63	13	668.60	116-1-1/2CSP
1 5/8	200	165	171	54	44	82	146	70	17	868.49	116-1-5/8CSP
1 3/4 - 1 7/8	260	190	198	55	51	89	171	76	24	1,330.00	116-1-7/8CSPG
2 - 2 1/8	280	216	224	62	57	96	193	82	37	1,978.23	116-2-1/8CSP
2 1/4 - 2 3/8	360	228	247	73	63	108	216	92	56	2,460.70	116-2-3/8CSP
2 1/2 - 2 5/8	450	248	270	76	73	140	241	102	65	2,857.75	116-2-5/8CSP
2 3/4 - 2 7/8	480	279	286	79	79	159	273	124	93	Pricing on Request	116-2-7/8CSP
3 - 3 1/8	520	305	298	83	86	171	292	133	110		116-3-1/8CSP
3 1/4 - 3 3/8	600	330	311	102	92	184	311	146	142		116-3-3/8CSP
3 1/2 - 3 5/8	700	356	330	102	99	197	330	159	170		116-3-5/8CSP
3 3/4 - 4	875	381	356	108	108	216	362	178	225		116-4CSP
4 1/2	1100	450	425	120	125	235	405	190	340		116-4-1/2CSP
5	1250	500	475	120	138	260	515	205	555		116-5CSP
5 1/2 - 6	1400	580	550	150	160	300	550	225	850		116-6CSP
6 1/2	1600	675	600	175	175	325	600	300	1050	116-6-1/2CSP	

### Painted Finish (Limited quantities)

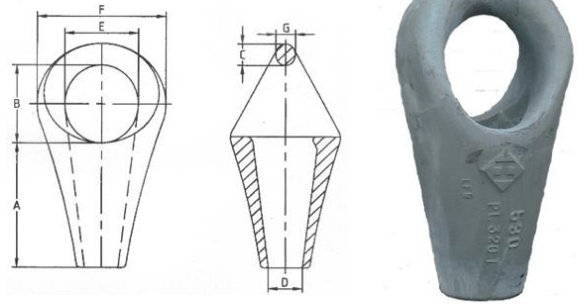
Wire Size (in)	MBL (t)	Dimensions (mm)							Wt./ea. (kg)	Price / ea.	Part Number
		A	B	C	D	E	F	G			
1 3/4 - 1 7/8	260	190	198	55	51	89	171	76	24	1,095.29	116-1-7/8CSP

**CAUTION: WHILE ATTACHING SPELTER SOCKETS TO WIRE ROPE IT IS EXTREMELY IMPORTANT TO FOLLOW RECOMMENDED PROCEDURES. WHENEVER POSSIBLE THE ASSEMBLY SHOULD BE PROOF LOADED. ALL SLINGS WITH Poured sockets, in accordance with ASME B30.9, shall be proof loaded.**

## SOCKET - SPELTER, CR, CLOSED (PEEWEE, GOLD NOSE), GN®

### Made in Holland

Cast material, 5:1 safety, proof load, 3.1B certificates, on request – MPI. CR sockets are the best possible connection between chain and a wire rope anchoring system. These sockets have a non rotating system that prevents the tamp from turning or slipping out of the cone increasing the performance of the connection. Rated in Metric Ton(s)



Wire Size (in)	WLL (t)	Dimensions (mm)							Wt./ea. (kg)	Price / ea.	Part Number
		A	B	C	D	E	F	G			
1 1/4 - 1 3/8	28	140	85	38	39	75	124	35	Pricing on Request	116-CR28	
1 1/2 - 1 5/8	32	160	110	42	44	92	130	38		116-CR32	
1 3/4 - 1 7/8	40	188	128	50	51	110	180	45		18	116-CR40
2 - 2 1/8	50	215	125	55	57	115	200	50		25	116-CR50
2 1/4 - 2 3/8	60	230	145	65	63	135	230	57		35	116-CR60
2 1/2 - 2 5/8	80	250	160	75	73	160	265	65		51	116-CR80
2 3/4 - 2 7/8	100	280	175	80	79	170	278	70	62	116-CR100	
3 - 3 1/8	120	315	210	85	86	184	300	75	75	5,256.54	116-CR120
3 1/4 - 3 3/8	140	340	205	100	92	204	320	90	93	Pricing on Request	116-CR140
3 1/2 - 3 5/8	160	360	220	105	99	215	340	95	110		116-CR160
3 3/4 - 4	180	380	240	110	108	234	376	100	141		116-CR180
4 1/4 - 4 1/2	200	450	260	125	120	252	400	110	186		116-CR200

**CAUTION:**  
**WHILE ATTACHING SPELTER SOCKETS TO WIRE ROPE IT IS EXTREMELY IMPORTANT TO FOLLOW RECOMMENDED PROCEDURES.**  
**WHENEVER POSSIBLE THE ASSEMBLY SHOULD BE PROOF LOADED. ALL SLINGS WITH Poured SOCKETS, IN ACCORDANCE WITH ASME B30.9, SHALL BE PROOF LOADED.**

## WIRE ROPE BROOM DEGREASER



- Easy to use
- Does not irritate skin
- No objectionable or toxic fumes
- Fresh pine scent
- Non-Corrosive
- Will not harm metal surfaces
- Will not scratch metal surfaces
- MSDS available on request

Size	Price / ea.	Part Number
5 gallon pail	<b>1,096.29</b>	38-93220005

**ENVIRONMENTALLY FRIENDLY**  
 Biodegradable - Non-Toxic / Non-Hazardous  
 Chlorine Free - Free of Petroleum Distillates  
 Does Not Effect the Ozone

## SOCKETING PUTTY

Item	Size	Price / ea.	Part Number
Socketing Putty	1 lb pack (10 packs per case)	<b>12.90</b>	38-91910100



**INCOMPATIBILITIES: PRE SOCKET IS NOT RECOMMENDED FOR USE ON LATEX, BUNA N, NEOPRENE, POLYSTYRENE, AND SOME PLASTICS**  
**WARNING: BIODEGRADABLE PRE SOCKET SOAKED RAGS MAY SPONTANEOUSLY COMBUST IN WASTE CONTAINERS. WET PRE SOCKET RAGS WITH WATER TO PREVENT THE RISK OF SPONTANEOUS COMBUSTION.**  
**REFER TO MSDS PRIOR TO USE: FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT. CALL CHEMTREC DAY AND NIGHT: DOMESTIC NORTH AMERICA: 800-424-9300 / INTERNATIONAL: 703-527-3887**

## SOCKET LOCK - RESIN

- Longer shelf life of 18 months
- MSDS sheets for hassle free shipping to your customers
- Newly formulated after extensive testing for better wire rope grip
- Packaged in environmentally protected pouches and rust-free plastic pails to ensure product freshness
- Disposable pouring funnel included in each kit helps eliminate spills
- Bright green resin and white hardener makes mixing easy to verify
- Packaged in CCs and individually sized kits to minimize waste and aid in easy mixing
- Non-dusting, safe to use formula contains no dry powders that become airborne health hazards



### FULL CASE QUANTITIES ONLY!

Size	Kits per Case	Booster Kits (sold individually)		Socket Lock	
		Price / ea.	Part Number	Price / ea.	Part Number
250 cc	12	<b>17.71</b>	38-10840250	<b>108.40</b>	38-10900010
500 cc	12	<b>23.29</b>	38-10840500	<b>155.47</b>	38-10900020
1000 cc	6	<b>28.00</b>	38-10841000	<b>292.10</b>	38-10900030

**RESIN SOCKETING WARNING AND SAFETY INFORMATION, SEE PAGE 308**



## RESIN SOCKETING WARNING AND SAFETY INFORMATION



Ambient Temperature*		Booster Packs Required	Approximate Gel Time (Working Time)*	Approximate Cure Time (Ready For Service)
°F	°C			
110	43	None	3-4	1
105	41	None	3-4	1
100	38	None	4-5	1
95	35	None	5-6	1
90	32	None	6-8	1
85	29	None	8-10	1
80	27	None	11-13	1
75	24	None	13-16	1
70	21	None	16-20	1
65	18	None	20-25	1
60	16	None	23-28	1
55	13	1	17-23	1
50	10	1	24-30	1
45	7	1	30-36	2
40	4	1	50-60	2.5
35	2	1	70-85	4.5
30	-1	1	100-120	6.5

- NOTE:**
- Times are approximate. The temperature of the resin, socket and wire rope can affect these times. The times above are based on the temperature of the resin at the time of mixing.
  - Thorough mixing is required to achieve appropriate times listed in the table to the right.
  - Approximate time to gel begins once resin has been mixed.
  - Approximate time to cure begins once resin has gelled.

### WARNINGS

- Inspect inside of socket bowl to determine if socket has grooves. If grooves are present, fill grooves with socketing putty.
- If using wire for seizing, only use soft annealed iron wire.
- Socket Lock resin must be gelled and cured before assembly can be used.
- Socket Lock is not to be used with stainless steel rope in a salt water environment.
- Never use oversized sockets for wire rope unless you consult the socket and wire rope manufacturer.
- Never use Socket Lock beyond the expiration date.
- Never heat socket prior to pouring resin in an effort to accelerate the curing of the resin as it may cause the resin to prematurely gel prior to reaching the bottom of the socket bowl. Doing this could cause the assembly to fail.
- Caution: Exposure to some strong chemicals may affect the cured polymer (hardened resin mixture) in a way that could weaken the assembly. Please contact the manufacturer if this has occurred.

Socket Size		CCs
inches	mm	
1/4"	6-7	9
5/16" - 3/8"	8-10	17
7/16" - 1/2"	11 - 13	35
9/16" - 5/8"	14 - 16	52
3/4"	19	86
7/8"	22	131
1"	26	164
1 1/8"	29	210
1 1/4" - 1 3/8"	32 - 35	361
1 1/2"	37	426
1 5/8"	42	495
1 3/4" - 1 7/8"	43 - 48	737
2" - 2 1/8"	51 - 54	1,265
2 1/4" - 2 3/8"	55 - 60	1,475
2 1/2" - 2 5/8"	61 - 68	1,966
2 3/4" - 2 7/8"	69 - 75	2,294
3" - 3 1/8"	76 - 80	3,277
3 1/4" - 3 3/8"	81 - 87	3,933
3 1/2" - 3 5/8"	88 - 93	4,920
3 3/4" - 4"	94 - 103	7,784

**NOTE:** Socket volumes are approximate and may vary according to manufacturer

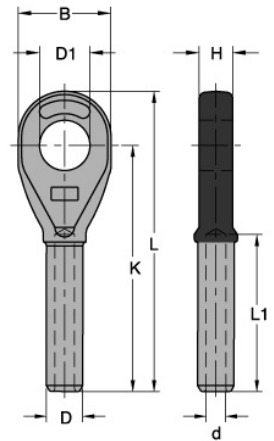
### SAFETY INFORMATION

- When handling the resin or hardener, goggles and protective clothing are recommended. Impervious gloves are recommended.
- Always work in a ventilated area.
- Avoid skin or eye contact. Wash skin with soap and water and remove contaminated clothing. If contact with eyes, flush with clean water for at least 15 minutes. If irritation persists, seek medical attention.
- Avoid ingestion. If ingestion occurs, DO NOT induce vomiting. Drink milk or water to dilute and call for medical attention.
- Avoid inhaling vapors. If excessive vapors are inhaled, move to a fresh air area. If breathing has stopped or is labored seek medical attention.
- Never aim an open flame at Socket Lock. Keep away from heat. Resin is a flammable liquid.
- Whenever using chemicals, always reference the MSDS sheet for safety and handling guidelines.

**VISIT [socket-locket.com](http://socket-locket.com) FOR FULL INFORMATION BROCHURE!**

## SOCKET - SWAGE, CLOSED, FORGED

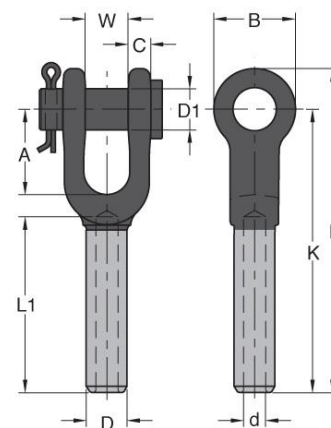
- Swage sockets properly applied have an efficiency rating of 100% based on catalog strength of wire rope.
- Swage sockets are recommended for use with 6x19, 6x37, IWRC wire rope, and galvanized bridge rope.
- Swage sockets are not recommended for use on fiber core or lang lay wire rope.



Rope (in)	Before Swage Dimensions (in)								Max. after Swage (in)	Wt./ea. (lb)	Price / ea.	Part Number
	B	D	D1	d	H	K	L	L1				
1/4	1.38	0.50	0.75	0.27	0.50	3.50	4.33	2.13	0.46	0.3	60.75	28-1/4CSS
5/16	1.63	0.77	0.89	0.34	0.67	4.50	5.50	3.15	0.71	0.8	89.22	28-5/16CSS
3/8	1.63	0.77	0.89	0.41	0.67	4.50	5.50	3.15	0.71	0.7	89.22	28-3/8CSS
1/2	2.00	0.98	1.06	0.55	0.89	5.75	6.93	4.25	0.91	1.4	118.07	28-1/2CSS
5/8	2.40	1.25	1.26	0.67	1.14	7.28	8.70	5.31	1.16	2.9	153.15	28-5/8CSS
3/4	2.87	1.55	1.44	0.80	1.31	8.54	10.20	6.38	1.42	5.0	210.38	28-3/4CSS
7/8	3.11	1.70	1.70	0.94	1.50	10.16	11.97	7.44	1.55	6.8	236.62	28-7/8CSS
1	3.62	1.98	2.05	1.06	1.77	11.54	13.46	8.50	1.80	10.4	339.66	28-1CSS
1-1/8	4.02	2.25	2.32	1.19	2.00	12.72	15.04	9.57	2.05	14.8	487.00	28-1-1/8CSS
1-1/4	4.50	2.53	2.56	1.33	2.25	14.33	16.97	10.63	2.30	21.6	573.00	28-1-1/4CSS
1-3/8	5.00	2.80	2.56	1.45	2.25	15.83	18.70	11.69	2.56	28.4	735.77	28-1-3/8CSS
1-1/2	5.50	3.08	2.81	1.58	2.52	17.01	20.12	12.75	2.81	38.1	997.42	28-1-1/2CSS

## SOCKET - SWAGE, OPEN, FORGED

- Swage sockets properly applied have an efficiency rating of 100% based on catalog strength of wire rope.
- Swage sockets are recommended for use with 6x19, 6x37, IWRC wire rope, and galvanized bridge rope.
- Swage sockets are not recommended for use on fiber core or lang lay wire rope.

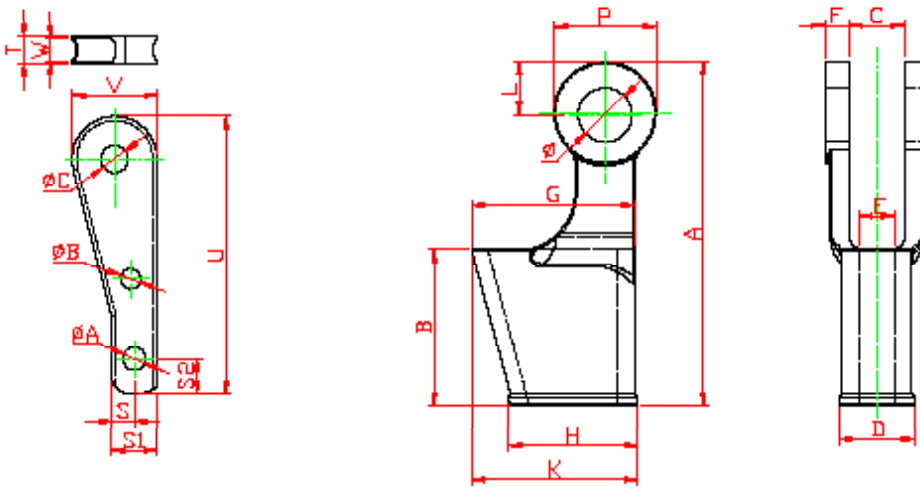


Rope (in)	Before Swage Dimensions (in)										Max. after Swage (in)	Wt./ ea. (lb)	Price/ ea.	Part Number
	A	B	C	D	D1	d	K	L	L1	W				
1/4	1.50	1.38	0.35	0.50	0.69	0.27	4.02	4.80	2.17	0.67	0.46	0.5	89.89	28-1/40SS
5/16	1.77	1.65	0.47	0.77	0.81	0.34	5.31	6.26	3.15	0.79	0.71	1.1	134.17	28-5/160SS
3/8	1.77	1.65	0.47	0.77	0.81	0.41	5.31	6.26	3.15	0.79	0.71	1.3	134.17	28-3/80SS
1/2	1.96	2.00	0.55	0.98	1.00	0.55	6.85	7.83	4.33	1.00	0.91	2.1	169.45	28-1/20SS
9/16	2.25	2.36	0.68	1.25	1.19	0.61	8.27	9.45	5.31	1.22	1.16	4.7	230.36	28-9/160SS
5/8	2.25	2.36	0.68	1.25	1.19	0.67	8.27	9.45	5.31	1.22	1.16	4.5	230.36	28-5/80SS
3/4	2.75	2.75	0.79	1.55	1.38	0.80	10.07	11.61	6.34	1.50	1.42	8.0	315.90	28-3/40SS
7/8	3.23	3.15	0.94	1.70	1.63	0.94	11.81	13.39	7.44	1.77	1.55	11.5	429.00	28-7/80SS
1	3.86	3.94	1.02	1.98	2.00	1.06	13.58	15.55	8.50	2.00	1.80	17.8	550.00	28-10SS
1-1/8	4.26	4.06	1.19	2.25	2.20	1.19	15.08	17.40	9.37	2.25	2.05	25.3	762.00	28-1-1/80SS
1-1/4	4.72	4.45	1.34	2.53	2.48	1.33	16.50	19.06	10.59	2.48	2.30	35.6	980.00	28-1-1/40SS
1-3/8	5.20	5.00	1.38	2.80	2.50	1.45	18.23	21.02	11.69	2.52	2.56	45.9	1,237.00	28-1-3/80SS
1-1/2	5.75	5.51	1.69	3.08	2.75	1.58	19.75	22.88	12.40	3.00	2.81	58.5	1,890.00	28-1-1/20SS



## SOCKET - CLIPINATOR WEDGE SOCKET

- Standard: ASME B30.26
- Efficiency rating of 80% of wire breaking strength
- Secures the tail of the wire to the wedge
- Stops tail from getting deformed when clipped

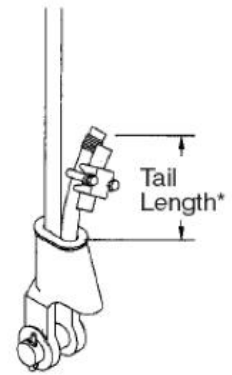


Price	Part Number
49.87	6-3/80WS
95.92	6-1/20WS
164.20	6-5/80WS
209.95	6-3/40WS
280.00	6-7/80WS
472.50	6-10WS
604.75	6-1-1/80WS
922.47	6-1-1/40WS

SIZE	A	B	C	D	E	F	G	H	K	L	P	T	U	V	W	Ø	ØA	ØB	ØC	S	S1	S2	
3/8	145		20.6	35.1		11.2			69	22.4	39.6	11.2		35									
1/2	175		25.4	41.1		12.7			88	26.9	49.3	13.5		48									
5/8	235	94	31.8	54.4	22.4	14.2	111	94	114	31	57.4	17.5	189	57	12.8	29	15	15	18	16.7	32.2	20.7	
3/4	251		38.2	67.8	29	17	130		130	33.5	66.8	21	202	65	12.2	35	17.8	15.6	20				
7/8	285.5	128	45	61	29	19	144.5	114.5	146.5	39.4	79	23	243	79	16.8	42	22	18.4	26.3	23.2	46.5	35.3	
1	325.5	146	51.5	69	34	22.5	158.5	126.5	161	50	94.5	26	267.5	88	22.4	52	23	20.3	28.5	24.7	49.5	39.5	
1-1/8	369.5	169	57	83	40.5	26.5	177.5	143.5	182	57	109	28	312.5	100	23.2	58.5	23	20	30.3	27.5	55	40	
1-1/4	404	184	65	88.5	42	29	192	152	195	62.8	120	31	326	125	26	63.5	27.2	24	32	39	78	41	

## WEDGE SOCKET WARNINGS AND USE

- Always inspect socket, wedge and pin before using.
- Do not use any part that is showing cracks, do not repair by welding.
- Do not modify or substitute any parts.
- Inspect assemblies before use.
- Do not mix and match wedges or pins between sizes.
- Always select the wedge and socket for the wire rope size.
- Use only with standard 6 to 8 strand wire rope of designated size, for intermediate size rope, use next larger size socket.
- Welding of tail on standard wire rope is not recommended, the tail length of the dead end should be a minimum of 6 rope diameters but not less than 6".
- Secure dead end section of rope. **DO NOT ATTACH DEAD END TO LIVE END.**
- Use a hammer to seat the wedge and rope as deep into socket as possible before applying first load.
- To use with rotation resistant wire rope, ensure that the dead end is welded or seized before inserting the wire rope into the wedge socket to prevent core slippage or loss of rope lay. The tail length of the dead end should be a minimum of 20 rope diameters but not less than 6".
- Efficiency rating of the wedge socket termination is based on the catalog breaking strength of wire rope. The efficiency of properly assembled wedge socket is 80%.



RIGHT



WRONG



WRONG

- **LOADS MAY SLIP OR FALL IF THE WEDGE SOCKET IS NOT PROPERLY INSTALLED.**
- **A FALLING LOAD CAN SERIOUSLY INJURE OR KILL.**
- **READ AND UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING THE WEDGE SOCKET.**
- **DO NOT SIDE LOAD THE WEDGE SOCKET.**
- **DO NOT INTERCHANGE WEDGE SOCKET, WEDGE OR PIN WITH OTHER MANUFACTURES SOCKET, WEDGE OR PIN.**
- **APPLY FIRST LOAD TO FULLY SEAT THE WEDGE AND WIRE ROPE IN THE SOCKET. THIS LOAD SHOULD BE OF EQUAL OR GREATER WEIGHT THAN LOADS EXPECTED IN USE.**
- **DO NOT INTERCHANGE WEDGE BETWEEN SIZES.**