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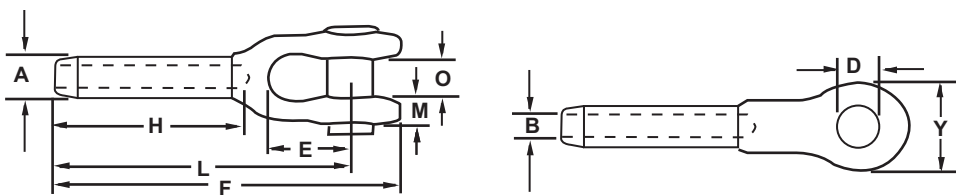
Wire Rope attachments

Wire Rope Attachments

Swage Socket (open)



- Forged from fine grain, special bar quality C-1035 steel
- Spheroidized annealed for cold swaging
- Recommended for use on 6" x 19" or 6" x 37" IWRC regular lay wire ropes. Can also be used on galvanized bridge rope. NOT FOR USE ON FIBER CORE OR LANG LAY ROPES
- Sockets have 100% efficiency rating based on catalog strength of wire rope when properly applied

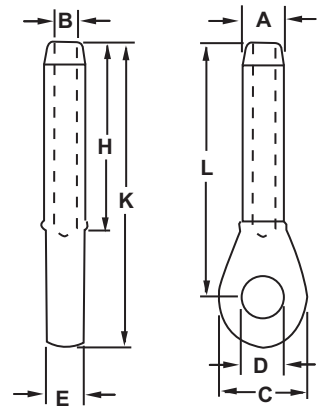


Size	Product Code	Dimensions										After Swage dia.	Weight
		A	B	D	E	F	H	L	M	O	Y		
1/4	697120	0.495	0.272	0.688	1-1/2	4-3/4	2-1/8	4	5/16	11/16	1-3/8	0.438	0.55
5/16	697121	0.770	0.339	0.812	1-3/4	6-1/4	3-3/16	5-5/16	13/32	13/16	1-5/8	0.688	1.10
3/8	697122	0.770	0.406	0.812	1-3/4	6-1/4	3-3/16	5-5/16	13/32	13/16	1-5/8	0.688	1.08
7/16	697123	0.982	0.484	1.000	2	7-13/16	4-1/4	6-11/16	1/2	1	2	0.875	2.30
1/2	697124	0.982	0.547	1.000	2	7-13/16	4-1/4	6-11/16	1/2	1	2	0.875	2.25
9/16	697125	1.257	0.609	1.190	2-1/4	9-9/16	5-5/16	8-1/8	5/8	1-1/4	2-1/2	1.125	4.60
5/8	697126	1.257	0.672	1.190	2-1/4	9-9/16	5-5/16	8-1/8	5/8	1-1/4	2-1/2	1.125	4.50
3/4	697127	1.545	0.796	1.380	2-3/4	11-11/16	6-3/8	10	3/4	1-1/2	3	1.375	7.80
7/8	697128	1.700	0.938	1.630	3-1/4	13-5/8	7-7/16	11-5/8	15/16	1-3/4	3-3/8	1.500	11.70
1	697129	1.975	1.062	2.000	3-3/4	15-5/8	8-1/2	13-3/8	1-1/32	2	4	1.750	17.80
1-1/8	697130	2.245	1.188	2.250	4-1/4	17-1/2	9-9/16	15	1-3/16	2-1/4	4-1/2	2.000	29.70
1-1/4	697131	2.525	1.328	2.500	4-3/4	19-7/16	10-5/8	16-1/2	1-3/16	2-1/2	5	2.250	36.00
1-3/8	697132	2.800	1.453	2.500	5-1/4	21-1/4	11-11/16	18-1/8	1-5/16	2-1/2	5-1/4	2.500	47.00
1-1/2	697133	3.075	1.578	2.750	5-3/4	23-1/4	12-3/4	19-3/4	1-7/16	3	5-3/4	2.750	65.00
1-3/4	697134	3.385	1.859	3.500	6-3/4	27-1/8	14-7/8	23	1-11/16	3-1/2	7	3.000	93.00



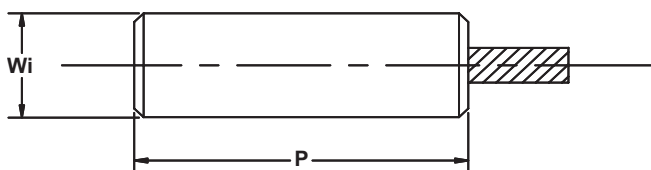
Swage Socket (Closed)

- Forged from fine grain, special bar quality C-1035 steel
- Spheroidized annealed for cold swaging
- Recommended for use on 6" x 19" or 6" x 37" IWRC regular lay wire ropes. Can also be used on galvanized bridge rope. NOT FOR USE ON FIBER CORE OR LANG LAY ROPES
- Sockets have 100% efficiency rating based on catalog strength of wire rope when properly applied



Size	Product Code	Dimensions								After Swage dia.	Weight
		A	B	C	D	E	H	K	L		
in.		in.	in.	in.	in.	in.	in.	in.	in.	in.	lb.
1/4	697151	0.495	0.272	1-7/16	0.750	1/2	2-1/8	4-3/8	3-1/2	0.438	0.34
5/16	697152	0.770	0.339	1-11/16	0.875	11/16	3-3/16	5-1/2	4-1/2	0.688	0.79
3/8	697153	0.770	0.406	1-11/16	0.875	11/16	3-3/16	5-1/2	4-1/2	0.688	0.78
7/16	697154	0.982	0.484	2	1.063	7/8	4-1/4	6-15/16	5-3/4	0.875	1.45
1/2	697155	0.982	0.547	2	1.063	7/8	4-1/4	6-15/16	5-3/4	0.875	1.38
9/16	697156	1.257	0.609	2-1/2	1.250	1-1/8	5-5/16	8-3/4	7-1/4	1.125	2.78
5/8	697157	1.257	0.672	2-1/2	1.250	1-1/8	5-5/16	8-3/4	7-1/4	1.125	2.75
3/4	697158	1.545	0.796	3	1.438	1-5/16	6-3/8	10-3/8	8-5/8	1.375	5.00
7/8	697159	1.700	0.938	3-1/2	1.688	1-1/2	7-7/16	12-1/8	10-1/8	1.500	7.50
1	697160	1.975	1.062	4	2.063	1-3/4	8-1/2	13-3/4	11-1/2	1.750	11.20
1-1/8	697161	2.245	1.188	4-1/2	2.313	2	9-9/16	15-1/4	12-3/4	2.000	15.80
1-1/4	697162	2.525	1.328	5	2.563	2-1/4	10-5/8	17-1/4	14-3/8	2.250	23.00
1-3/8	697163	2.800	1.453	5-1/4	2.563	2-1/4	11-11/16	18-7/8	15-3/4	2.500	31.00
1-1/2	697164	3.075	1.578	5-1/2	2.813	2-1/2	12-3/4	20-3/8	17	2.750	39.00
1-3/4	697165	3.385	1.859	6-3/4	3.563	3	14-7/8	24	20	3.000	52.00

Swage Buttons



- Fittings machined from specially selected and processed low carbon steel
- Buttons have 98% efficiency rating based on catalog strength of wire rope when properly applied

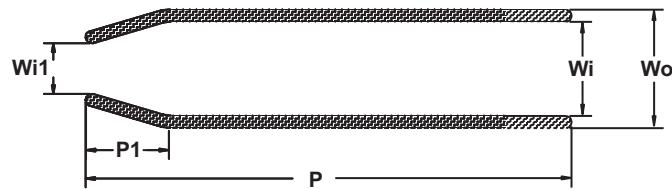
Rope Diameter	Product Code	Dimensions		Weight
		Wi	P	
in.		in.	in.	lb.
1/8	697101	0.375	0.625	0.025
3/16	697102	0.500	0.875	0.050
1/4	697103	0.563	1.188	0.068
5/16	697104	0.750	1.375	0.156
3/8	697105	0.750	1.750	0.188
7/16	697106	1.000	2.000	0.393
1/2	697107	1.125	2.188	0.544
9/16	697108	1.250	2.438	0.737
5/8	697109	1.375	2.875	1.062
3/4	697110	1.500	3.250	1.356
7/8	697111	1.750	3.875	2.194
1	697112	2.000	4.375	3.15
1-1/8	697113	2.250	4.813	4.575
1-1/4	697114	2.500	5.438	7.000
1-3/8	697115	2.750	6.000	9.150
1-1/2	697116	3.000	6.500	12.025

Wire Rope Attachments

Swaging Sleeve for Flemish Eye



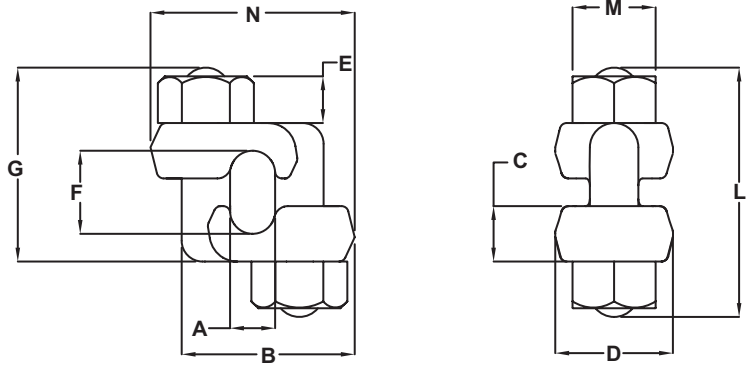
- Carbon steel sleeves come with unique color change quality control feature- color changes intensity once sleeve has been pressed verifying that swaging has occurred
- Zinc plating extends shelf life and resists rusting
- Color coding helps determine size and simplifies inventory
- Seamless construction
- Fits standard industry dies
- Mill certified, annealed low carbon steel provides consistent swaging without cracking
- No need for 16th size dies - O.D. of 16th sizes same as next largest sleeve size



Rope Diameter	Product Code	Dimensions					Wall Thickness	Diameter After Swage	Weight
		P	Wo	Wi1	Wi	P1			
in.		in.	in.	in.	in.	in.	in.	in.	lb.
0.250	697180	1.000	0.656	0.328	0.468	0.281	0.093	0.500	0.04
0.312	697181	1.500	0.906	0.438	0.609	0.468	0.141	0.730	0.14
0.375	697182	1.500	0.906	0.468	0.656	0.468	0.125	0.730	0.12
0.468	697183	2.000	1.218	0.562	0.844	0.594	0.98	0.980	0.32
0.500	697184	2.000	1.218	0.625	0.906	0.594	0.156	0.980	0.28
0.562	697185	2.750	1.468	0.688	1.031	0.703	0.218	1.200	0.63
0.625	697186	2.750	1.468	0.750	1.094	0.703	0.188	1.200	0.56
0.750	697187	3.188	1.7188	0.922	1.281	0.859	0.218	1.410	0.88
0.875	697188	3.562	2.013	1.013	1.531	1.000	0.250	1.630	1.38
1.00	697189	4.000	2.281	1.156	1.719	1.125	0.281	1.880	1.90
1.125	697190	4.813	2.500	1.281	1.938	1.250	0.281	2.080	2.60
1.250	697191	5.203	2.781	1.468	2.156	1.406	0.312	2.270	3.40
1.375	697192	5.813	3.000	1.562	2.375	1.562	0.312	2.460	4.30
1.500	697193	6.250	3.250	1.688	2.625	1.688	0.312	2.650	5.00
1.750	697194	7.250	3.844	1.938	3.125	1.969	0.359	3.040	8.40
2.000	697195	8.500	4.375	2.250	3.625	2.250	0.375	3.500	11.30
2.250	697196	9.563	5.031	2.500	4.031	2.531	0.500	4.060	19.20
2.500	697197	10.500	5.500	2.750	4.500	2.813	0.500	4.440	23.20

Mid-Grip Clips (Double Saddle)

- Meets or exceeds FF-C-450 specifications, Type III, Class 1 and will provide maximum holding strength
- Allow full arc wrench swing for quicker installation, retightening or disassembly of nuts
- Forged from special quality steel with sizes clearly marked on the saddle
- Galvanized with galvanized heavy hex nuts
- Furnished unassembled in poly bags and in factory packs of 20

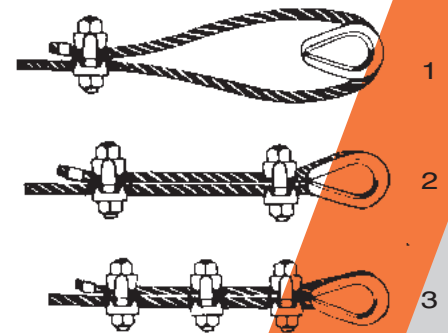


Size	Product Code	Product Code (nut)	Dimensions										Min. Number of Clips	Rope Turn-Back	Torque	Weight
			A	B	C	D	E Thread	F	G	L Approx	M	N				
3/16	M2246	602223	0.28	1.25	0.34	0.94	3/8 - 16	0.50	1.63	2.26	0.69	1.28	2	4.00	30	21
1/4	M2246	602223	0.28	1.25	0.34	0.94	3/8 - 16	0.50	1.63	2.26	0.69	1.28	2	4.00	30	21
5/16	M2247	602223	0.34	1.38	0.44	1.06	3/8 - 16	0.63	1.66	2.19	0.69	1.41	2	5.00	30	27
3/8	M2248	602224	0.41	1.56	0.50	1.06	7/16 - 14	0.75	1.75	2.25	0.75	1.85	2	5.50	45	45
7/16	M2250	602225	0.50	1.78	0.56	1.25	1/2 - 13	1.00	2.19	2.75	0.88	2.06	2	6.50	65	65
1/2	M2250	602225	0.50	1.78	0.56	1.25	1/2 - 13	1.00	2.19	2.75	0.88	2.06	3	11.00	65	65
9/16	M2251	602227	0.66	2.25	0.69	1.50	5/8 - 11	1.25	2.69	3.31	1.06	2.59	3	12.75	130	113
5/8	M2251	602227	0.66	2.25	0.69	1.50	5/8 - 11	1.25	2.69	3.31	1.06	2.59	3	13.50	130	113
3/4	M2252	602228	0.81	2.69	0.88	1.81	3/4 - 10	1.50	3.38	4.32	1.25	3.06	3	16.00	225	144

Proper use of Mid-Grip Clips

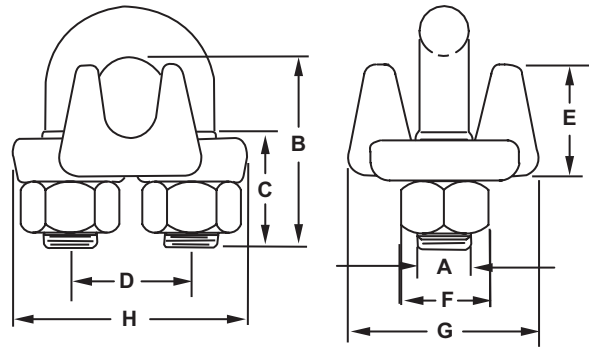
1. Refer to chart above in following these instructions. Turn back specified amounts of rope from thimble or loop. Apply first clip one base width from dead end of rope. Tighten nuts evenly, alternating from one nut to the other until reaching the recommended torque.
2. When two clips are required, apply the second clip as near the loop or thimble as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. Proceed to step 3.
3. When three or more clips are required, space additional clips between first two - take up rope slack - tighten nuts on all clips, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper spacing and retighten the nuts to the recommended torque.

Refer to additional notes concerning wire rope clips on next page



Wire Rope Attachments

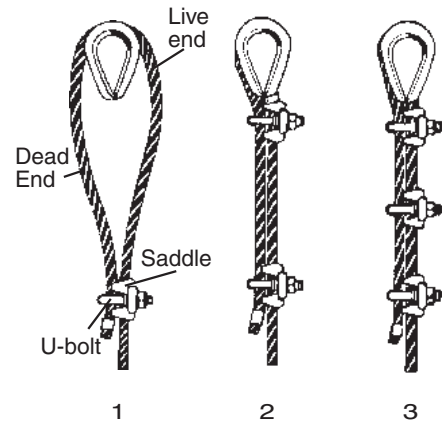
Wire Rope Clips



Size	Product Code	Dimensions								Min No Clips	Torque	Rope Turnbuckle	Weight
		A	B	C	D	E	F	G	H				
1/8*	M244	1/8-24UNC	23/32	7/16	15/32	13/32	3/8	13/16	15/16	2	4-1/2	3-1/4	5
3/16*	M245	1/4-20UNC	31/32	9/16	19/32	1/2	1/2	15/16	1-5/32	2	7-1/2	3-3/4	9
1/4	M246	5/16-18UNC	1-1/32	1/2	3/4	31/32	9/16	1-3/16	1-7/16	2	15	4-3/4	18
5/16	M247	3/8-16UNC	1-3/8	3/4	7/8	23/32	11/16	1-5/16	1-11/16	2	30	5-1/4	30
3/8	M248	7/16-14UNC	1-1/2	3/4	1	29/32	3/4	1-5/8	1-15/16	2	45	6-1/2	42
7/16	M249	1/2-13UNC	1-7/8	1	1-3/16	1-1/16	7/8	1-25/32	2-5/16	2	65	7	70
1/2	M250	1/2-13UNC	1-7/8	1	1-3/16	1-1/8	7/8	1-29/32	2-5/16	3	65	11-1/2	75
9/16	M296	9/16-12UNC	2-3/8	1-1/4	1-5/16	1-1/4	15/16	1-31/32	2-1/2	3	95	12	100
5/8	M251	9/16-12UNC	2-3/8	1-1/4	1-5/16	1-11/32	15/16	2	2-1/2	3	95	12	100
3/4	M252	5/8-11UNC	2-3/4	1-7/16	1-1/2	1-7/16	1-1/16	2-11/32	2-13/16	4	130	18	150
7/8	M253	3/4-10UNC	3-1/8	1-5/8	1-3/4	1-19/32	1-1/4	2-7/16	3-5/32	4	225	20	240
1	M254	3/4-10UNC	3-1/2	1-13/16	1-7/8	1-25/32	1-1/4	2-5/8	3-5/32	5	225	26	250
1-1/8	M255	3/4-10UNC	3-7/8	2	2	1-25/32	1-1/4	2-13/16	3-19/32	6	225	34	310
1-1/4	M256	7/8-9UNC	4-1/4	2-1/8	2-5/16	2-3/16	1-7/16	3-1/8	4-1/8	7	360	37	460
1-3/8	M257	7/8-9UNC	4-5/8	2-5/16	2-3/8	2-1/4	1-7/16	3-1/8	4-1/4	7	360	44	520
1-1/2	M258	7/8-9UNC	4-15/16	2-3/8	2-19/32	2-1/2	1-7/16	3-1/8	4-7/16	8	360	48	590

Proper use of Wire Rope Clips

1. Refer to the chart above in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Apply U-bolt over dead end of wire rope - live end rests in saddle. Tighten nuts evenly, alternate from one nut to the other until reaching the recommended torque.
2. When two clips are required, apply the second clip as near the thimble or loop as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. Proceed to Step 3.
3. When three or more clips are required, space additional clips equally between the first two - take up rope slack - tighten nuts on each U-bolt evenly, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper orientation and spacing of clips and retighten the nuts to recommended torque.



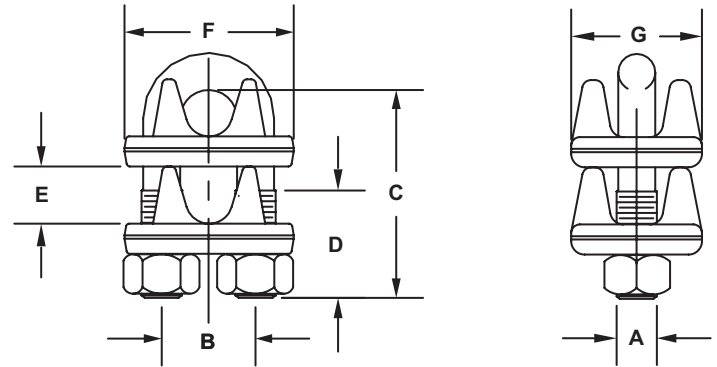
▲ WARNING ▲

Improper installation and use of wire rope clips can result in injury.

To avoid injury:

Install and use only as instructed herein.

Piggyback Wedge Socket Clips



Size	Product Code	Saddle	U-Bolt	Dimensions							Heavy Hex Nut galv.	Torque	Min. Tail	Weight
				A	B	C	D	E	F	G				
in.				in.	in.	in.	in.	in.	in.	in.		ft./lb.	in.	lb.
3/8	M248D	1X248	2X248L	7/16-14UNC	1.00	2.38	1.00	0.53	1.94	1.62	602224	45	6	0.8
7/16	M249D	1X249	2X250L	1/2-13UNC	1.19	2.62	1.00	0.66	2.31	1.78	602225	65	6	1.3
1/2	M250D	1X250	2X250L	1/2-13UNC	1.19	2.62	1.00	0.72	2.31	1.91	602225	65	6	1.4
9/16	M296D	1X296	2X251L	9/16-12UNC	1.31	3.19	1.25	0.77	2.50	1.97	602226	95	6	1.7
5/8	M251D	1X251	2X251L	9/16-12UNC	1.31	3.19	1.25	0.81	2.50	2.00	602226	95	6	1.7
3/4	M252D	1X252	2X252L	5/8-11UNC	1.50	3.50	1.50	0.91	2.81	2.34	602227	130	6	2.5
7/8	M253D	1X253	2X253L	3/4-10UNC	1.75	3.88	2.00	1.07	3.16	2.44	602228	225	6	3.6
1	M254D	1X254	2X254L	3/4-10UNC	1.88	4.25	2.00	1.22	3.47	2.62	602228	225	6	3.9
1-1/8	M255D	1X255	2X255L	3/4-10UNC	2.00	4.50	2.00	1.31	2.59	2.81	602228	225	6-3/4	4.9
1-1/4	M256D	1X256	2X256L	7/8-9UNC	2.31	5.25	2.38	1.50	4.22	3.18	602246	360	7-1/2	6.5
1-3/8	M257D	1X257	2X257L	7/8-9UNC	2.38	5.62	2.38	1.56	4.25	3.08	602246	360	8-1/4	7.1
1-1/2	M258D	1X258	2X258L	7/8-9UNC	2.59	6.00	2.38	1.75	4.47	3.41	602246	360	9	8.2

Proper use of PiggyBack Wedge Socket Clips

1. Dead end wire rope tail length should be at least 6 rope diameters, but not less than 6 inches beyond the wedge socket. Figure 1.
2. Apply U-bolt and first saddle on dead end rope and the second saddle on live end rope. Install nuts. Figure 1 & 2
3. Position the dual saddle clip so that 3 to 4 inches of dead end rope remain beyond the clip. Figures 1 & 2.
4. Tighten nuts evenly. Alternate tightening each nut until reaching the required torque specified. Figure 2.
5. Check that clip does not pinch or clamp the live wire rope. Apply an initial test load equal to the loads expected in regular use. Be certain rope is secured properly in the wedge socket prior to any use.
6. Inspect for proper rope alignment with wedge socket and retighten the nuts to the specified torque.

