



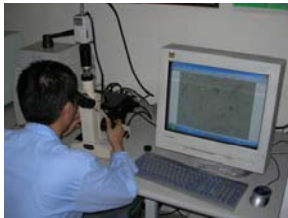
WIROP CARBON STEEL SLEEVES

WHY WIROP CARBON STEEL SLEEVES ARE ARGUABLY THE HIGHEST QUALITY IN THE WORLD TODAY



The Most Important Factors in Making The Highest Quality Carbon Steel Sleeves

- Use the highest quality materials.
- Ensure sleeves are made to exacting tolerances.
- Ensure that sleeves are heat treated consistently to exact requirements.



Materials

To ensure that all materials used in the manufacture of sleeves are of the highest quality, samples from each batch of stock are sent to Wirop's quality lab to be inspected under microscope and checked for metal purity.



Heat Treatment

For a carbon steel sleeve to withstand the force of swaging, yet not crack, it must be annealed or softened so that it can be properly cold formed. Wirop is unique in that it controls this process in-house with its state-of-the-art vacuum type spheroidizing heat treat furnaces. Spheroidizing allows the metal crystals to flow more effectively and ensure that no cracking occurs. Controlling this process in its own facility helps guarantee that the sleeves will be produced to the highest quality standards.



Destructive Testing

After each batch of sleeves has been heat treated, random samples are selected for destructive testing. The sleeves are placed into a press where they are pressed flat in two directions. This quality process ensures that the sleeve metal is ductile enough for swaging in a wire rope press.



Markings & Packaging

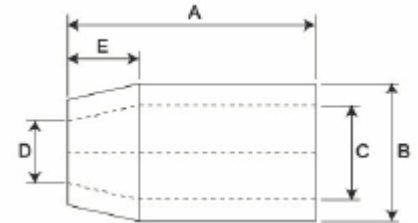
For traceability purposes, each sleeve is marked with a batch code, size and Wirop logo. Once marked, sleeves are packaged and ready for shipment.





WIROP CARBON STEEL SLEEVES

“ZERO DEFECTS, STRIVING TO BE THE BEST”



SLEEVES ARE ZINC PLATED

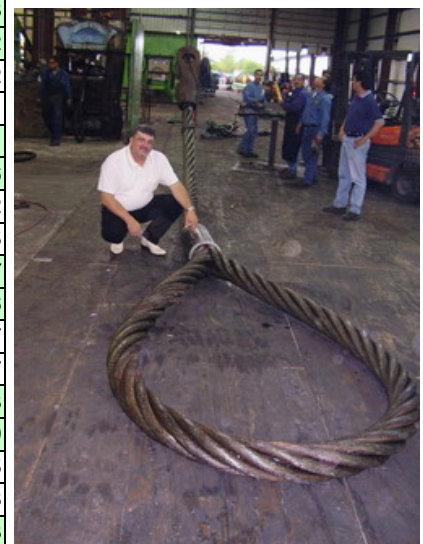


Recommended to be used with 6x19, 6x25, 6x29, 6x37 IPS or EIPS fiber core or IWRC wire rope. If using any other type of construction or grade of wire rope, it is recommended to make a break load test of the swaged termination to prove the strength of the fabricated assembly.

Wire Rope Size	Wt. Ea. (lbs.)	A (in.)	B (in.)	D (in.)	E (in.)	G (in.)	Max. After Swage Dimensions (in.)
1/4"	0.05	1	0.66	0.31	0.28	0.47	0.57
5/16"	0.145	1.5	0.91	0.38	0.44	0.62	0.75
3/8"	0.145	1.5	0.91	0.47	0.39	0.66	0.75
7/16"	0.34	2	1.22	0.53	0.65	0.85	1.01
1/2"	0.296	2	1.22	0.63	0.56	0.91	1.01
9/16"	0.66	2.75	1.47	0.7	0.63	1.03	1.24
5/8"	0.593	2.75	1.47	0.75	0.63	1.09	1.24
3/4"	0.91	3.19	1.72	0.91	0.84	1.28	1.46
7/8"	1.37	3.56	2.03	1.03	1	1.53	1.68
1"	2.03	4	2.28	1.16	1.13	1.72	1.93
1-1/8"	2.69	4.8	2.5	1.28	1.25	1.94	2.13
1-1/4"	3.67	5.19	2.78	1.44	1.41	2.16	2.32
1-3/8"	4.38	5.81	3	1.56	1.56	2.38	2.52
1-1/2"	5.18	6.25	3.25	1.69	1.69	2.63	2.71
1-3/4"	8.34	7.25	3.84	1.94	1.97	3.13	3.1
2"	11.72	8.5	4.38	2.25	2.25	3.63	3.56
2-1/4"	20.04	9.56	5.03	2.5	2.53	4.03	4.12
2-1/2"	24.35	10.5	5.5	2.75	2.81	4.5	4.5
2-3/4"	28.98	11.5	5.75	3	3.09	4.75	4.7
3"	30.44	12	6	3.25	3.38	5	4.96
3-1/4"	37.62	13	6.5	3.86	3.54	5.43	5.37
3-1/2"	48.02	14	7	3.88	3.94	5.84	5.77
3-3/4"	56.93	15	7.5	4.06	4.25	6.31	6.23
4"	70.38	16	8.13	4.38	4.5	6.81	6.69
4-1/2"	103.51	18	9.13	4.88	5.06	7.66	7.45
5"	150.48	20	10.52	5.5	5.63	8.73	8.28
6"	280.44	24	12.54	6.5	6.75	10.2	9.93



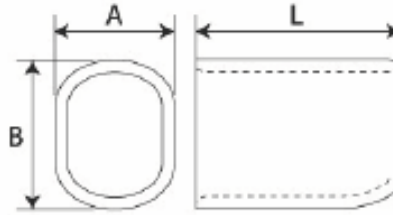
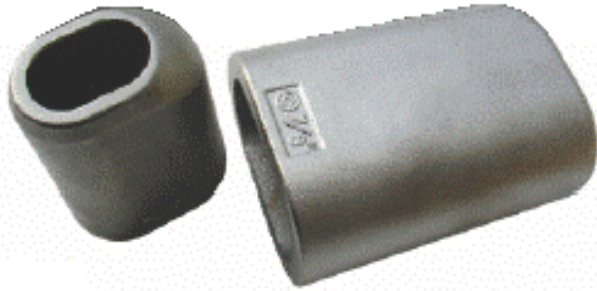
World's Largest Sling Was Made By Holloway Houston With Wirop 6" Sleeves!





WIROP STAINLESS STEEL DUPLEX SLEEVES

“ZERO DEFECTS, STRIVING TO BE THE BEST”

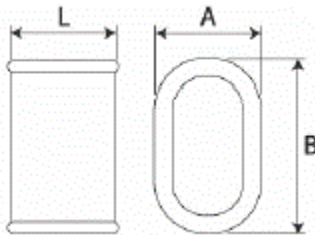


Recommended to be used with 6x19, 6x25, 6x29, 6x37 IPS or EIPS fiber core or IWRC wire rope. If using any other type of construction or grade of wire rope, it is recommended to make a break load test of the swaged termination to prove the strength of the fabricated assembly.

JUST ONE STEP WILL FINISH THE SWAGING. TURNING THE ONE-PIECE SLEEVES 90 DEGREES AND SWAGING AGAIN IS NOT RECOMMENDED.

Wire Rope Size	Wt. Ea. (lbs.)	"L" Before Swage Length (in.)	"A" Before Swage Width (in.)	"B" Before Swage Height (in.)	After Swage Length (in.)	After Swage Diameter (in.)
1/4"	0.05	7/8"	9/16"	3/4"	1"	0.53
5/16"	0.145	1-19/32"	25/32"	1-1/8"	1-9/16"	0.76
3/8"	0.145	1-23/32"	13/16"	1-1/8"	1-7/8"	0.76
7/16"	0.34	2-1/32"	1-1/32"	1-7/16"	1-15/16"	1.01
1/2"	0.296	2"	1"	1-7/16"	2-1/4"	1.01
9/16"	0.66	2-1/4"	1-3/16"	1-3/4"	2-1/2"	1.27
5/8"	0.593	2-3/8"	1-1/4"	1-13/16"	2-5/8"	1.27
3/4"	0.91	3-1/16"	1-7/16"	2-1/8"	3-3/8"	1.53
7/8"	1.37	3-1/4"	3-3/8"	2-1/2"	3-3/4"	1.76
1"	2.03	3-3/4"	1-7/8"	2-7/8"	3-13/16"	2.04

WIROP STAINLESS STEEL 2-PIECE SLEEVES



Wire Rope Size	Wt. Ea. (lbs.)	"L" Before Swage Length (in.)	"A" Before Swage Width (in.)	"B" Before Swage Height (in.)	After Swage Length (in.)	After Swage Diameter (in.)
1/2"	0.2	1-1/16"	15/16"	1-3/8"	1-1/8"	1.01
9/16"	0.31	1-1/4"	1-3/16"	1-11/16"	1-7/16"	1.27
5/8"	0.3	1-1/16"	1-13/16"	1-13/16"	1-3/16"	1.27
3/4"	0.5	1-3/16"	1-3/8"	2-1/8"	1-7/16"	1.53
7/8"	0.7	1-3/8"	1-3/4"	2-1/2"	1-5/8"	1.76
1"	1	1-9/16"	1-13/16"	2-3/4"	1-13/16"	2.04
1-1/8"	1.5	1-7/8"	2"	3-3/16"	2-1/8"	2.26
1-1/4"	2	2-1/8"	2-3/8"	3-3/8"	2-1/2"	2.51
1-3/8"	2	2-1/8"	2-5/16"	3-9/16"	2-1/2"	2.51
1-1/2"	2	2-1/4"	2-1/2"	3-7/8"	2-5/8"	2.7
1-5/8"	3	2-3/8"	2-13/16"	4-5/16"	2-3/4"	3.08
1-3/4"	3.3	2-1/2"	2-13/16"	4-7/16"	2-7/8"	3.08
2"	4.3	2-7/8"	3-3/16"	5"	3-1/4"	3.52
2-1/4"	6.5	3-1/8"	3-3/4"	5-11/16"	3-5/8"	4.02
2-1/2"	7.5	3-1/8"	4"	6-3/8"	3-7/8"	4.39



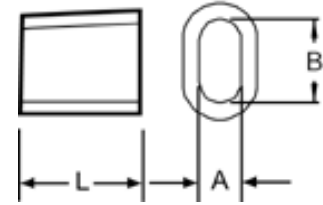
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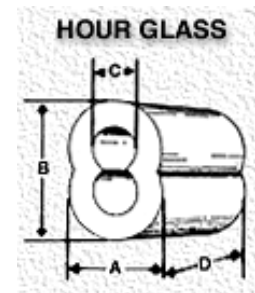
ALUMINUM OVAL SLEEVES

Wire Rope Size	L (in.)	A (in.)	B (in.)	Wt. (lbs.)
1/2"	1-57/64"	19/32"	1-13/64"	0.160
5/8"	2-11/64"	45/64"	1-3/8"	0.250
3/4"	3"	61/64"	1-29/32"	0.640
7/8"	3-37/64"	1-31/32"	3-3/32"	1.040
1"	3-13/16"	1-7/32"	2-7/16"	1.290
1-1/8"	4-25/64"	1-3/8"	2-49/64"	1.960



ALUMINUM HOUR GLASS SLEEVES

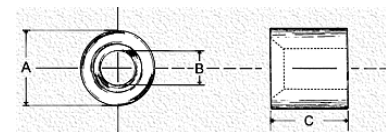
Cable & Sleeve Size	A (in.)	B (in.)	C (in.)	D (in.)	Pkg. Qty.
1/16"	0.172	0.250	0.078	3/8"	100
3/32"	0.278	0.404	0.125	1/2"	100
1/8"	0.343	0.500	0.156	5/8"	100
5/32"	0.375	0.562	0.187	11/16"	100
3/16"	0.440	0.665	0.223	1"	50
1/4"	0.536	0.818	0.290	1-1/8"	50
5/16"	0.687	1.031	0.375	1-1/4"	50
3/8"	0.750	1.156	0.438	1-7/16"	20



Sleeves, when properly applied, are capable of holding the rated breaking strength of the cable to which they are applied. However, to determine the exact holding strength, we recommend pull testing prior to use. This step ensures the proper selection of materials, the correct pressing procedure and an adequate margin of safety for the intended use.

ALUMINUM STOP BUTTONS

Cable & Button Size	A (in.)	B (in.)	C (in.)	Pkg. Qty.
1/16"	0.250	0.078	5/32"	100
3/32"	0.344	0.112	5/16"	100
1/8"	0.344	0.152	5/16"	100
5/32"	0.437	0.185	11/32"	100
3/16"	0.437	0.216	11/32"	100
1/4"	0.688	0.281	11/16"	50
5/16"	0.688	0.375	11/16"	50
3/8"	0.688	0.406	11/16"	20



Holding strength is approximately 1/3 of rated cable strength when properly swaged.

ZINC COATED COPPER HOUR GLASS SLEEVES

C (in.) Cable & Sleeve Size	A (in.)	B (in.)	D (in.)
3/32"	0.224	0.370	0.400
1/8"	0.327	0.492	0.554
3/16"	0.450	0.672	0.940
1/4"	0.515	0.809	1.110
5/16"	0.668	1.020	1.051
3/8"	0.728	1.113	1.236

