WIRECO
A World Ahead

Strand and Rope Assemblies for Structural Applications

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Broad Product Range

SUSPENSION BRIDGE MAIN CABLES

Wire for aerial spinning

Spiral strand cable assemblies

Products above are available with bright, galvanized or Zn/AL coatings.

SUSPENSION BRIDGE HANGERS

Spiral strand cable assemblies

Coated spiral strand cable assemblies

Round steel hangers

Round steel tension bars

Tension bar systems for pylon stays or wind bracings

Hangers with forged blades for welded connections

FACTORY-FABRICATED STAY CABLES

Prestressed galvanized full locked coil cable assemblies

Prestressed galvanized spiral strand cable assemblies

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Galvanized wire for PWS

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Epoxy coated strand

SITE FABRICATED STAY CABLES

Galvanized, waxed and coated PC strand

Galvanized, greased and coated PC strand

Ungalvanized PC strand

Epoxy coated strand

OTHER PRODUCTS AND SERVICES

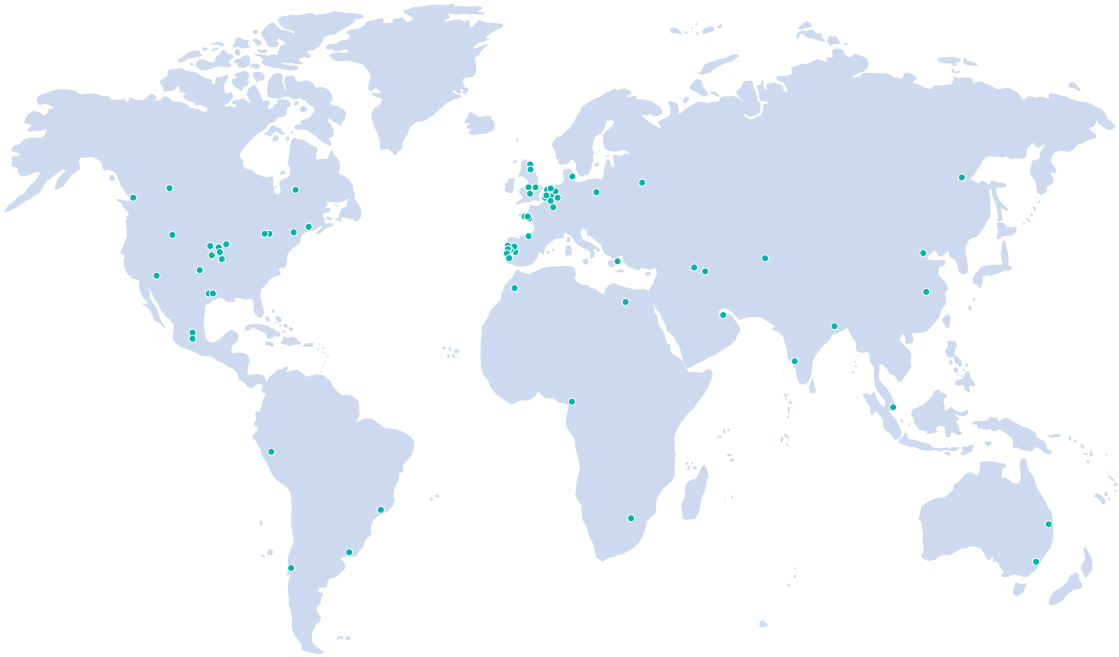
Cable design service

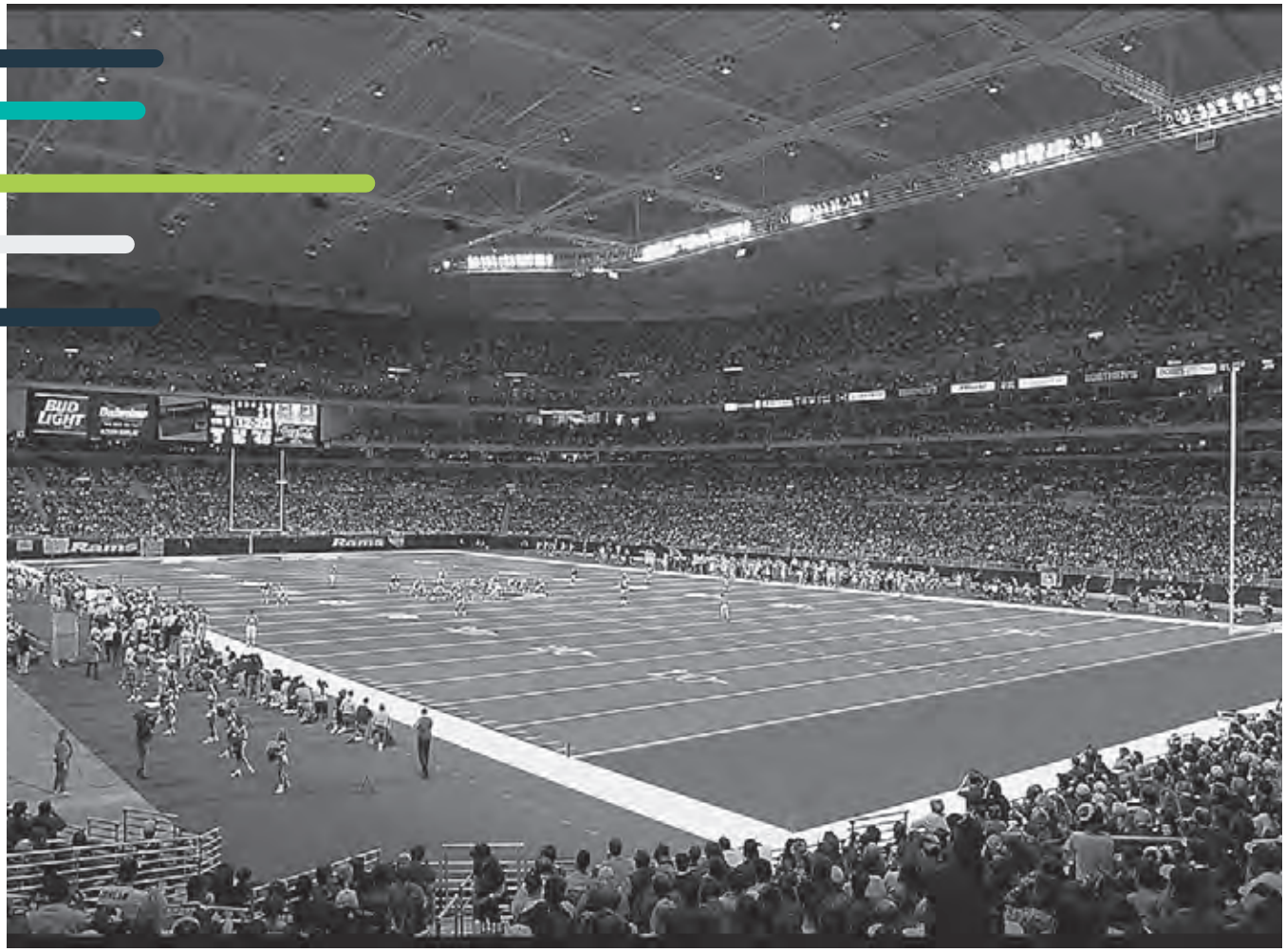
Cable installation service

Hanger replacement service

Cable damping systems

Anchorage systems





Edward Jones Dome | St. Louis, Missouri

Turn to the Global Leader

Functional. Artistic. Timeless. When it comes to stadiums, bridges and structures, WireCo is ready to help our customers' designs soar. WireCo is the market leader in wire rope manufacturing, chosen to supply cables for the world's highest profile bridge and stadium projects. From anchoring to suspending, customers around the world trust WireCo to meet the demands of their diverse applications and designs, on time and to your specifications, every time.

All of our products are designed and manufactured in-house, which allows us to continuously expand our range of products and allows us to customize your components, exactly to your specifications. We control our supply chain, from procuring our raw materials through manufacturing, fabrication and installation.

CORPORATE STRENGTH

WireCo is one of the largest manufacturer of wire rope and wire rope products in the world. We have designed and manufactured the industry's highest quality products for more than 80 years. Over that time, we have grown from a small regional manufacturer in the northeastern United States to a global market leader. We accomplished this growth by providing impeccable quality, sophisticated engineering and exceptional service.

WireCo's manufacturing standards exceed the minimum design standard for a wire rope. Many of our technical experts are actively involved with industry associations such as the American Society for Testing and Materials (ASTM) and the European Committee for Standardization (CEN), which develops global EN standards. They have contributed to the development of key global standards in the wire rope industry such as:

Manhattan Bridge | New York City

- ASTM A586 standard specification for zinc-coated parallel and helical steel wire structural strand
- ASTM A603 standard specification for zinc-coated steel structural wire rope
- EN 12385-10 standard specification for spiral ropes for general structural applications

One test of quality is the global recognition of excellence and consistent compliance with top quality standards. We are the only manufacturer worldwide that is certified by Lloyd's Register, ISO 9001:2008, AS-9100, QPL and API. Our ropes meet both EN 12385-10 and ASTM standards.

TRUSTED PARTNER

When choosing a supplier for your high profile project, you need to work with a company you can trust... people with experience in designing, engineering, manufacturing and delivering assemblies successfully. Our team, from engineering to the shop floor, has the experience and proven track record that you can rely on.

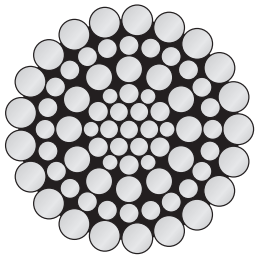
When ropes or assemblies must meet tough specifications, our engineering team consults with the architects, designers, regulatory agencies and contractors to make it happen. They are recognized in the industry for their technical expertise and have helped develop innovative products and solutions for many projects of all sizes. Quality control is critical to assure no errors and we have the most extensive team of quality engineers in the industry supporting this effort along with an experienced team in manufacturing. In addition, our manufacturing methods provide unique benefits to assure the highest quality assemblies. Ask our customers how we perform.

Bottom line, you can rely on WireCo to be your partner from specification through installation. Engineered to order. Delivered on time, every time.

Wire Products

Spiral Strand

DIAGRAM



APPLICATIONS

Use this product where high strength and high modulus is required in a stationary structure or application, such as:

- Main cables
- Wind or suspender cables
- Tower guys
- Support cable for suspended roofs
- Pedestrian and footbridges
- Hand ropes

Tempe Town Lake Pedestrian Bridge | Tempe, AZ

Overview

- Manufactured to: EN 12385-10 (metric) and ASTM A586 (imperial) galvanized structural strand.
- Multiple layers.
- Parallel contact core.
- Increased fatigue resistance.
- Reduces contact stress.
- Excellent corrosion resistance:
  - Zn/AL coatings
  - Galvanized
  - Corrosion-resistant blocking agents

SPIRAL STRAND (IMPERIAL)

PART #	NOMINAL DIAMETER (IN)	APPROX WEIGHT (LB/FT)	APPROX METALLIC AREA (IN^2)	MINIMUM BREAKING STRENGTH (TONS OF 2,000 LBS)		
				GRADE 1 CLASS A	GRADE 1 CLASS C OUTER WIRES	GRADE 2 CLASS A
WSS - 200	1/2	0.52	0.15	15.0	14.2	17.3
WSS - 203	5/8	0.82	0.23	24.0	22.8	27.6
WSS - 206	3/4	1.18	0.34	34.0	32.3	39.1
WSS - 209	7/8	1.61	0.46	46.0	43.7	52.9
WSS - 212	1	2.10	0.60	61.0	57.9	70.2
WSS - 215	1 1/8	2.66	0.76	78.0	74.1	89.7
WSS - 218	1 1/4	3.28	0.94	96.0	92.2	110
WSS - 221	1 3/8	3.97	1.13	116	111	133
WSS - 224	1 1/2	4.73	1.35	138	132	159
WSS - 227	1 5/8	5.55	1.59	162	155	186
WSS - 230	1 3/4	6.43	1.84	188	180	216
WSS - 233	1 7/8	7.39	2.11	216	207	248
WSS - 236	2	8.40	2.40	245	238	282
WSS - 239	2 1/8	9.49	2.71	277	269	319
WSS - 242	2 1/4	10.64	3.04	310	301	357

PART #	NOMINAL DIAMETER (IN)	APPROX WEIGHT (LB/FT)	APPROX METALLIC AREA (IN²)	MINIMUM BREAKING STRENGTH (TONS OF 2,000 LBS)		
				GRADE 1 CLASS A	GRADE 1 CLASS C OUTER WIRES	GRADE 2 CLASS A
WSS - 245	2 3/8	11.85	3.38	344	334	396
WSS - 248	2 1/2	13.13	3.75	376	365	432
WSS - 251	2 5/8	14.47	4.13	417	404	480
WSS - 254	2 3/4	15.88	4.54	452	438	520
WSS - 257	2 7/8	17.36	4.96	494	479	568
WSS - 260	3	18.90	5.40	538	522	619
WSS - 263	3 1/8	20.51	5.86	584	566	672
WSS - 266	3 1/4	22.18	6.34	625	606	719
WSS - 269	3 3/8	23.92	6.83	673	653	774
WSS - 272	3 1/2	25.73	7.35	724	702	833
WSS - 275	3 5/8	27.60	7.88	768	745	883
WSS - 278	3 3/4	29.50	8.43	822	797	945
WSS - 281	3 7/8	31.50	9.00	878	852	1010
WSS - 284	4	33.60	9.60	925	897	1060

Other diameters available upon request

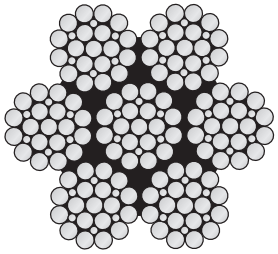
SPIRAL STRAND (METRIC)

PART #	NOMINAL DIAMETER (MM)	APPROX WEIGHT (KG/M)	APPROX METALLIC AREA (MM²)	MINIMUM BREAKING STRENGTH (KN)	
				GRADE 1570	GRADE 1770
WSS - 13	13	0,82	98,8	140	157
WSS - 14	14	0,96	115	162	182
WSS - 16	16	1,24	150	211	238
WSS - 18	18	1,57	189	261	294
WSS - 19	19	1,75	210	291	328
WSS - 20	20	1,94	233	322	363
WSS - 22	22	2,35	282	390	439
WSS - 26	26	3,28	393	544	614
WSS - 28	28	3,79	456	630	711
WSS - 30	30	4,35	524	724	816
WSS - 32	32	4,95	596	823	928
WSS - 34	34	5,58	673	929	1050
WSS - 36	36	6,26	754	1040	1170
WSS - 38	38	6,98	840	1160	1310
WSS - 40	40	7,73	931	1290	1450
WSS - 42	42	8,53	1030	1420	1590
WSS - 44	44	9,35	1130	1560	1750
WSS - 46	46	10,20	1230	1700	1910
WSS - 48	48	11,10	1340	1850	2080
WSS - 50	50	12,00	1450	2000	2260
WSS - 52	52	13,00	1570	2170	2440
WSS - 54	54	14,10	1690	2340	2640
WSS - 56	56	15,10	1820	2510	2840
WSS - 58	58	16,20	1950	2700	3040
WSS - 60	60	17,30	2090	2890	3250
WSS - 62	62	18,50	2230	3080	3480
WSS - 64	64	19,70	2380	3280	3700
WSS - 66	66	21,00	2530	3490	3940
WSS - 68	68	22,30	2680	3710	4180
WSS - 70	70	23,60	2840	3930	4430
WSS - 72	72	25,00	3010	4160	4690
WSS - 74	74	26,40	3180	4390	4950
WSS - 76	76	27,80	3350	4630	5220
WSS - 78	78	29,30	3530	4880	5500
WSS - 80	80	30,80	3710	5130	5790
WSS - 82	82	32,40	3900	5390	6080
WSS - 84	84	34,00	4100	5660	6380
WSS - 86	86	35,60	4290	5930	6690
WSS - 88	88	37,30	4490	6210	7000
WSS - 90	90	39,00	4700	6500	7320
WSS - 92	92	40,80	4910	6790	7650
WSS - 94	94	42,60	5130	7090	7990
WSS - 96	96	44,40	5350	7390	8330
WSS - 98	98	46,30	5570	7700	8680
WSS - 100	100	48,20	5800	8020	9040
WSS - 102	102	50,10	6040	8340	9410

Other diameters available upon request

Bridge Rope

DIAGRAM



APPLICATIONS

- Main cables
- Wind or suspender cables
- Tower guys
- Support cable for suspended roofs
- Pedestrian and footbridges
- Hand ropes

Troup-Howell Bridge | Rochester, NY

Overview

- ASTM A603 structural bridge rope.
- Multiple constructions available.
- Stranded wires preformed around a core.
- Core types:
  - Strand
  - IWRC
- Excellent corrosion resistance:
  - Zn/AL coatings
  - Galvanized
  - Corrosion-resistant blocking agents

BRIDGE ROPE (METRIC)

PART #	NOMINAL DIAMETER (MM)	APPROX WEIGHT (KG/M)	APPROX METALLIC AREA (MM^2)	MINIMUM BREAKING STRENGTH (KN)
WBR - 10	10	42	0,36	58
WBR - 11	11	59	0,48	78
WBR - 13	13	77	0,63	102
WBR - 14	14	95	0,79	129
WBR - 16	16	117	0,97	160
WBR - 17	17	143	1,18	191
WBR - 19	19	173	1,42	231
WBR - 21	21	201	1,64	267
WBR - 22	22	233	1,91	311
WBR - 24	24	267	2,19	356
WBR - 25	25	304	2,49	407
WBR - 29	29	385	3,15	514
WBR - 32	32	481	3,94	642
WBR - 35	35	585	4,79	781
WBR - 38	38	694	5,70	925
WBR - 41	41	819	6,72	1094
WBR - 44	44	948	7,81	1272
WBR - 48	48	1090	8,99	1459
WBR - 51	51	1239	10,21	1655
WBR - 54	54	1400	11,52	1868
WBR - 57	57	1561	12,91	2091
WBR - 60	60	1735	14,33	2322
WBR - 64	64	1916	15,80	2562
WBR - 67	67	2110	17,32	2820
WBR - 70	70	2310	18,99	3087
WBR - 73	73	2523	20,72	3372
WBR - 76	76	2742	22,53	3665
WBR - 83	83	3252	26,84	4226
WBR - 89	89	3761	31,31	4938
WBR - 95	95	4303	35,78	5694
WBR - 102	102	4897	40,25	6494

BRIDGE ROPE (IMPERIAL)

PART #	NOMINAL DIAMETER (IN)	APPROX WEIGHT (LB/FT)	APPROX METALLIC AREA (IN^2)	MINIMUM BREAKING STRENGTH (TONS OF 2,000 LBS)
WBR - 200	1/2	0.42	0.12	11.5
WBR - 203	5/8	0.65	0.18	18.0
WBR - 206	3/4	0.95	0.27	26.0
WBR - 209	7/8	1.28	0.36	35.0
WBR - 212	1	1.67	0.47	45.7
WBR - 215	1 1/8	2.11	0.60	57.8
WBR - 218	1 1/4	2.64	0.75	72.2
WBR - 221	1 3/8	3.21	0.91	87.8
WBR - 224	1 1/2	3.82	1.08	104
WBR - 227	1 5/8	4.51	1.27	123
WBR - 230	1 3/4	5.24	1.47	143
WBR - 233	1 7/8	6.03	1.69	164
WBR - 236	2	6.85	1.92	186
WBR - 239	2 1/8	7.73	2.17	210
WBR - 242	2 1/4	8.66	2.42	235
WBR - 245	2 3/8	9.61	2.69	261
WBR - 248	2 1/2	10.60	2.97	288
WBR - 251	2 5/8	11.62	3.27	317
WBR - 254	2 3/4	12.74	3.58	347
WBR - 257	2 7/8	13.90	3.91	379
WBR - 260	3	15.11	4.25	412
WBR - 266	3 1/4	18.00	5.04	475
WBR - 272	3 1/2	21.00	5.83	555
WBR - 278	3 3/4	24.00	6.67	640
WBR - 284	4	27.00	7.59	730

Other diameters available upon request

Bartle Hall | Kansas City, MO

Customized for Success

All projects are unique. The successful design and installation of a structural project depends upon choosing partners who will provide unparalleled quality and service. WireCo has the global experience to help customers with every step of their structural projects, from planning and concept to installation and maintenance.

WireCo planning and design experts ensure that customers' structural concepts provide the optimum combination of form and function. In addition, our global network of manufacturing facilities means that no matter where in the world the project is, customers receive products created to their exact specifications delivered on time, every time.

PRESTRESSED CONCRETE STRAND (PCS)

Used in cable-stayed bridges and long extension bridges, dams, silos, industrial structures and other buildings, our PCS is a 6-wire set around a center wire. It is preformed and post-formed in order to keep the wire in the desired position.

WireCo PCS is available in a galvanized, bright metal finish or a high-density green polyethylene. It is manufactured under the WireCo Quality Control System, and meets or exceeds ASTM A-416 and NMX B-292-1988 and all international specifications. In addition, WireCo PCS is manufactured to comply with the standards set by the Post-Tensioning Institute.

Each coil is tested 100 percent in our laboratories, starting with the selection of raw materials to the evaluation of final physical and mechanical characteristics. We apply a stress-relieving heat treatment to our PCS to improve elasticity and strength characteristics. WireCo PCS is low relaxation tested and certified to 1,000 hours. It is normally packaged in 3,000 kg (6,613 lb) coils.

BRIDGE WIRE

WireCo's experience in wire manufacturing provides the difference customers are looking for in quality wire production. Our state-of-the-art facilities provide bridge wire for aerial spinning and onsite parallel wire strands. In addition, WireCo is the industry's leader in developing

Puente de la Unidad | Monterrey, Mexico

new technologies that allow us to provide high tensile wires required for increasingly demanding structural project needs.

WireCo can provide bridge wire sized to any exact specification, for any structural project need. Our in-line wire heat treating, cleaning and coating, and drawing machines can deliver the right wires for the most demanding applications. The standard wire diameters from 5 mm (0.196") to 7 mm (0.276“) are available in Grades 1570 N/mm^2 (225 KSI) to 1900 N/mm^2 (275 KSI).

Coatings for bridge wires are available in Galvanized or Zn/AL coatings depending upon the project specification. Either option provides a consistent surface finish, improving the adhesion of paints and coatings to the wire surface.

Williams Pipeline Bridge | Texas

The bridge wire produced by WireCo is manufactured and packaged to customers' specifications in facilities certified to ISO 9001:2000 standards. The wire is available for shipment in coils, reels, or carriers in packaged weights suited to meet the needs of the customer.

WireCo works closely with clients to custom engineer the best wire for your application. Our manufacturing locations feature the latest technology in manufacturing equipment and information systems. As a result, we guarantee high volume capacity and quick turnaround.

MOVABLE STRUCTURES

WireCo manufactures operating and counter-weight wire ropes for use in movable structure systems such as vertical lift bridges, retractable roof systems, dam gates and ship lifts. We worked with the American Railway Engineering and Maintenance-of-Way Association (AREMA) to develop proposed changes to the AREMA standards for wire ropes and sockets used in movable bridges, as outlined in Chapter 15 of the organization's Manual for Railway Engineering.

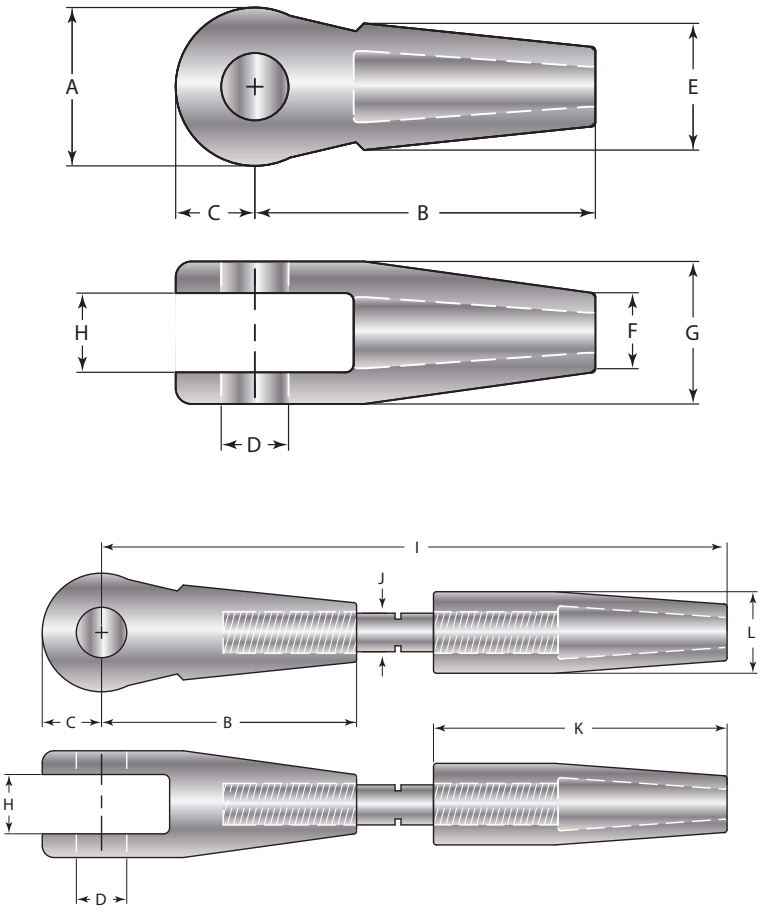
WireCo offers several wire ropes that meet these exacting standards:

- 6 x 19 class ropes
- 6 x 36 class ropes: In most rope sizes, only one
- 6 x 36 classification rope is made. WireCo's 6 x 36 constructions were designed to provide fatigue resistance without having wires that are too small.

Socket Products

Architectural Fork Sockets

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm).
  - Dimension over 4" (102 mm): +/- 1/8" (3.2 mm).

Notes:

- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

WireCo's architectural sockets are used where an aesthetically pleasing, low profile socket design is desired.

ARCHITECTURAL FORK SOCKETS (METRIC)

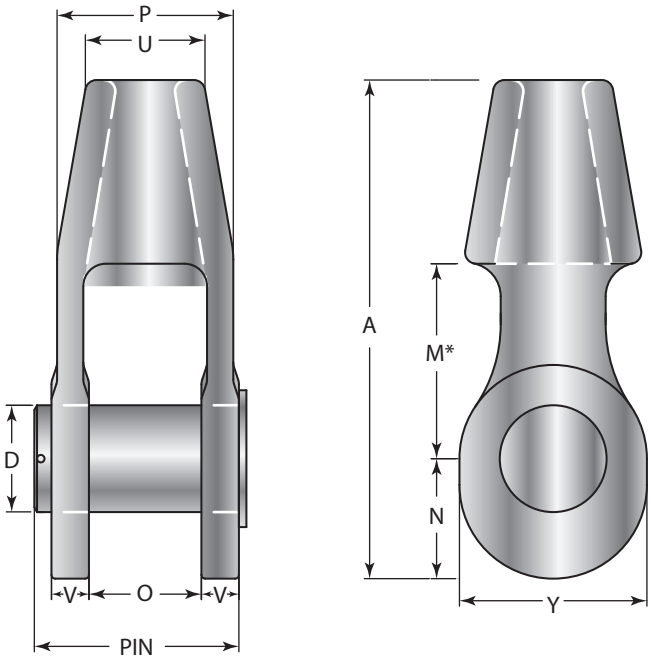
PART #	STRAND DIA. (MM)	DIMENSIONS (MM)								WEIGHT EACH (KG)
		A	B	C	D	E	F	G	H	
AR-FS-20	20	86	280	57	46	190	78	86	58	56
AR-FS-25	25	90	336	60	50	196	82	90	60	94
AR-FS-30	30	106	390	74	58	200	88	108	74	121
AR-FS-35	35	124	415	85	70	206	92	124	88	164
AR-FS-40	40	132	424	98	78	210	96	135	94	215
AR-FS-45	45	148	444	106	84	215	100	150	98	268
AR-FS-50	50	160	480	118	94	242	120	160	106	290
AR-FS-55	55	171	524	120	106	264	126	172	114	322
AR-FS-60	60	184	570	130	115	300	150	184	124	390
AR-FS-65	65	200	615	140	124	316	168	200	132	488
AR-FS-70	70	213	650	150	136	324	170	214	140	606
AR-FS-75	75	228	702	158	140	342	180	230	150	712
AR-FS-80	80	244	740	170	148	380	186	246	160	844
AR-FS-85	85	253	790	180	160	392	190	260	170	1012
AR-FS-90	90	275	830	190	170	420	200	276	180	1296
AR-FS-95	95	290	878	206	180	430	210	290	190	1456
AR-FS-100	100	305	912	215	190	480	215	306	200	1693
AR-FS-102	102	320	960	220	200	486	226	318	210	1875

ARCHITECTURAL ADJUSTABLE FORK SOCKETS (METRIC)

PART #	STRAND DIA. (MM)	DIMENSIONS (MM)												ASSEMBLY WEIGHT (KG)
		A	B	C	D	E	F	G	H	I	J	K	L	
AD-FS-20	20	86	280	57	46	190	78	86	58	630	40	178	83	56
AD-FS-25	25	90	336	60	50	196	82	90	60	640	50	194	102	94
AD-FS-30	30	106	390	74	58	200	88	108	74	714	58	228	116	121
AD-FS-35	35	124	415	85	70	206	92	124	88	822	66	238	119	164
AD-FS-40	40	132	424	98	78	210	96	135	94	875	75	256	128	215
AD-FS-45	45	148	444	106	84	215	100	150	98	915	78	280	146	268
AD-FS-50	50	160	480	118	94	242	120	160	106	986	90	300	153	290
AD-FS-55	55	171	524	120	106	264	126	172	114	1090	94	330	162	322
AD-FS-60	60	184	570	130	115	300	150	184	124	1106	100	336	180	390
AD-FS-65	65	200	615	140	124	316	168	200	132	1200	105	354	204	488
AD-FS-70	70	213	650	150	136	324	170	214	140	1290	112	372	217	606
AD-FS-75	75	228	702	158	140	342	180	230	150	1360	118	380	225	712
AD-FS-80	80	244	740	170	148	380	186	246	160	1446	128	432	250	844
AD-FS-85	85	253	790	180	160	392	190	260	170	1504	130	458	265	1012
AD-FS-90	90	275	830	190	170	420	200	276	180	1614	138	472	272	1296
AD-FS-95	95	290	878	206	180	430	210	290	190	1662	146	498	300	1456
AD-FS-100	100	305	912	215	190	480	215	306	200	1786	152	500	318	1693
AD-FS-102	102	320	960	220	200	486	226	318	210	1880	160	518	326	1875

Open Strand Sockets

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm).
  - Dimensions over 4" (102 mm): +/- 1/8" (3.2 mm).
  - V and O dimensions: +/- 1/8" (3.2 mm).
  - D: + 0 – 1/32" (0.8 mm).

Notes:

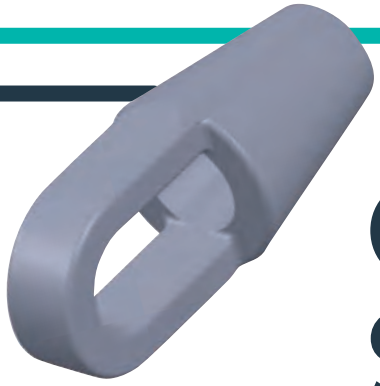
- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- M dimensions do not include basket radius restrictions.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

OPEN STRAND SOCKETS (METRIC)

PART #	STRAND DIAMETER (MM)	DIMENSIONS (MM)								PIN LENGTH (MM)	PIN DIAMETER D (MM)	COTTER PIN SIZE (MM)	WEIGHT EACH (KG)
		A	M	N	O	P	U	V	Y				
OSS - 13	13	168	64	32	32	64	38	16	51	78	30	6	2,0
OSS - 16	14 - 16	197	70	37	38	76	48	19	64	92	35	6	3,0
OSS - 19	17 - 19	229	76	43	44	86	51	21	70	102	41	6	4,6
OSS - 22	21 - 22	264	89	51	51	95	54	22	83	111	51	6	6,5
OSS - 25	24 - 25	305	102	60	60	102	60	22	95	121	57	10	8,6
OSS - 29	27 - 29	318	114	70	64	108	64	24	108	133	64	10	11,4
OSS - 32	30 - 32	346	127	79	76	121	70	25	121	149	70	10	14,5
OSS - 35	33 - 35	371	140	89	83	121	76	29	143	152	76	13	18,2
OSS - 41	37 - 41	422	165	102	95	149	102	32	159	178	89	13	32,3
OSS - 44	43 - 44	438	178	102	105	168	102	38	159	213	95	13	41,8
OSS - 48	46 - 48	489	197	114	108	178	114	41	181	219	102	13	50,5
OSS - 51	49 - 51	543	241	121	117	187	121	38	191	225	108	13	62,7
OSS - 54	52 - 54	572	254	121	114	191	121	51	191	244	114	13	73,2
OSS - 57	56 - 57	613	279	133	127	216	140	51	203	260	121	16	89,1
OSS - 60	59 - 60	629	279	140	133	219	152	54	216	273	127	16	105,0
OSS - 65	62 - 65	667	305	146	140	238	165	57	229	286	133	16	118,6
OSS - 70	67 - 70	702	311	162	152	257	165	64	254	311	146	16	145,5
OSS - 76	73 - 76	756	330	171	165	279	178	64	267	318	152	16	178,2
OSS - 83	79 - 83	800	337	197	171	298	191	70	286	343	165	16	196,8
OSS - 89	86 - 89	832	349	210	184	324	203	76	298	371	171	16	264,5
OSS - 95	92 - 95	851	356	216	197	343	216	86	311	394	178	16	307,7
OSS - 102	98 - 102	876	362	229	203	362	222	89	324	416	184	19	343,2

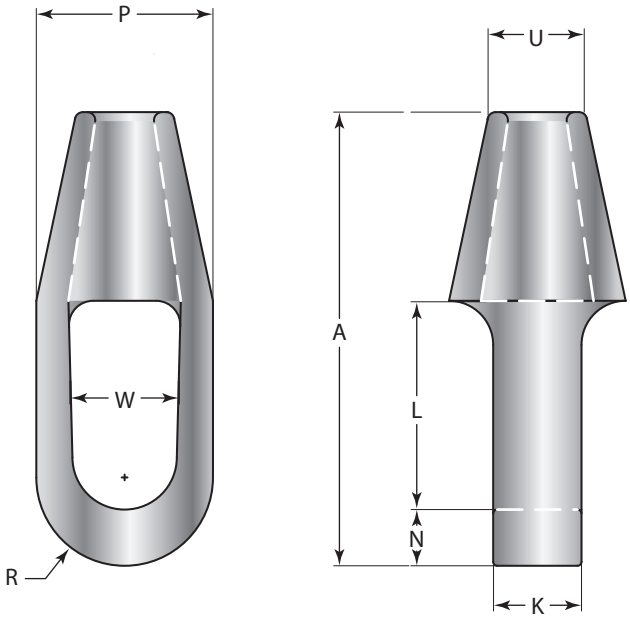
OPEN STRAND SOCKETS (IMPERIAL)

PART #	STRAND DIAMETER (IN)	DIMENSIONS (IN)								PIN LENGTH (IN)	PIN DIAMETER D (IN)	COTTER PIN SIZE (IN)	WEIGHT EACH (LB)
		A	M	N	O	P	U	V	Y				
OSS - 300	1/2	6 5/8	2 1/2	1 1/4	1 1/4	2 1/2	1 1/2	5/8	2	3 1/16	1 3/16	1/4	4.5
OSS - 302	9/16 - 5/8	7 3/4	2 3/4	1 7/16	1 1/2	3	1 7/8	3/4	2 1/2	3 5/8	1 3/8	1/4	6.7
OSS - 304	11/16 - 3/4	9	3	1 11/16	1 3/4	3 3/8	2	13/16	2 3/4	4	1 5/8	1/4	10.2
OSS - 306	13/16 - 7/8	10 3/8	3 1/2	2	2	3 3/4	2 1/8	7/8	3 1/4	4 3/8	2	1/4	14.3
OSS - 308	15/16 - 1	12	4	2 3/8	2 3/8	4	2 3/8	7/8	3 3/4	4 3/4	2 1/4	3/8	19.0
OSS - 310	1 1/16 - 1 1/8	12 1/2	4 1/2	2 3/4	2 1/2	4 1/4	2 1/2	15/16	4 1/4	5 1/4	2 1/2	3/8	25.0
OSS - 312	1 3/16 - 1 1/4	13 5/8	5	3 1/8	3	4 3/4	2 3/4	1	4 3/4	5 7/8	2 3/4	3/8	32.0
OSS - 314	1 5/16 - 1 3/8	14 5/8	5 1/2	3 1/2	3 1/4	4 3/4	3	1 1/8	5 5/8	6	3	1/2	40.0
OSS - 316	1 7/16 - 1 5/8	16 5/8	6 1/2	4	3 3/4	5 7/8	4	1 1/4	6 1/4	7	3 1/2	1/2	71.0
OSS - 318	1 11/16 - 1 3/4	17 1/4	7	4	4 1/8	6 5/8	4	1 1/2	6 1/4	8 3/8	3 3/4	1/2	92.0
OSS - 320	1 13/16 - 1 7/8	19 1/4	7 3/4	4 1/2	4 1/4	7	4 1/2	1 5/8	7 1/8	8 5/8	4	1/2	111
OSS - 322	1 15/16 - 2	21 3/8	9 1/2	4 3/4	4 5/8	7 3/8	4 3/4	1 1/2	7 1/2	8 7/8	4 1/4	1/2	138
OSS - 324	2 1/16 - 2 1/8	22 1/2	10	4 3/4	4 1/2	7 1/2	4 3/4	2	7 1/2	9 5/8	4 1/2	1/2	161
OSS - 326	2 3/16 - 2 1/4	24 1/8	11	5 1/4	5	8 1/2	5 1/2	2	8	10 1/4	4 3/4	5/8	196
OSS - 328	2 5/16 - 2 3/8	24 3/4	11	5 1/2	5 1/4	8 5/8	6	2 1/8	8 1/2	10 3/4	5	5/8	231
OSS - 330	2 7/16 - 2 9/16	26 1/4	12	5 3/4	5 1/2	9 3/8	6 1/2	2 1/4	9	11 1/4	5 1/4	5/8	261
OSS - 332	2 5/8 - 2 3/4	27 5/8	12 1/4	6 3/8	6	10 1/8	6 1/2	2 1/2	10	12 1/4	5 3/4	5/8	320
OSS - 334	2 7/8 - 3	29 3/4	13	6 3/4	6 1/2	11	7	2 1/2	10 1/2	12 1/2	6	5/8	392
OSS - 336	3 1/8 - 3 1/4	31 1/2	13 1/4	7 3/4	6 3/4	11 3/4	7 1/2	2 3/4	11 1/4	13 1/2	6 1/2	5/8	433
OSS - 338	3 3/8 - 3 1/2	32 3/4	13 3/4	8 1/4	7 1/4	12 3/4	8	3	11 3/4	14 5/8	6 3/4	5/8	582
OSS - 340	3 5/8 - 3 3/4	33 1/2	14	8 1/2	7 3/4	13 1/2	8 1/2	3 3/8	12 1/4	15 1/2	7	5/8	677
OSS - 342	3 7/8 - 4	34 1/2	14 1/4	9	8	14 1/4	8 3/4	3 1/2	12 3/4	16 3/8	7 1/4	3/4	755



Closed Strand Sockets

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm).
  - Dimensions over 4" (102 mm): +/- 1/8" (3.2 mm).

Notes:

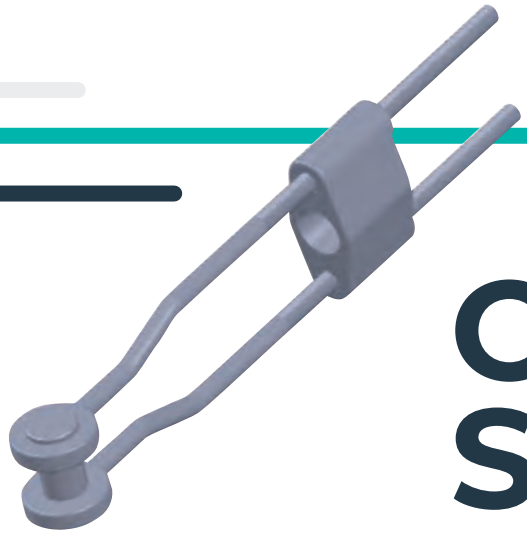
- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

CLOSED STRAND SOCKETS (METRIC)

PART #	STRAND DIAMETER (MM)	DIMENSIONS (MM)								WEIGHT EACH (KG)
		A	K	L	N	P	R	U	W	
CSS - 13	13	152	25	64	16	64	32	38	35	1
CSS - 16	14 - 16	186	32	76	19	76	38	48	44	2
CSS - 19	17 - 19	219	40	89	22	86	43	51	54	3
CSS - 22	21 - 22	254	44	102	29	95	48	54	57	4
CSS - 25	24 - 25	279	51	117	32	102	51	60	64	8
CSS - 29	27 - 29	305	57	159	38	111	56	64	70	9
CSS - 32	30 - 32	330	70	152	38	114	64	70	73	10
CSS - 35	33 - 35	359	76	165	44	124	70	76	79	14
CSS - 41	37 - 41	397	83	191	51	152	79	102	86	21
CSS - 44	43 - 44	425	95	203	57	171	83	102	95	25
CSS - 48	46 - 48	454	102	222	60	181	87	114	108	30
CSS - 51	49 - 51	479	108	241	60	191	92	121	114	35
CSS - 54	52 - 54	514	114	254	64	203	98	121	121	44
CSS - 57	56 - 57	537	121	267	70	216	102	140	127	52
CSS - 60	59 - 60	562	127	279	73	229	108	152	140	61
CSS - 65	62 - 65	591	133	292	83	238	119	165	140	76
CSS - 70	67 - 70	616	146	305	83	260	121	171	152	83
CSS - 76	73 - 76	660	152	311	95	279	135	178	165	110
CSS - 83	79 - 83	679	165	318	95	298	146	191	184	128
CSS - 89	86 - 89	705	178	330	102	318	156	203	203	156
CSS - 95	92 - 95	730	191	343	108	343	165	216	210	177
CSS - 102	98 - 102	756	197	356	114	356	178	222	216	211

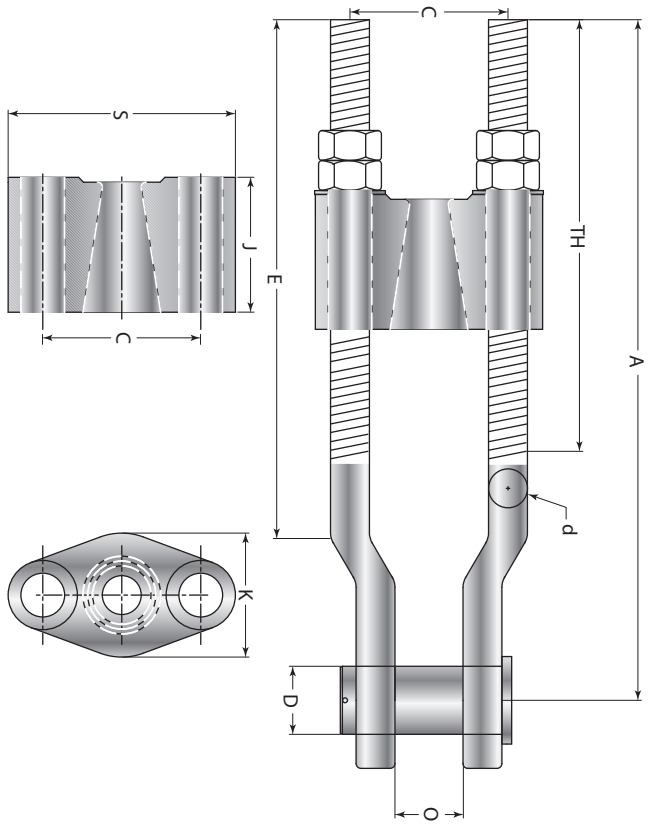
CLOSED STRAND SOCKETS (IMPERIAL)

PART #	STRAND DIAMETER (IN)	DIMENSIONS (IN)								WEIGHT EACH M(LB)
		A	K	L	N	P	R	U	W	
CSS - 300	1/2	6	1	2 1/2	5/8	2 1/2	1 1/4	1 1/2	1 3/8	2.2
CSS - 302	9/16 - 5/8	7 5/16	1 1/4	3	3/4	3	1 1/2	1 7/8	1 3/4	4.0
CSS - 304	11/16 - 3/4	8 5/8	1 9/16	3 1/2	7/8	3 3/8	1 11/16	2	2 1/8	7.0
CSS - 306	13/16 - 7/8	10	1 3/4	4	1 1/8	3 3/4	1 7/8	2 1/8	2 1/4	9.5
CSS - 308	15/16 - 1	11	2	4 5/8	1 1/4	4	2	2 3/8	2 1/2	16.5
CSS - 310	1 1/16 - 1 1/8	12	2 1/4	6 1/4	1 1/2	4 3/8	2 3/16	2 1/2	2 3/4	19.0
CSS - 312	1 3/16 - 1 1/4	13	2 3/4	6	1 1/2	4 1/2	2 1/2	2 3/4	2 7/8	21.0
CSS - 314	1 5/16 - 1 3/8	14 1/8	3	6 1/2	1 3/4	4 7/8	2 3/4	3	3 1/8	30.0
CSS - 316	1 7/16 - 1 5/8	15 5/8	3 1/4	7 1/2	2	6	3 1/8	4	3 3/8	46.0
CSS - 318	1 11/16 - 1 3/4	16 3/4	3 3/4	8	2 1/4	6 3/4	3 1/4	4	3 3/4	56.0
CSS - 320	1 13/16 -1 7/8	17 7/8	4	8 3/4	2 3/8	7 1/8	3 7/16	4 1/2	4 1/4	67.0
CSS - 322	1 15/16 - 2	18 7/8	4 1/4	9 1/2	2 3/8	7 1/2	3 5/8	4 3/4	4 1/2	78.0
CSS - 324	2 1/16 - 2 1/8	20 1/4	4 1/2	10	2 1/2	8	3 7/8	4 3/4	4 3/4	96.0
CSS - 326	2 3/16 - 2 1/4	21 1/8	4 3/4	10 1/2	2 3/4	8 1/2	4	5 1/2	5	114
CSS - 328	2 5/16 - 2 3/8	22 1/8	5	11	2 7/8	9	4 1/4	6	5 1/2	134
CSS - 330	2 7/16 - 2 9/16	23 1/4	5 1/4	11 1/2	3 1/4	9 3/8	4 11/16	6 1/2	5 1/2	167
CSS - 332	2 5/8 - 2 3/4	24 1/4	5 3/4	12	3 1/4	10 1/4	4 3/4	6 3/4	6	182
CSS - 334	2 7/8 - 3	26	6	12 1/4	3 3/4	11	5 5/16	7	6 1/2	242
CSS - 336	3 1/8 - 3 1/4	26 3/4	6 1/2	12 1/2	3 3/4	11 3/4	5 3/4	7 1/2	7 1/4	282
CSS - 338	3 3/8 - 3 1/2	27 3/4	7	13	4	12 1/2	6 1/8	8	8	343
CSS - 340	3 5/8 - 3 3/4	28 3/4	7 1/2	13 1/2	4 1/4	13 1/2	6 1/2	8 1/2	8 1/4	390
CSS - 342	3 7/8 - 4	29 3/4	7 3/4	14	4 1/2	14	7	8 3/4	8 1/2	465



Open Bridge Sockets

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.

Tolerances:

- Dimensions under 4" (102 mm): +/- 1/8" (3.2 mm).
- Dimensions over 4" (102 mm): +/- 1/4" (6.5 mm).
- D: + 0 – 1/32" (0.8 mm) in a self-colored socket.

Notes:

- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

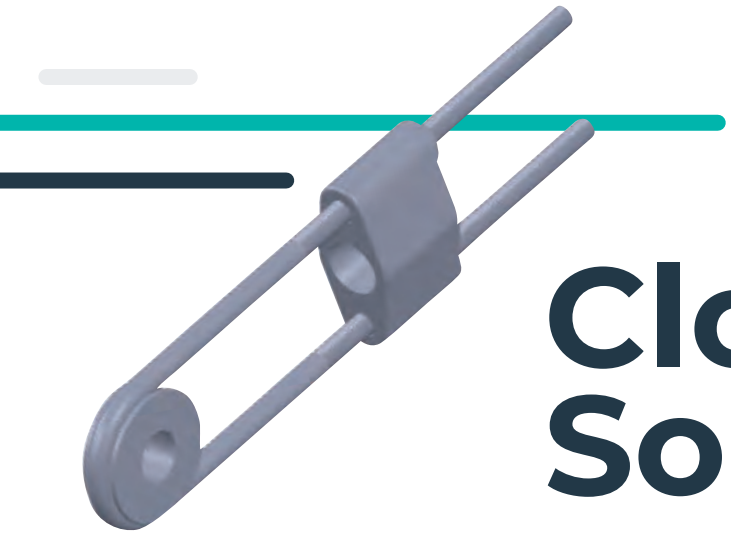
OPEN BRIDGE SOCKETS (METRIC)

PART #	STRAND DIAMETER (MM)	STD. TAKE-UP (MM)	A LENGTH FOR TAKE-UP (MM)		TH LENGTH FOR TAKE-UP (MM)		DIMENSIONS (MM)							E LENGTH FOR TAKE-UP (MM)		WT. TAKE-UP (KG)	
			STD.	2440	STD.	2440	C	d	D	J	K	O	S	STD.	2440	STD.	2440
OBS - 13	13	229	508	2718	267	2477	86	16	30	79	54	32	121	368	2578	4	10
OBS - 16	14 - 16	229	559	2769	273	2483	111	19	35	83	64	38	149	381	2591	7	16
OBS - 19	17 - 19	229	584	2794	286	2496	121	25	41	111	83	44	165	419	2616	13	27
OBS - 22	21 - 22	229	635	2845	292	2502	132	29	51	127	95	51	187	432	2642	18	38
OBS - 25	24 - 25	229	660	2870	298	2508	146	32	57	148	105	57	206	470	2667	25	48
OBS - 29	27 - 29	305	762	2896	381	2515	152	35	64	152	119	64	219	546	2692	31	59
OBS - 32	30 - 32	305	838	2972	394	2527	171	41	70	159	121	76	248	572	2718	45	84
OBS - 35	33 - 35	305	864	2997	400	2534	183	44	76	164	133	76	265	597	2743	56	101
OBS - 38	37 - 38	381	991	3048	489	2546	206	51	89	170	162	89	297	686	2769	49	137
OBS - 44	40 - 44	381	1067	3124	502	2559	229	57	95	200	184	102	333	724	2794	113	184
OBS - 51	46 - 51	457	1270	3251	591	2572	260	64	108	221	206	114	375	838	2819	162	241
OBS - 57	52 - 57	457	1321	3302	603	2584	292	70	121	257	222	127	419	902	2870	220	321
OBS - 60	59 - 60	457	1372	3353	616	2597	324	76	127	300	248	137	457	927	2921	277	397
OBS - 67	62 - 67	533	1499	3404	705	2610	340	83	133	325	270	152	489	1041	2946	353	487
OBS - 70	68 - 70	533	1549	3454	718	2623	359	89	146	318	286	159	514	1080	2997	401	557
OBS - 76	73 - 76	533	1600	3505	730	2635	387	95	171	387	302	191	559	1143	3048	536	716
OBS - 83	79 - 83	610	1778	3607	819	2648	438	102	178	435	330	197	610	1270	3099	685	880
OBS - 89	86 - 89	610	1905	3734	832	2661	465	108	184	489	352	203	660	1346	3175	737	959
OBS - 95	92 - 95	610	2032	3861	845	2673	492	114	191	464	324	210	702	1410	3226	923	968
OBS - 102	98 - 102	610	2134	3962	857	2686	519	121	197	508	341	216	748	1461	3277	1111	1385

OPEN BRIDGE SOCKETS (IMPERIAL)

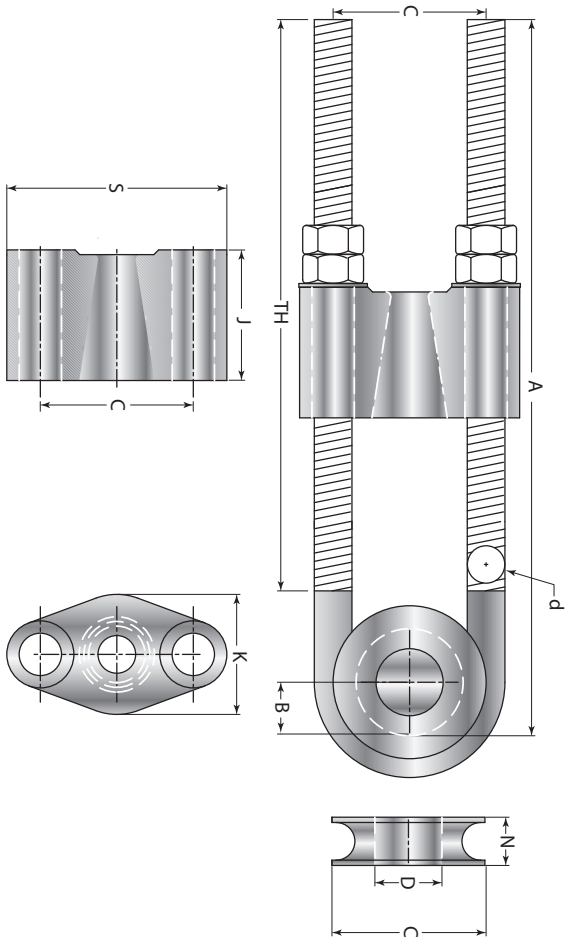
PART #	STRAND DIAMETER (IN)	STD. TAKE-UP (IN)	A LENGTH FOR TAKE-UP (IN)		TH LENGTH FOR TAKE-UP (IN)		DIMENSIONS (IN)							E LENGTH FOR TAKE-UP (IN)		WEIGHT TAKE-UP (LB)	
			STD.	96	STD.	96	C	d	D	J	K	O	S	STD.	96	STD.	96
OBS - 300	1/2	9	20	107	10 1/2	97 1/2	3 3/8	5/8	13/16	3 1/8	2 1/8	1 1/4	4 3/4	14 1/2	101 1/2	9	23
OBS - 302	9/16 - 5/8	9	22	109	10 3/4	97 3/4	4 3/8	3/4	1 3/8	3 1/4	2 1/2	1 1/2	5 7/8	15	102	16	35
OBS - 304	11/16 - 3/4	9	23	110	11 1/4	98 1/4	4 3/4	1	1 5/8	4 3/8	3 1/4	1 3/4	6 1/2	16 1/2	103	28	60
OBS - 306	13/16 - 7/8	9	25	112	11 1/2	98 1/2	5 3/16	1 1/8	2	5	3 3/4	2	7 3/8	17	104	40	83
OBS - 308	15/16 - 1	9	26	113	11 3/4	98 3/4	5 3/4	1 1/4	2 1/4	5 13/16	4 1/8	2 1/4	8 1/8	18 1/2	105	55	106
OBS - 310	1 1/16 - 1 1/8	12	30	114	15	99	6	1 3/8	2 1/2	6	4 11/16	2 1/2	8 5/8	21 1/2	106	68	129
OBS - 312	1 3/16 - 1 1/4	12	33	117	15 1/2	99 1/2	6 3/4	1 5/8	2 3/4	6 1/4	4 3/4	3	9 3/4	22 1/2	107	100	185
OBS - 314	1 5/16 - 1 3/8	12	34	118	15 3/4	99 3/4	7 3/16	1 3/4	3	6 7/16	5 1/4	3	10 7/16	23 1/2	108	124	223
OBS - 316	1 7/16 - 1 1/2	15	39	120	19 1/4	100 1/4	8 1/8	2	3 1/2	6 11/16	6 3/8	3 1/2	11 11/16	27	109	108	302
OBS - 318	1 9/16 - 1 3/4	15	42	123	19 3/4	100 3/4	9	2 1/4	3 3/4	7 7/8	7 1/4	4	13 1/8	28 1/2	110	249	404
OBS - 322	1 13/16 - 2	18	50	128	23 1/4	101 1/4	10 1/4	2 1/2	4 1/4	8 11/16	8 1/8	4 1/2	14 3/4	33	111	356	531
OBS - 326	2 1/16 - 2 1/4	18	52	130	23 3/4	101 3/4	11 1/2	2 3/4	4 3/4	10 1/8	8 3/4	5	16 1/2	35 1/2	113	485	707
OBS - 328	2 5/16 - 2 3/8	18	54	132	24 1/4	102 1/4	12 3/4	3	5	11 13/16	9 3/4	5 3/8	18	36 1/2	115	610	874
OBS - 330	2 7/16 - 2 5/8	21	59	134	27 3/4	102 3/4	13 3/8	3 1/4	5 1/4	12 13/16	10 5/8	6	19 1/4	41	116	776	1072
OBS - 332	2 11/16 - 2 3/4	21	61	136	28 1/4	103 1/4	14 1/8	3 1/2	5 3/4	12 1/2	11 1/4	6 1/4	20 1/4	42 1/2	118	882	1225
OBS - 334	2 7/8 - 3	21	63	138	28 3/4	103 3/4	15 1/4	3 3/4	6 3/4	15 1/4	11 7/8	7 1/2	22	45	120	1180	1575
OBS - 336	3 1/8 - 3 1/4	24	70	142	32 1/4	104 1/4	17 1/4	4	7	17 1/8	13	7 3/4	24	50	122	1508	1935
OBS - 338	3 3/8 - 3 1/2	24	75	147	32 3/4	104 3/4	18 5/16	4 1/4	7 1/4	19 1/4	13 7/8	8	26	53	125	1621	2109
OBS - 340	3 5/8 - 3 3/4	24	80	152	33 1/4	105 1/4	19 3/8	4 1/2	7 1/2	18 1/4	12 3/4	8 1/4	27 5/8	55 1/2	127	2031	2129
OBS - 342	3 7/8 - 4	24	84	156	33 3/4	105 3/4	20 7/16	4 3/4	7 3/4	20	13 7/16	8 1/2	29 7/16	57 1/2	129	2444	3047

Other diameters available upon request



Closed Bridge Sockets

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/8" or 3.2 mm.
  - Dimensions over 4" (102 mm): +/- 1/4" or 6.5 mm.
  - D: + 0 – 1/32" (0.8 mm) in a self-colored socket.

Notes:

- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

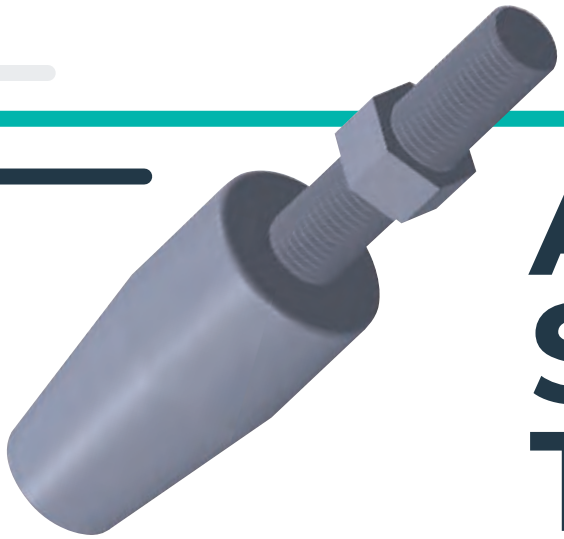
CLOSED BRIDGE SOCKETS (METRIC)

PART #	STRAND DIAMETER (MM)	STD. TAKE-UP (MM)	A LENGTH FOR TAKE-UP (MM)		TH LENGTH FOR TAKE-UP (MM)		DIMENSIONS (MM)								WEIGHT FOR TAKE-UP (KG)	
			STD.	2440	STD.	2440	B	C	d	D	J	K	N	S	STD.	2440
CBS - 13	13	49	92	562	57	527	7	18	3	7	79	54	5	121	4	10
CBS - 16	14 - 16	49	103	572	58	528	9	24	4	8	83	64	6	149	7	16
CBS - 19	17 - 19	49	108	578	61	531	9	26	5	9	111	83	8	165	13	27
CBS - 22	21 - 22	49	119	589	62	532	10	28	6	11	127	95	8	187	18	38
CBS - 25	24 - 25	49	124	594	63	533	11	31	7	12	148	105	9	206	25	48
CBS - 29	27 - 29	65	146	599	81	535	11	32	7	14	152	119	10	219	31	59
CBS - 32	30 - 32	65	151	605	84	537	13	36	9	15	159	121	11	248	45	84
CBS - 35	33 - 35	65	162	616	85	539	14	39	9	17	164	133	13	265	56	101
CBS - 38	37 - 38	81	184	621	104	541	15	44	11	19	170	162	14	297	49	137
CBS - 44	40 - 44	81	194	632	107	544	17	49	12	21	200	184	15	333	113	184
CBS - 51	46 - 51	97	227	648	126	547	20	55	14	23	221	206	17	375	162	241
CBS - 57	52 - 57	97	243	664	128	549	22	62	15	26	257	222	18	419	220	321
CBS - 60	59 - 69	97	259	680	131	552	25	69	16	27	300	248	20	457	277	397
CBS - 67	62 - 67	113	286	691	150	555	26	72	18	31	325	270	21	489	353	487
CBS - 70	68 - 70	113	297	702	153	558	27	76	19	31	318	260	23	514	401	557
CBS - 76	73 - 76	113	313	718	155	560	30	82	20	37	387	302	24	559	536	716
CBS - 83	79 - 83	130	351	740	174	563	33	93	22	38	435	330	26	610	685	880
CBS - 89	86 - 89	130	373	761	177	566	37	99	23	39	489	352	27	660	737	959
CBS - 95	92 - 95	130	389	778	180	568	39	105	24	41	464	324	28	702	923	968
CBS - 102	98 - 102	130	405	794	182	571	42	110	26	42	508	341	30	748	1111	1385

CLOSED BRIDGE SOCKETS (IMPERIAL)

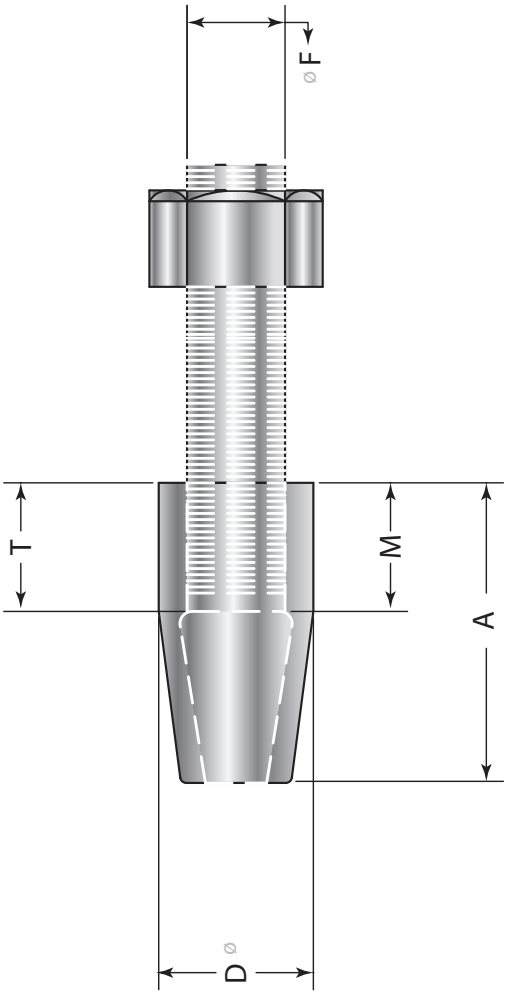
PART #	STRAND DIAMETER (IN)	STD. TAKE-UP (IN)	A LENGTH FOR TAKE-UP (IN)		TH LENGTH FOR TAKE-UP (IN)		DIMENSIONS (IN)								WEIGHT TAKE-UP (LB)	
			STD.	96	STD.	96	B	C	d	D	J	K	N	S	STD.	96
CBS - 300	1/2	9	17	104	10 1/2	97 1/2	1 1/4	3 3/8	5/8	1 1/4	3 1/8	2 1/8	1	4 3/4	9	23
CBS - 302	9/16 - 5/8	9	19	106	10 3/4	97 3/4	1 5/8	4 3/8	3/4	1 7/16	3 1/4	2 1/2	1 1/8	5 7/8	16	35
CBS - 304	11/16 - 3/4	9	20	107	11 1/4	98 1/4	1 23/32	4 3/4	1	1 11/16	4 3/8	3 1/4	1 7/16	6 1/2	28	60
CBS - 306	13/16 - 7/8	9	22	109	11 1/2	98 1/2	1 29/32	5 3/16	1 1/8	2 1/16	5	3 3/4	1 9/16	7 3/8	40	83
CBS - 308	15/16 - 1	9	23	110	11 3/4	98 3/4	2 1/16	5 3/4	1 1/4	2 5/16	5 13/16	4 1/8	1 11/16	8 1/8	55	106
CBS - 310	1 1/16 - 1 1/8	12	27	111	15	99	2 1/8	6	1 3/8	2 9/16	6	4 11/16	1 13/16	8 5/8	68	129
CBS - 312	1 3/16 - 1 1/4	12	28	112	15 1/2	99 1/2	2 11/32	6 3/4	1 5/8	2 13/16	6 1/4	4 3/4	2 1/16	9 3/4	100	185
CBS - 314	1 5/16 - 1 3/8	12	30	114	15 3/4	99 3/4	2 1/2	7 3/16	1 3/4	3 1/16	6 7/16	5 1/4	2 3/8	10 7/16	124	223
CBS - 316	1 7/16 - 1 1/2	15	34	115	19 1/4	100 1/4	2 27/32	8 1/8	2	3 9/16	6 11/16	6 3/8	2 9/16	11 11/16	108	302
CBS - 318	1 9/16 - 1 3/4	15	36	117	19 3/4	100 3/4	3 5/32	9	2 1/4	3 13/16	7 7/8	7 1/4	2 13/16	13 1/8	249	404
CBS - 322	1 13/16 - 2	18	42	120	23 1/4	101 1/4	3 21/32	10 1/4	2 1/2	4 5/16	8 11/16	8 1/8	3 1/16	14 3/4	356	531
CBS - 326	2 1/16 - 2 1/4	18	45	123	23 3/4	101 3/4	4 5/32	11 1/2	2 3/4	4 13/16	10 1/8	8 3/4	3 5/16	16 1/2	485	707
CBS - 328	2 5/16 - 2 3/8	18	48	126	24 1/4	102 1/4	4 5/8	12 3/4	3	5 1/16	11 13/16	9 3/4	3 11/16	18	610	874
CBS - 330	2 7/16 - 2 5/8	21	53	128	27 3/4	102 3/4	4 27/32	13 3/8	3 1/4	5 13/16	12 13/16	10 5/8	3 15/16	19 1/4	776	1072
CBS - 332	2 11/16 - 2 3/4	21	55	130	28 1/4	103 1/4	5 1/16	14 1/8	3 1/2	5 13/16	12 1/2	10 1/4	4 3/16	20 1/4	882	1225
CBS - 334	2 7/8 - 3	21	58	133	28 3/4	103 3/4	5 17/32	15 1/4	3 3/4	6 13/16	15 1/4	11 7/8	4 1/2	22	1180	1575
CBS - 336	3 1/8 - 3 1/4	24	65	137	32 1/4	104 1/4	6 1/8	17 1/4	4	7 1/16	17 1/8	13	4 3/4	24	1508	1935
CBS - 338	3 3/8 - 3 1/2	24	69	141	32 3/4	104 3/4	6 29/32	18 5/16	4 1/4	7 5/16	19 1/4	13 7/8	5	26	1621	2109
CBS - 340	3 5/8 - 3 3/4	24	72	144	33 1/4	105 1/4	7 5/16	19 3/8	4 1/2	7 9/16	18 1/4	12 3/4	5 1/4	27 5/8	2031	2129
CBS - 342	3 7/8 - 4	24	75	147	33 3/4	105 3/4	7 23/32	20 7/16	4 3/4	7 13/16	20	13 7/16	5 1/2	29 7/16	2444	3047

Other diameters available upon request



Anchor Sockets, Type 6

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Sockets provided with a rod and a semi-finished, heavy hex nut for tensioning cable assemblies and making final length adjustments.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm)
  - Dimensions over 4" (102 mm): +/- 1/8" (3.2 mm)

Notes:

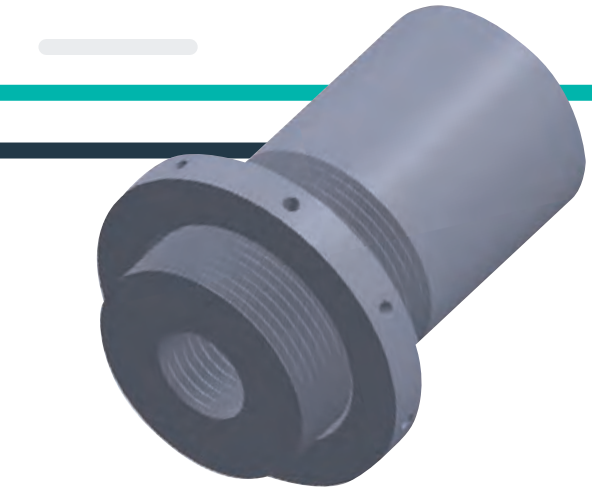
- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

ANCHOR SOCKETS, TYPE 6 (METRIC)

PART #	STRAND DIAMETER (MM)	DIMENSIONS (MM)					WEIGHT EACH (KG)
		A	D	F	M	T	
AT6 - 13	13	129	67	25	56	40	2,3
AT6 - 16	14 - 16	152	75	32	62	46	3,6
AT6 - 19	17 - 19	173	83	38	67	51	5,0
AT6 - 22	21 - 22	197	90	44	73	57	6,4
AT6 - 25	24 - 25	221	98	51	79	64	8,2
AT6 - 29	27 - 29	225	106	57	86	70	10,0
AT6 - 32	30 - 32	235	106	64	92	76	9,5
AT6 - 35	33 - 35	238	113	70	98	83	11,4
AT6 - 38	36 - 38	251	124	76	105	89	13,6
AT6 - 41	40 - 41	264	130	83	111	95	15,9
AT6 - 44	43 - 44	279	137	89	121	102	18,6
AT6 - 48	46 - 48	289	146	95	124	108	21,8
AT6 - 51	49 - 51	302	152	102	130	114	24,5
AT6 - 54	52 - 54	311	160	102	133	114	29,5
AT6 - 57	56 - 57	324	170	108	140	121	35,0
AT6 - 60	59 - 60	333	179	114	143	127	40,5
AT6 - 65	62 - 65	346	192	121	149	133	48,2
AT6 - 70	67 - 70	362	206	127	156	140	59,5
AT6 - 76	73 - 76	397	222	140	171	152	76,8
AT6 - 83	79 - 83	429	246	152	181	165	99,5
AT6 - 89	86 - 89	454	264	159	191	171	125,0
AT6 - 95	92 - 95	502	286	171	219	203	159,5
AT6 - 102	98 - 102	514	298	184	216	203	184,1

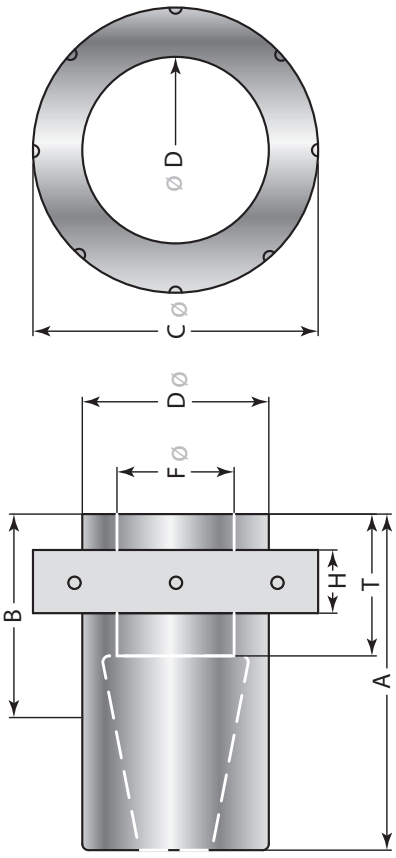
ANCHOR SOCKETS, TYPE 6 (IMPERIAL)

PART #	STRAND DIAMETER (IN)	DIMENSIONS (IN)					WEIGHT EACH (LB)
		A	D	F	M	T	
AT6 - 300	1/2	5 1/16	2 5/8	1	2 3/16	1 9/16	5
AT6 - 302	9/16 - 5/8	6	2 15/16	1 1/4	2 7/16	1 13/16	8
AT6 - 304	11/16 - 3/4	6 13/16	3 1/4	1 1/2	2 5/8	2	11
AT6 - 306	13/16 - 7/8	7 3/4	3 9/16	1 3/4	2 7/8	2 1/4	14
AT6 - 308	15/16 - 1	8 11/16	3 7/8	2	3 1/8	2 1/2	18
AT6 - 310	1 1/16 - 1 1/8	8 7/8	4 3/16	2 1/4	3 3/8	2 3/4	22
AT6 - 312	1 3/16 - 1 1/4	9 1/4	4 3/16	2 1/2	3 5/8	3	21
AT6 - 314	1 5/16 - 1 3/8	9 3/8	4 7/16	2 3/4	3 7/8	3 1/4	25
AT6 - 316	1 7/16 - 1 1/2	9 7/8	4 7/8	3	4 1/8	3 1/2	30
AT6 - 317	1 9/16 - 1 5/8	10 3/8	5 1/8	3 1/4	4 3/8	3 3/4	35
AT6 - 318	1 11/16 - 1 3/4	11	5 3/8	3 1/2	4 3/4	4	41
AT6 - 320	1 13/16 - 1 7/8	11 3/8	5 3/4	3 3/4	4 7/8	4 1/4	48
AT6 - 322	1 15/16 - 2	11 7/8	6	4	5 1/8	4 1/2	54
AT6 - 324	2 1/16 - 2 1/8	12 1/4	6 5/16	4	5 1/4	4 1/2	65
AT6 - 326	2 3/16 - 2 1/4	12 3/4	6 11/16	4 1/4	5 1/2	4 3/4	77
AT6 - 328	2 5/16 - 2 3/8	13 1/8	7 1/16	4 1/2	5 5/8	5	89
AT6 - 330	2 7/16 - 2 9/16	13 5/8	7 9/16	4 3/4	5 7/8	5 1/4	106
AT6 - 332	2 5/8 - 2 3/4	14 1/4	8 1/8	5	6 1/8	5 1/2	131
AT6 - 334	2 7/8 - 3	15 5/8	8 3/4	5 1/2	6 3/4	6	169
AT6 - 336	3 1/8 - 3 1/4	16 7/8	9 11/16	6	7 1/8	6 1/2	219
AT6 - 338	3 3/8 - 3 1/2	17 7/8	10 3/8	6 1/4	7 1/2	6 3/4	275
AT6 - 340	3 5/8 - 3 3/4	19 3/4	11 1/4	6 3/4	8 5/8	8	351
AT6 - 342	3 7/8 - 4	20 1/4	11 3/4	7 1/4	8 1/2	8	405



Anchor Sockets, Type 7

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected.
- Hot-dip galvanized zinc coated surface.
- Sockets furnished with or without internal threads (internal threads are used to accommodate a tensioning jack) .
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm)
  - Dimensions over 4" (102 mm): +/- 1/8" (3.2 mm)

Notes:

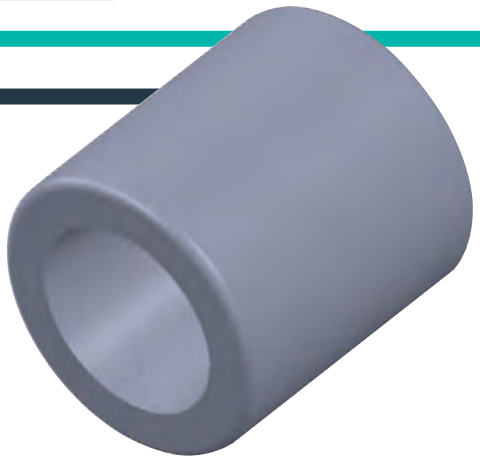
- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

ANCHOR SOCKETS, TYPE 7 (METRIC)

PART #	STRAND DIAMETER (MM)	DIMENSIONS (MM)							WEIGHT EACH (KG)
		A	B	C	D	F	H	T	
AT7 - 13	13	129	64	98	67	25	13	40	2,7
AT7 - 16	14 - 16	152	73	103	75	32	16	46	3,6
AT7 - 19	17 - 19	173	83	114	83	38	19	51	5,2
AT7 - 22	21 - 22	197	89	129	90	44	22	57	7,0
AT7 - 25	24 - 25	221	95	140	98	51	25	64	9,3
AT7 - 29	27 - 29	235	114	151	106	57	29	70	11,6
AT7 - 32	30 - 32	225	121	157	106	64	32	76	10,9
AT7 - 35	33 - 35	238	140	168	113	70	35	83	13,6
AT7 - 38	36 - 38	251	152	181	124	76	38	89	17,5
AT7 - 41	40 - 41	264	159	192	130	83	41	95	20,5
AT7 - 44	43 - 44	276	162	203	137	89	44	102	23,9
AT7 - 48	46 - 48	289	171	216	146	95	48	108	28,6
AT7 - 51	49 - 51	292	178	235	159	102	51	108	34,3
AT7 - 54	52 - 54	308	184	243	160	102	54	114	40,0
AT7 - 57	56 - 57	321	191	257	170	108	57	121	44,8
AT7 - 60	59 - 60	333	203	271	179	114	60	127	53,9
AT7 - 65	62 - 65	346	210	294	192	121	65	133	63,9
AT7 - 70	67 - 70	362	216	313	206	127	70	140	79,3
AT7 - 76	73 - 76	397	235	337	222	140	76	156	102,3
AT7 - 83	79 - 83	429	241	365	248	152	83	165	132,7
AT7 - 89	86 - 89	451	248	387	264	159	89	171	164,1
AT7 - 95	92 - 95	502	254	419	286	171	95	197	209,5
AT7 - 102	98 - 102	511	273	438	298	184	102	197	237,3

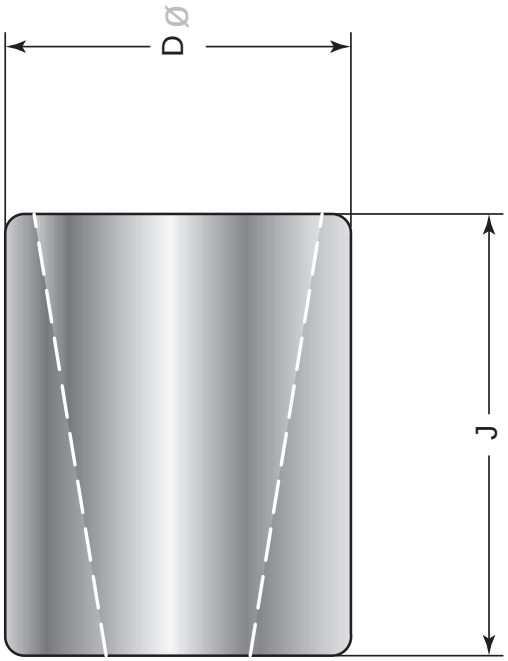
ANCHOR SOCKETS, TYPE 7 (IMPERIAL)

PART #	STRAND DIAMETER (IN)	DIMENSIONS (IN)							WEIGHT EACH (LB)
		A	B	C	D	F	H	T	
AT7 - 300	1/2	5 1/16	2 1/2	3 7/8	2 5/8	1	1/2	1 9/16	6.0
AT7 - 302	9/16 - 5/8	6	2 7/8	4 1/16	2 15/16	1 1/4	5/8	1 13/16	8.0
AT7 - 304	11/16 - 3/4	6 13/16	3 1/4	4 1/2	3 1/4	1 1/2	3/4	2	11.5
AT7 - 306	13/16 - 7/8	7 3/4	3 1/2	5 1/16	3 9/16	1 3/4	7/8	2 1/4	15.5
AT7 - 308	15/16 - 1	8 11/16	3 3/4	5 1/2	3 7/8	2	1	2 1/2	20.5
AT7 - 310	1 1/16 - 1 1/8	9 1/4	4 1/2	5 15/16	4 3/16	2 1/4	1 1/8	2 3/4	25.5
AT7 - 312	1 3/16 - 1 1/4	8 7/8	4 3/4	6 3/16	4 3/16	2 1/2	1 1/4	3	24.0
AT7 - 314	1 5/16 - 1 3/8	9 3/8	5 1/2	6 5/8	4 7/16	2 3/4	1 3/8	3 1/4	30.0
AT7 - 316	1 7/16 - 1 1/2	9 7/8	6	7 1/8	4 7/8	3	1 1/2	3 1/2	38.5
AT7 - 317	1 9/16 - 1 5/8	10 3/8	6 1/4	7 9/16	5 1/8	3 1/4	1 5/8	3 3/4	45.0
AT7 - 318	1 11/16 - 1 3/4	10 7/8	6 3/8	8	5 3/8	3 1/2	1 3/4	4	52.5
AT7 - 320	1 13/16 - 1 7/8	11 3/8	6 3/4	8 1/2	5 3/4	3 3/4	1 7/8	4 1/4	63.0
AT7 - 322	1 15/16 - 2	11 1/2	7	9 1/4	6 1/4	4	2	4 1/4	75.5
AT7 - 324	2 1/16 - 2 1/8	12 1/8	7 1/4	9 9/16	6 5/16	4	2 1/8	4 1/2	88.0
AT7 - 326	2 3/16 - 2 1/4	12 5/8	7 1/2	10 1/8	6 11/16	4 1/4	2 1/4	4 3/4	98.5
AT7 - 328	2 5/16 - 2 3/8	13 1/8	8	10 11/16	7 1/16	4 1/2	2 3/8	5	118.5
AT7 - 330	2 7/16 - 2 9/16	13 5/8	8 1/4	11 9/16	7 9/16	4 3/4	2 9/16	5 1/4	140.5
AT7 - 332	2 5/8 - 2 3/4	14 1/4	8 1/2	12 5/16	8 1/8	5	2 3/4	5 1/2	174.5
AT7 - 334	2 7/8 - 3	15 5/8	9 1/4	13 1/4	8 3/4	5 1/2	3	6 1/8	225.0
AT7 - 336	3 1/8 - 3 1/4	16 7/8	9 1/2	14 3/8	9 3/4	6	3 1/4	6 1/2	292.0
AT7 - 338	3 3/8 - 3 1/2	17 3/4	9 3/4	15 1/4	10 3/8	6 1/4	3 1/2	6 3/4	361.0
AT7 - 340	3 5/8 - 3 3/4	19 3/4	10	16 1/2	11 1/4	6 3/4	3 3/4	7 3/4	461.0
AT7 - 342	3 7/8 - 4	20 1/8	10 3/4	17 1/4	11 3/4	7 1/4	4	7 3/4	522.0



Anchor Sockets, Type 8

DIAGRAM



Overview

- Material: high strength structural steel casting.
- Magnetic particle inspected .
- Hot-dip galvanized zinc coated surface.
- Tolerances:
  - Dimensions under 4" (102 mm): +/- 1/16" (1.6 mm)
  - Dimensions over 4" (102 mm): +/- 1/8" (3.2 mm)

Notes:

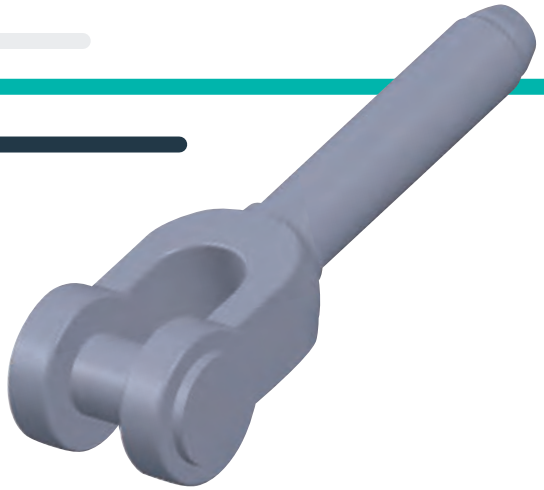
- 100% Efficient Termination
- Dimensions and tolerances shown are prior to galvanization.
- Available with Zinc, Resin, and HT socketing material. WireCo's exclusive HT socketing material for preventing damage from heat. See page 35.

ANCHOR SOCKETS, TYPE 8 (METRIC)

PART #	STRAND DIAMETER (MM)	DIMENSIONS (MM)		WEIGHT EACH (KG)
		D	J	
AT8 - 13	13	67	73	1,1
AT8 - 16	14 - 16	75	90	1,8
AT8 - 19	17 - 19	83	106	2,5
AT8 - 22	21 - 22	90	124	3,6
AT8 - 25	24 - 25	98	141	4,8
AT8 - 29	27 - 29	102	149	5,7
AT8 - 32	30 - 32	105	133	4,5
AT8 - 35	33 - 35	106	140	5,0
AT8 - 38	36 - 38	114	146	5,9
AT8 - 41	40 - 41	122	152	7,5
AT8 - 44	43 - 44	130	159	9,1
AT8 - 48	46 - 48	140	165	10,9
AT8 - 51	49 - 51	151	171	14,1
AT8 - 54	52 - 54	160	178	16,8
AT8 - 57	56 - 57	170	184	20,0
AT8 - 60	59 - 60	179	191	24,1
AT8 - 65	62 - 65	192	197	28,2
AT8 - 70	67 - 70	206	206	34,5
AT8 - 76	73 - 76	222	225	45,0
AT8 - 83	79 - 83	246	248	59,1
AT8 - 89	86 - 89	264	264	73,2
AT8 - 95	92 - 95	281	283	88,2
AT8 - 102	98 - 102	298,5	298	105,9

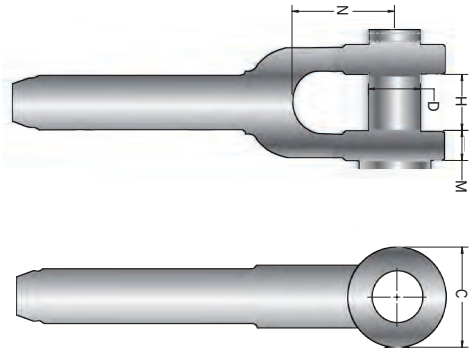
ANCHOR SOCKETS, TYPE 8 (IMPERIAL)

PART #	STRAND DIAMETER (IN)	DIMENSIONS (IN)		WEIGHT EACH (LB)
		D	J	
AT8 - 300	1/2	2 5/8	2 7/8	3
AT8 - 302	9/16 - 5/8	2 15/16	3 9/16	4
AT8 - 304	11/16 - 3/4	3 1/4	4 3/16	6
AT8 - 306	13/16 - 7/8	3 9/16	4 7/8	8
AT8 - 308	15/16 - 1	3 7/8	5 9/16	11
AT8 - 310	1 1/16 - 1 1/8	4	5 7/8	13
AT8 - 312	1 3/16 - 1 1/4	4 1/8	5 1/4	10
AT8 - 314	1 5/16 - 1 3/8	4 3/16	5 1/2	11
AT8 - 316	1 7/16 - 1 1/2	4 1/2	5 3/4	13
AT8 - 317	1 9/16 - 1 5/8	4 13/16	6	17
AT8 - 318	1 11/16 - 1 3/4	5 1/8	6 1/4	20
AT8 - 320	1 13/16 - 1 7/8	5 1/2	6 1/2	24
AT8 - 322	1 15/16 - 2	5 15/16	6 3/4	31
AT8 - 324	2 1/16 - 2 1/8	6 5/16	7	37
AT8 - 326	2 3/16 - 2 1/4	6 11/16	7 1/4	44
AT8 - 328	2 5/16-2 3/8	7 1/16	7 1/2	53
AT8 - 330	2 7/16 - 2 9/16	7 9/16	7 3/4	62
AT8 - 332	2 5/8 - 2 3/4	8 1/8	8 1/8	76
AT8 - 334	2 7/8 - 3	8 3/4	8 7/8	99
AT8 - 336	3 1/8 - 3 1/4	9 11/16	9 3/4	130
AT8 - 338	3 3/8 - 3 1/2	10 3/8	10 3/8	161
AT8 - 340	3 5/8 - 3 3/4	11 1/16	11 1/8	194
AT8 - 342	3 7/8 - 4	11 3/4	11 3/4	233



Open Swaged Sockets

DIAGRAM



Overview

In mechanically swaged fittings, high pressure presses and precision dies cause the metal of the socket to flow around the wires and strands to result in optimum compactness and strength with minimum weight .

OPEN SWAGED SOCKETS (METRIC)

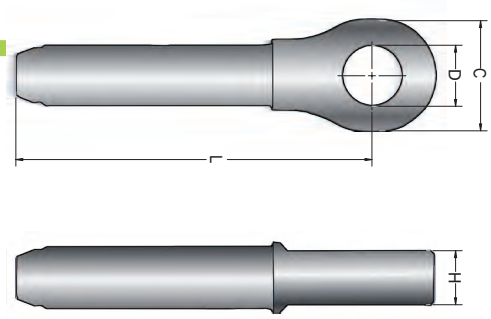
PART #	STRAND DIAMETER (MM)	WEIGHT EACH (KG)	DIMENSIONS (MM)					AFTER SWAGE (MM)
			C	D	H	M	N	
MOS - 13	13	0,94	51,0	25,4	25,4	14,2	51,0	23,1
MOS - 14	14	2,12	60,5	30,2	31,8	17,3	57,0	29,5
MOS - 16	16	2,05	60,5	30,2	31,8	17,3	57,0	29,5
MOS - 19	19	3,62	70,0	35,1	38,1	20,3	70,0	36,1
MOS - 22	22	5,23	79,5	41,1	44,5	23,9	82,5	39,4
MOS - 25	25	8,07	93,5	51,0	51,0	26,9	95,5	45,7
MOS - 28	28	11,8	105	57,0	57,0	30,2	108	52,0
MOS - 32	32	16,1	117	63,5	63,5	31,0	119	58,5
MOS - 35	35	19,8	127	63,5	63,5	35,1	133	65,0

OPEN SWAGED SOCKETS (IMPERIAL)

PART #	DIAMETER (IN)	WEIGHT EACH (LB)	DIMENSIONS (IN)					AFTER SWAGE (IN)
			C	D	H	M	N	
MOS - 300	1/2	2.08	2.00	1.00	1.00	0.56	1.96	0.91
MOS - 302	9/16	4.67	2.38	1.19	1.25	0.68	2.21	1.16
MOS - 303	5/8	4.51	2.38	1.19	1.25	0.68	2.21	1.16
MOS - 304	3/4	7.97	2.75	1.38	1.50	0.80	2.69	1.42
MOS - 306	7/8	11.52	3.13	1.62	1.75	0.94	3.20	1.55
MOS - 308	1	17.35	3.69	2.00	2.00	1.06	3.68	1.80
MOS - 310	1 1/8	25.25	4.12	2.25	2.25	1.19	4.18	2.05
MOS - 312	1 1/4	35.56	4.59	2.50	2.50	1.27	4.68	2.30
MOS - 314	1 3/8	43.75	5.25	2.50	2.50	1.46	5.25	2.56

Closed Swaged Sockets

DIAGRAM



Overview

- Material: Weldless, drop-forged steel.
- Assembly length is measured from the centerline of pins for both open and closed swaged sockets.
- 100% Efficient Termination

OPEN SWAGED SOCKETS (METRIC)

PART #	STRAND DIAMETER (MM)	WEIGHT EACH (KG)	DIMENSIONS (MM)				AFTER SWAGE (MM)
			C	D	H	L	
MCS - 13	13	0,64	51,0	26,9	21,8	146	23,1
MCS - 14	14	1,32	60,5	31,8	28,7	184	29,5
MCS - 16	16	1,29	60,5	31,8	28,7	184	29,5
MCS - 19	19	2,27	73,2	36,6	33,3	219	36,1
MCS - 22	22	3,08	79,2	42,9	38,1	257	39,4
MCS - 25	25	4,72	92,0	52,5	44,5	292	45,7
MCS - 28	28	6,72	102	58,5	51,0	324	52,0
MCS - 32	32	9,78	114	65,0	57,0	365	58,5
MCS - 35	35	12,9	127	65,0	57,0	400	65,0

OPEN SWAGED SOCKETS (IMPERIAL)

PART #	DIAMETER (IN)	WEIGHT EACH (LB)	DIMENSIONS (IN)				AFTER SWAGE (IN)
			C	D	H	L	
MCS - 300	1/2	1.41	2.00	1.07	0.87	5.75	0.91
MCS - 302	9/16	2.90	2.38	1.28	1.14	7.25	1.16
MCS - 303	5/8	2.84	2.38	1.28	1.14	7.25	1.16
MCS - 304	3/4	4.99	2.88	1.49	1.33	8.63	1.42
MCS - 306	7/8	6.78	3.12	1.73	1.53	10.09	1.55
MCS - 308	1	10.38	3.62	2.11	1.78	11.50	1.80
MCS - 310	1 1/8	14.78	4.00	2.37	2.03	12.75	2.05
MCS - 312	1 1/4	21.52	4.50	2.62	2.25	14.38	2.30
MCS - 314	1 3/8	28.38	5.00	2.62	2.29	15.75	2.56

Queensboro Bridge | New York, NY

Patented WireCo High Temperature (HT) Socketing Material Outperforms Zinc and Resins

PATENTED WIRECO HIGH TEMPERATURE (HT) SOCKETING[1]

In the event of a vehicle fire or other heat-intensive incident, sockets need extra resistance to temperature and unparalleled durability. WireCo developed its exclusive, patented High Temperature (HT) Socketing Material for just this reason.

ASTM B6 High-Grade Zinc, traditionally used as a socketing material, has a melting temperature of 315 C (600 F). Newer resin materials begin to lose mechanical properties at approximately 121 C (250 F). Unfortunately, fuel fires can burn at temperatures in excess of 1,094 C (2,000 F). Under these severe conditions, both zinc and resin socketing materials break down and lose their mechanical properties quickly, which could lead to a structural failure.

WIRECO'S HT SOCKETING MATERIAL:

- Withstands temperatures of up to 531 C (987.6 F) for 160 minutes without failure
- Remains highly effective when exposed to temperatures as high as 649 C (1,200 F)

This differential in temperature resistance could give responders time to extinguish a fire before a socket failure occurs.

WHEN MINUTES MATTER

Numerous accidents happen on bridges every year, resulting in excessive heat exposure to cable-supported structures. This exposure may result in the weakening of the cable assemblies supporting the structure.

Sockets with WireCo's exclusive HT Material can prolong the cable supported structure in extreme conditions. Under high heat environments, HT Socketing Material moves the weakest link of the socket assembly from the socket material to the strand or rope. Zinc and epoxy socketing materials cannot provide this same margin of safety.

In today's world, the need for an alternative socketing material that can protect cable-supported structures at extreme temperatures has never been more urgent. Our HT Socketing Material provides increased safety and durability for structures in extreme temperature situations.

USING THE HT SOLUTION PROVIDES:

- Maximum safety
- Structural integrity
- High fatigue performance
- Excellent weather resistance
- Outstanding return on investment

When lives and structural integrity hang in the balance, WireCo's HT Socketing Material can provide crucial extra time for evacuation and rescue crews or to extinguish the fire. For more information on HT Socketing Material, please contact WireCo at (816) 270-4700 or via email at info@wireco.com.

[1]Klein, Timothy and Pourladian, Bamdad. 2012. Socketing material and speltered assembly for terminating tension member. U.S. patent number 8,327,506, filed January 7, 2008 and granted December 11, 2012.

Synthetic Support Pendants for Structures

Innovative structures have been designed and built around the world incorporating advanced synthetic support cables. Typically, they are deployed on assets in two types of environments. First, where inspection and maintenance are difficult to execute, for example, hard to reach remote areas where corrosion needs to be eliminated. And secondly, where weight reduction is required, coupled with continuous cyclic strain and high creep requirements. Traditional materials cannot provide the same long term, maintenance free performance. WireCo synthetic cables provide the structural engineer with the ability to optimize designs due to the reduced weight of the suspension cables and additional benefits summarized in this brochure.

SYNTHETIC SUPPORT PENDANTS

Of the many types of high performance fibers available, Para-Aramids, are particularly relevant to bridge and structural applications. Aramids exhibit high tenacity and creep resistance, even in elevated temperatures. Additional benefits are extremely low elongation characteristics over time and a high stiffness after pre-tensioning.

In comparison to steel, conventional high strength synthetic fiber cables are up to 1/5 of the weight. Further weight savings and diameter reduction can be achieved by selection of specific fibers and terminations.

STRUCTURAL ADVANTAGES

In static structural applications, synthetic fibers have been shown to improve the vibration dampening characteristics of structures. Although a slightly larger diameter rope may be required to match the stiffness and strength of steel rope, the synthetic fibers can provide superior resistance to tension-tension fatigue and have negligible creep effects. An estimated Modulus of Elasticity of 9.2 x 10^6 psi for synthetic cables is close to the elasticity range of steel wire rope. Since 1980, they have been deployed in heavy duty markets. Innovation has continued to reduce pendant cost and maintenance. Today, synthetic fiber's technical and commercial advantages are an on-going source of new product - market combinations.

A synthetic cable is approximately 1/5th of the weight of a steel cable, allowing weight reduction for total bridge design optimization. Even higher weight savings are achievable by selecting specific fibers and terminations.

MAIN ADVANTAGES OF FIBER PENDANTS:

- No corrosion
- Fatigue resistance higher than steel
- High stiffness
- Higher natural frequency
- Vibration absorption relieves contact and bearing points
- Easier installation and removal for remote and hard to reach areas
- Reduction of overall design weight
- High creep resistance
- No WiFi / Radio / Cellular network interference
- Non-conductive
- Recyclability of fibre at end of service life.

CONCLUSION

So far, the bridge engineering community has only scratched the surface of the potential offered by synthetic fiber cables. Prospective applications in cable stayed bridges include temporary suspension, greenfield developments and retrofitting existing structures as steel cable needs replacing.

As the span length of a new suspension bridges increases, the weight of the cables required increases in relation to the total weight of the suspended structure. This is applicable to both the main cable and the suspension cables. A higher percentage of the cable stress is, therefore, related to the self-weight of the cables themselves. The use of WireCo lightweight synthetic support pendants or cables can greatly reduce the stress in the overall system dynamics, allowing for lighter structures that are capable of longer spans.

Technical Informatio

Technical Information

TAP INTO OUR CONCEPT AND PLANNING EXPERIENCE

Cable structures are designed to be sturdy and efficient while providing a sleek aesthetic appearance. WireCo works with architects, engineers and planners to provide the most efficient cable systems for any structural application. We can put our proven experience, gathered from working on successful projects worldwide, to work on your next project.

INDUSTRY-LEADING CORROSION RESISTANCE

GALVANIZING

Corrosion is an electromechanical process that takes place when there is a different electrical potential between two points connected by an electrolyte. The most effective method to overcome this destructive process is to galvanize the steel wires by forming a zinc layer that is alloyed with the steel surface. This galvanizing process protects the steel from external agents while the zinc becomes the sacrificial agent.

The majority of the wire supplied for use in structural cables is galvanized using the hot dip method. This process requires the wire to be submerged in molten zinc, providing a uniform coating with an aesthetically pleasing appearance. This method deposits large amounts of zinc onto the surface of the wire. Another method of coating steel wires with zinc is electroplating. This method has the ability to provide a much heavier zinc coating and clean surface that is acceptable for use in static and dynamic applications.

ZN/AL COATINGS

The most rapidly growing hot dip coating process for structural steel wire is made with the Zn/AL coatings process. This process requires a 95 percent zinc and 5 percent aluminum coating applied to the surface of the wire by the hot-dip method. Basic Zn/AL coatings coated carbon steel wire is addressed in ASTM A856 and EN 10244.

The coating is a eutectic Zn-Al mischmetal resulting in a more uniform crystalline microstructure and improved mechanical characteristics. Aging tests have shown that this process provides improved corrosion resistance when compared to conventional galvanized coating.

Combining the passive corrosion inhibition of aluminum oxidation with the active and passive effects of zinc results in approximately three times the amount of corrosion protection compared to standard zinc coated wire. The coating also provides an anodic feature that heals over the exposed steel when the wire is abraded or scratched, exposing the base steel.

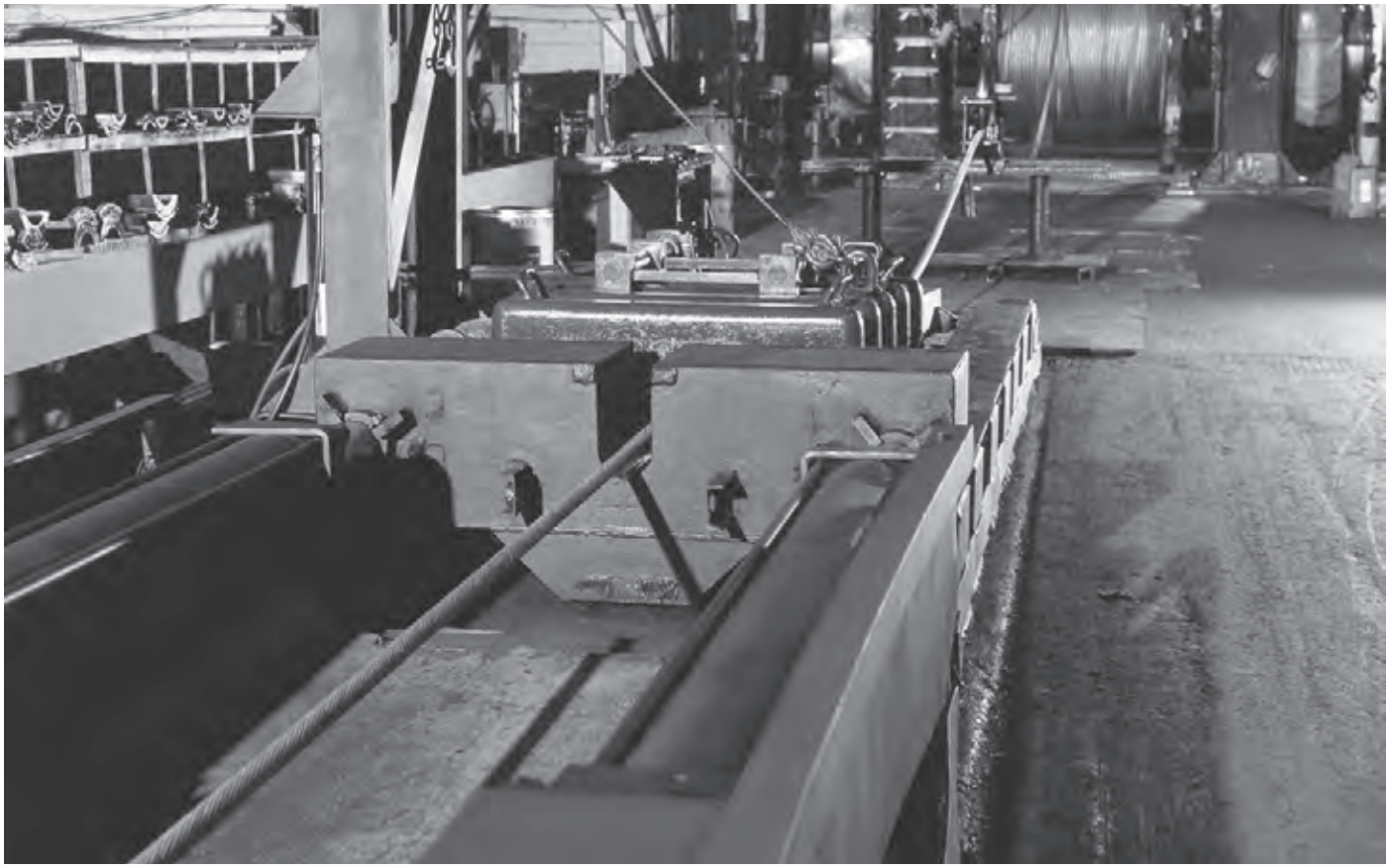
This process was developed in the mid-1980s with the majority of the production and use taking place in Europe. WireCo is the only approved wire rope manufacturer that is a Premier Licensee for Zn/AL coatings.

ASSEMBLY FABRICATION

WireCo's structural products are the most consistent and reliable steel wire products available.

All of WireCo's fabrication facilities are operated and maintained in covered, enclosed areas. This includes the prestretch beds, measuring areas, pouring stations and respooling take-ups. This environment means eliminating the chance that undesirable weather or temperature changes could affect final product performance or delivery. Operating in this controlled, protected environment assures accuracy in producing assembly lengths that meet the customers' specific requirements.

Prestretching is often required for structural assemblies to ensure cable measurements are exact. Depending on the application and installation procedures, the final length tolerance may become a very critical point.



Several procedures are required to ensure the assemblies fabricated in a shop environment can be installed in a field environment without adjustment. Prestretching structural cable is critical to remove the constructional stretch of the cable and provide length stabilization during the manufacturing process. The prestretching operation is carried out by loading the cable to a specific percentage of the cable's minimum breaking force and holding it for a set time period. In most cases the cable may be cycled up and down to accelerate the process. During prestretching the wires will seat and embed into one another. This is more prevalent with heavier coated wires.

Directly after prestretching, the cable is measured for assembly length; this avoids the possibility of reintroducing constructional factors which could occur if moved or handled. The prestretched cable is ready to be measured for cutting at the required dead load of the structure. This ensures that the assemblies will be produced to the specified tensioned field length.

After measuring, an orientation stripe is applied to the surface of the cable, ensuring the installation of the product is equal in the field. All measuring is performed with calibrated tape measures. The standard temperature for NIST is 68 F. Should the design temperature of the structure differ from this temperature it will be necessary to accommodate these length changes prior to beginning measuring operations.

The prestretching and measuring procedures lead to the final operation of socket installation. The most common type of end termination is the speltered socket. In speltering operations, the brooming and cleaning of the cable ends need to be performed to ensure proper adhesion of the wires to the socketing medium.

Specialized cleaning techniques and digitally controlled furnaces assure optimum zinc adhesion and consistent molten metal temperature for pouring sockets. This correlates to 100 percent termination efficiency. The prepared end is then suspended vertically. This is required to minimize the curvature of the strand and ensure equalization of the stresses in the wires.

The larger the diameter of the cable the higher the cable must be suspended to ensure the cable is properly aligned. The broomed end is then closed and inserted into the socket splaying the wires evenly to allow flow of the socketing medium around each wire. The axial alignment of the socket with the strand is continually checked through the socketing process as well as the concentricity of the strand within the socket. Proper socket alignment assures maximum service life for any socketed assembly, by distributing stresses to all wires in the strand in equal proportion.

The socketing medium is then added to the socket. WireCo offers several types of socketing media: zinc, resin and high-temperature resistant socketing mediums for added security in critical applications.

The final operation of the assembly fabrication process is proofloading the finished assembly with socketed terminations. The proofloading of the socket serves to test the assembly and provide inspection of the assembly prior to packaging. It also seats the socket which is a very important process. Spelter sockets work on a wedge action to develop the strength of the socket. The wedging seats the cone in the socket resulting in a small amount of elongation in the completed assembly. This elongation is always accounted for in the layout of the assembly.

PACKAGING AND HANDLING RECOMMENDATIONS

WireCo takes great strides to ensure that each product arrives at the customer location on time, packaged and labeled to meet the requirements set forth. The proper packaging and handling of products allows easy identification and installation in the field. WireCo has the ability to provide structural items in coils or on reels, depending upon the specific requirements of the customer.

The proper procedure for handling wire products is:

- Mount a reel on jacks or a turntable so that it will revolve as you pull the fabricated assembly off
- Apply sufficient tension to brake against the reel flange keeping slack from accumulating
- Place a coil on a revolving stand and pull the rope as you would from a reel on a turntable
- Wire rope should be stored under a roof or a weatherproof covering so that moisture cannot reach it
- Avoid acid fumes or any other corrosive atmosphere to protect the rope from rust
- If storing a reel for a length of time, consider ordering the assembly with a protective wrap

- Keep your wire rope in storage away from steam or hot water pipes, heated air ducts or any other source of heat that can thin out lubricant and cause it to drain out of your rope

Please contact us for further assistance.

BEST-IN-CLASS INSTALLATION

Proper planning ensures a safe and secure project site during the installation of structural cable assemblies. WireCo's engineering support interacts on a one-to-one format with contractors to ensure the proper means and methods are employed for installing and tensioning the company's products.

Proper installation procedure includes the following:

- Include the installation sequence with corresponding forces and geometry for each stage of construction
- Tension monitoring during this process is recommended for verification of actual forces
- Instrument monitoring procedures early in the installation process – correcting cables' forces and geometry becomes more complex as the construction progresses
- Check and re-check the geometry and orientation of all assemblies prior to installation to avoid delays during installation
- Striped assemblies must be erected such that the marked strand is straight and true after the final tensioning

WireCo offers several types of socketed terminations that can make the tensioning sequence more efficient on any structural project. Adjustable sockets allow for tensioning in the structural system and variance in the assembly length. Custom tensioning devices can be provided, allowing ease of load transfer and load monitoring during installation.

CABLE INSPECTION

Visually inspecting wire rope will detect broken wires. The number and type of broken wires are an indication of the rope's general condition and possible need for replacement. Frequent inspections and written records help determine the rate at which wires are wearing and breaking.

Every assembly should be inspected during this process with special attention paid to areas where moisture may accumulate. Any item restricting the view (boots, guards, etc.) of the product is to be removed allowing visual access to the product.

The major portion of the inspection is the detection of broken wires. The number and type of broken wires are an indication of the rope's general condition.

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