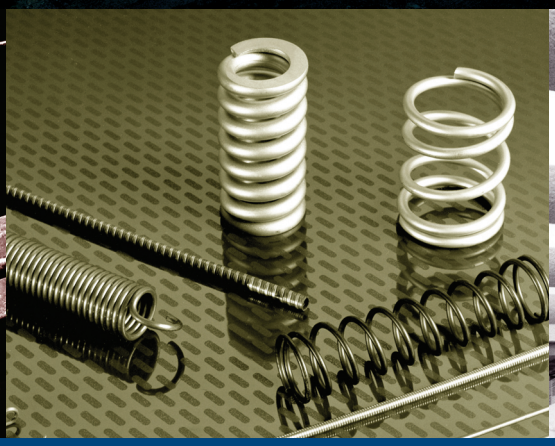


Wire
Product Guide

A WIreCo® WorldGroup Brand

camesa®

CONTENTS

camesa®

Raising the bar

You want the best of the best when it comes to high tensile, high carbon wire, and **WireCo WorldGroup** delivers with ***Camesa*** wire.

We understand the mission-critical demands on your wire supplier and you can trust us to exceed your expectations. After all, we supply one of the largest wire rope producers in the world: ourselves. We know high-tensile, high carbon wire.

Our wire has a wide variety of diameters, tensile strengths and coatings with the spool and carrier packages needed for your operation. And our in-line wire heat treating, cleaning and coating, and drawing machines can deliver the right wires for your demanding applications.

In fact, our high-speed, water- and air-cooled wire drawing machines are cutting-edge and produce wires with the strength and ductility that your application requires. Choose from bright wire diameters from 0.010” to 0.500” and galvanized wire up to 0.177”.

Our engineers, technicians and operators take great pride in producing the most consistent wire on the market. You can count on us to increase your quality output and productivity.

MEETING YOUR EVERY NEED

Camesa high carbon steel wire is used across a broad spectrum of applications, including (but not limited to): appliance applications, automotive applications, power transmission applications, street sweeper brushes, construction, aircraft cables, fiber optic cable armoring, mattress and furniture inner springs, railroad ties and bronzed wire for tire bead. It is also used as raw material to manufacture wire rope and strand.

A HISTORY OF STRENGTH AND RELIABILITY

WireCo WorldGroup has focused on the production of high quality wire rope since its roots in 1931. We recognized the need for high quality wire and in 1995 we built a 300,000-foot-square facility to produce high carbon wire to meet precise tolerances in very long runs.

Camesa’s roots began in 1958 and has also taken a similar path. The combination of these two organizations in 2005 strengthened our commitment and ability to fulfill the needs of the domestic and international high carbon wire market.

WireCo WorldGroup and ***Camesa*** have combined to become the largest producer of high carbon wire, wire rope and electromechanical cable in the world. With expertise from around the globe, we continue to invest in personnel and equipment to meet your needs.

We work closely with our clients to custom engineer the best wire for your application. Our manufacturing locations in Chillicothe, Missouri; Vallejo, Mexico and Cuautitlan, Mexico feature the latest technology in manufacturing equipment and information systems. As a result, we guarantee high volume capacity and quick turnaround – flexibility that is critical for your business.

WireCo® WorldGroup

Pre-stressed Concrete Strand (PCS)

DESCRIPTION

> Our PCS is a 6-wire set around a center wire and is preformed and post-formed in order to keep the wire in the desired position.
> Manufactured under the Camesa Quality Control System (CQCS). Camesa PCS meets or exceeds the following standards: ASTM A-416 and NMX B-292-1988 and all international specifications.
> Extruded strand is manufactured to comply with the standards of the Post-Tensioning Institute.
> Low relaxation tested and certified to 1,000 hours
> Each coil is tested 100% 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 improve elasticity and strength characteristics.

FINISHING

> Bright
> Galvanized
> Lubricated and extruded with high-density, green polyethylene
> Applications for pre-stressed concrete in two stages
  > Pre-tensioning
  > Post-tensioning

USES

> Long extension bridges
> Highways
> Dams
> Silos
> Theaters
> Buildings
> Industrial structures

PACKAGING

Coils: 6,613 lb (3,000 kg)

PRE-STRESSED CONCRETE STRAND SPECIFICATIONS

Standard Diameter in (mm)	**Grade** Ksi	**Weight** Lbs/1,000 ft (kg/1,000 mts)	**Minimum Strength** Pounds (kN)	**Approximate Lineal Feet per Coil** (mts)*	**Nominal Area** in² (mm²)
BRIGHT LOW RELAXATION A-416					
3/8 (9.53)	270	289 (431)	23,000 (102.3)	22,000 (6706)	0.085 (54.84)
7/16 (11.11)	270	391 (582)	31,000 (137.9)	16,000 (4877)	0.115 (74.19)
1/2 (12.70)	270	512 (763)	41,300 (183.7)	12,000 (3658)	0.153 (98.71)
9/16 (14.29)	270	637 (949)	51,700 (230.0)	10,000 (3048)	0.192 (123.87)
.600 (15.24)	270	744 (1108)	58,600 (260.7)	8,500 (2591)	0.217 (140.0)
.618 (15.70)	270	796 (1185)	62,270 (277.1)	8,000 (2438)	0.230 (148.6)
GALVANIZED LOW RELAXATION ASTM A-416					
3/8 (9.53)	240	299 (445)	21,200 (94.3)	12,000 (3650)	0.085 (540.84)
1/2 (12.70)	240	517 (769)	41,300 (183.7)	12,000 (3658)	0.153 (980.71)
.600 (15.24)	240	750 (1117)	54,500 (242.5)	7,700 (2347)	0.217 (1400.0)
EXTRUDED LOW RELAXATION ASTM A-416					
1/2 (12.70)	270	577 (860)	41,300 (183.7)	5,720 (1740)	0.153 (98.7)
.600 (15.24)	270	806 (1200)	58,600 (260.7)	4,100 (1250)	0.217 (140.0)

*Pack length will vary by production run.

Pre-stressed Concrete Wire (PCW)

***Camesa* is the leader in the PCW market and sole producer in Mexico. We use our state-of-the-art technology, plus 30 years of experience manufacturing pre-stressed concrete wire, to produce the most trusted product in the market.**

Our pre-stressed concrete wire is produced with a testing certificate of 1,000 hours in our ISO-9001:2000 certified plants.

***Camesa* pre-stressed concrete wire is fundamental as a reinforcing component in construction applications.**

STANDARDS

ASTM A-421
NMX B-293

USES

> Pre-stressed beams
> High-pressure hydraulic concrete pipelines
> Concrete or high-pressure pipe
> Structural elements for bridges and buildings
> Concrete ties for railroad tracks
> Poles for farming applications

DESCRIPTION

> Subjected to heat treatment to relieve residual stress and provide the best mechanical characteristics of ductility, as well as strength.
> Each coil is tested 100% in our certified laboratories.

TYPES

> Smooth
> Indented
> Tridented

CLASSES

> Regular
> Low-relaxation

PACKAGING

Sizes 9 & 10 mm: 8 feet (2.44 m) coils of 1,323-2,200 lbs (600-1,000 kg)

All others: 6 feet (1.83 m) coils of 1,323-2,200 lbs (600-1,000 kg)

DIAMETERS

Wire sizes: 0.118-0.393" (3-10 mm)

PRE-STRESSED CONCRETE WIRE SPECIFICATIONS

Diameter		Minimum Breaking Load	Elastic Limit	% Elongation	Area	Linear Weight	Linear Yield
		ASTM A-421, ASTM A-881					
mm	in	kg/mm²	kg/mm²	min	mm²	gr/m	m/ton
3	0.118	175	148	4	7.07	55.48	18,024
4	0.157	180	153	4	12.57	98.70	10,132
5	0.197	175	148	4	19.63	154.10	6,489
6	0.236	170	144	4	28.27	221.90	4,506
7	0.276	165	140	4	38.48	302.10	3,310
9.4	0.370	160	140	4	69.4	544.80	1,835
10	0.393	160	140	4	78.54	616.50	1,622

Diameter		Internal Diameter		Coil Weight	
mm	in	ft	mt	min (kg)	max (kg)
3	0.118	6	1.83	600	1800
4	0.157	6	1.83	600	1800
5	0.197	6	1.83	600	1800
6	0.236	6	1.83	600	1800
7	0.276	6	1.83	600	1800
9.4	0.370	6	2.44	600	1800
10	0.393	6	2.44	600	1800

Pre-stressed Pipe Wrap Wire

Our pre-stressed pipe wrap wire is uncoated, high-strength, hard-drawn steel wire manufactured under strict quality standards in ISO-9001:2000 facilities.

STANDARDS

ASTM A-648, Class 2 &
Class 3 tensile strengths

Hydrogen Embrittlement Certified

USES

> For the manufacturing of pre-stressed concrete pipe, the wire is helically wrapped on the pipe, maintaining tension by mechanical means, eliminating the potential for tension cracks.

ADVANTAGES

> No welds or joints

> 6,000-lb package reduces handling and splicing requirements

> *Camesa* pre-stress pipe wrap wire passes the strict hydrogen embrittlement requirement

DIAMETERS

Wire sizes: .192”-.250”

PACKAGING

3,000-lb spooless cores, tubular carriers, or steel reels

6,000-lb spooless core packages

Pre-stressed Tank Wrap Wire

Our wire, combined with concrete, provides strength to structural elements in construction applications throughout the world.

***Camesa* pre-stress wire provides an inner reinforcement and compression element for use in the manufacturing of pre-stressed concrete tanks and similar structures.**

STANDARDS

ASTM A-821

USES

> For the manufacturing of pre-stressed concrete tanks. The wire is continuously wrapped on the structure, maintaining tension by drawing through a die or mechanical tension without redraw, eliminating the potential for tension cracks. Precise drawing practices are employed to meet customer tolerances.

ADVANTAGES

> No welds or joints
> Delivery can be to the specific job site, eliminating the need for additional handling
> Just-in-time delivery when the structure is ready for pre-stressing

DIAMETERS

Wire sizes: .162-.250”

PACKAGING

2,000-lb wooden reels or tubular carriers

Upholstery Spring Wire

STANDARDS

ASTM-A-407
NMX-B-366

Galvanized Class A or B

USES

> Manufacture of mattresses and furniture

ADVANTAGES

> Improve performance of automated machines during spring production with our tightly controlled low-soap lubrication systems
> Better quality and consistency in production due to the homogenous strength and uniformity of our wire. This minimizes downtime and adjustments made to machinery
> Greater productivity: Wire gauges 17 and 17½ are patented allowing machinery to work at superior speeds and in consistent fashion
> Wide range of diameters available

PACKAGING

Coils: 441-551 lb (200-250 kg)
Tubular carriers: 1,764 lb (800 kg)

UPHOLSTERY SPRING WIRE SPECIFICATIONS

GAUGE	DIAMETER mm	DIAMETER in	TENSILE STRENGTH Kg/mm²	TENSILE STRENGTH Ksi	PACKAGING	WEIGHT (Kg) Coil	WEIGHT (Kg) Wire Carriers
17.5	1.30	0.051	175.8-203.9	250-290	Coil	150	
17	1.37	0.054	175.8-203.9	250-290	Coil	150	
14	2.03	0.080	158.2-183	225-260	Coil	200	
13.5	2.18	0.086	151.2-175.8	215-250	Coil-Wire Carriers	200	800
13	2.34	0.092	151.2-175.8	215-250	Coil-Wire Carriers	200	800
12	2.69	0.106	144.1-165.2	205-235	Coil	200	
10	2.43	0.135	133.6-154.7	190-220	Coil	200	
9	3.76	0.148	130.0-151.2	185-215	Coil	200	
8	4.11	0.162	126.6-147.6	180-210	Coil	200	
6	4.88	0.192	123.0-144.1	175-205	Coil	200	

DIAMETER	PERMISSIBLE VARIATIONS PLUS AND MINUS	PERMISSIBLE OUT OF ROUND
Sizes finer than 0.076 in (2.0 mm)	0.001 in (0.02 mm)	0.001 in (0.02 mm)
Sizes 0.076 in (2.0mm) to 0.162 in (4.2 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)

Messenger Strand

Messenger strand is used in the telephone and communication industry to provide mechanical support to conductors.

STANDARDS

ASTM-A-475
ASTM-A-640

Galvanization in Coating Classes A or B under ASTM A-475 (Classes A or B) and ASTM A-640 Standards

USES

> Support for Figure 8 cable and auto-supported for telephone use
> Support for fiber optic cable

ADVANTAGES

> No welds
> Uniform finish
> High ductility and tension strength
> Strand remains straight after uncoiling, enhancing the extrusion process of the finished cable
> Manufactured and packaged to your specifications in an ISO 9001:2000 facility

DIAMETERS

Wire sizes: .125-.250”
(3.18 mm-6.35 mm)

PACKAGING

Wooden reels

MESSENGER STRAND SPECIFICATIONS

Diameter		Construction	Finish	Weight	Tensile Strength		Elongation	
in	mm			kg/m	lb/1000 ft	lb	kg	% min
1/8	3.18	1 x 7	Galvanized	0.048	32	1830	0.83	4
1/8	3.18	1 x 7	Impregnated	0.049	33	1830	0.83	4
1/8	3.18	1 x 7	Extruded	0.051	35	1830	0.83	4
5/32	3.97	1 x 7	Galvanized	0.075	51	2940	1.33	4
3/16	4.76	1 x 7	Galvanized	0.109	73	3990	1.81	4
3/16	4.76	1 x 7	Impregnated	0.112	75	3990	1.81	4
1/4	6.35	1 x 7	Galvanized	0.180	121	6650	3.02	4
1/4	6.35	1 x 7	Impregnated	0.186	125	6650	3.02	4

Minimum Zinc Coating Weight					
ASTM - A475				ASTM - A640	
Class A		Class B			
gr/m²	oz/ft²	gr/m²	oz/ft²	gr/m²	oz/ft²
122	0.4	244	0.8		
122	0.4	244	0.8		
122	0.4	244	0.8		
122	0.4	244	0.8		
153	0.5	305	1.0	198	0.65
153	0.5	305	1.0	198	0.65
183	0.6	366	1.2	198	0.65
183	0.6	366	1.2	198	0.65

Music Wire

STANDARDS

ASTM-A-228
DIN 17223
BS 5216
JIS-G-3522

USES

> Springs for tension, compression and torsion
> Automotive forms
> Musical instruments
> Hold springs

ADVANTAGES

> Excellent fatigue resistance
> Strict control of chemical composition
> Consistency in diameter and roundness
> High tensile strength as well as high ductility
> Manufactured and packaged to your specifications in an ISO 9001:2000 facility

DIAMETERS

Bright	
in	mm
0.020 - 0.500	0.5 - 12.7

Galvanized	
in	mm
0.020 - 0.177	0.5 - 4.5

PACKAGING

Coils: 441-1,100 lb (200-500 kg)

Tubular carriers: 1,500-2,000 lb (680-907 kg)

Spooless cores: 3,000 or 6,000 lb (1,361-2,722 kg)

Spooless cores or steel reels for finer diameters: 110-1,000 lb (50-454 kg)

MUSIC WIRE TENSILE REQUIREMENTS

METRIC

Diameter mm	Tensile Strength, MPa min	max	Diameter mm	Tensile Strength, MPa min	max
0.10	3000	3300	0.90	2200	2450
0.11	2950	3250	1.00	2150	2400
0.12	2900	3200	1.10	2120	2380
0.14	2850	3150	1.20	2100	2350
0.16	2800	3100	1.40	2050	2300
0.18	2750	3050	1.60	2000	2250
0.20	2700	3000	1.80	1980	2220
0.22	2680	2980	2.00	1950	2200
0.25	2650	2950	2.20	1900	2150
0.28	2620	2920	2.50	1850	2100
0.30	2600	2900	2.80	1820	2050
0.35	2550	2820	3.00	1800	2000
0.40	2500	2750	3.20	1780	2980
0.45	2450	2700	3.50	1750	2950
0.50	2400	2650	3.80	1720	1920
0.55	2380	2620	4.00	1700	1900
0.60	2350	2600	4.50	1680	1880
0.65	2320	2580	5.00	1650	1850
0.70	2300	2550	5.50	1620	1820
0.80	2250	2500	6.00	1600	1800

IMPERIAL

Diameter in	Tensile Strength, ksi min	max	Diameter in	Tensile Strength, ksi min	max
0.004	439	485	0.055	300	331
0.005	426	471	0.059	296	327
0.006	415	459	0.063	293	324
0.007	407	449	0.067	290	321
0.008	399	441	0.072	287	317
0.009	393	434	0.076	284	314
0.010	387	428	0.080	282	312
0.011	382	422	0.085	279	308
0.012	377	417	0.090	276	305
0.013	373	412	0.095	274	303
0.014	369	408	0.100	271	300
0.015	365	404	0.102	270	299
0.016	362	400	0.107	268	296
0.018	356	393	0.110	267	295
0.020	350	387	0.112	266	294
0.022	345	382	0.121	263	290
0.024	341	377	0.125	261	288
0.026	337	373	0.130	259	286
0.028	333	368	0.135	258	285
0.030	330	365	0.140	256	283
0.032	327	361	0.145	254	281
0.034	324	358	0.150	253	279
0.036	321	355	0.156	251	277
0.038	318	352	0.162	249	275
0.040	315	349	0.177	245	270
0.042	313	346	0.192	241	267
0.045	309	342	0.207	238	264
0.048	306	339	0.225	235	260
0.051	303	335	0.250	230	255

TEST LENGTHS FOR TORSION TEST

METRIC

Diameter - mm	Number of Torsion in 100d
0.70 to 2.0, incl	25
over 2.0 to 3.5, incl	20
over 3.5 to 6.0, incl	15

IMPERIAL

Diameter - in	Number of Torsion in 100d
0.028 to 0.079, incl	25
over 0.079 to 0.138, incl	20
over 0.138 to 0.250, incl	15

METRIC

Diameter - mm	Permissible Variations plus and minus - mm	Permissible out of Round - mm
To 0.25, incl	0.005	0.005
Over 0.25 to 0.70, incl	0.008	0.008
Over 0.70 to 1.50, incl	0.010	0.010
Over 1.50 to 2.00, incl	0.013	0.013
Over 2.00	0.03	0.03

IMPERIAL

Diameter - in	Permissible Variations plus and minus - in	Permissible out of Round - in
0.004 to 0.010, incl	0.0002	0.0002
Over 0.010 to 0.026, incl	0.0003	0.0003
Over 0.028 to 0.063, incl	0.0004	0.0004
Over 0.063 to 0.080 incl	0.0005	0.0005
Over 0.080 to 0.250 incl	0.001	0.001

Mechanical Spring Wire

Cold-drawn wire used in manufacturing of a large range of mechanical springs for torsion, tension, extension, compression applications and wire forms.

Manufactured under strict quality standards. *Camesa* spring wire meets or exceeds the industry standards.

Production of this wire comprises a cold drawing process to achieve tensile strength and heat treatment to provide optimal ductility for your specifications. This allows manufacturing of springs with high working resistance.

STANDARDS

ASTM A-227 for Class 1 and Class 2 tensile strengths
ASTM A-228 for music wire applications
ASTM A-679 for Class 3 tensile strengths
EN 10270-1
DIN 17223

USES

> Springs for the automotive industry, including control cables, precision springs and reinforced hoses
> Agricultural applications, including greenhouse cultivation and bale wire
> As reinforcement of air conditioning flexible ducts
> Screens for mining, plastics, pharmaceuticals and sand industries, among others
> Springs for appliances
> Fabrication of hair barrettes and clips
> Wire for the garment industry
> Spiral springs for handbooks, paper clips, toys' parts and much more

ADVANTAGES

> Ease in manufacturing: *Camesa* spring wire is designed to support deformations without losing its mechanical properties.
> Consistent performance because of our excellent heat-treating control.
> Surface quality improves adhesion of paints and coatings.
> Surface free of defects and consistent coating ensures performance.
> Manufactured and packaged to your specifications in an ISO 9001:2000 facility.

PACKAGING

Coils:	441-1,100 lb (200-500 kg)
Tubular carriers:	1,500-2,000 lb (680-907 kg)
Spooless cores:	3,000 or 6,000 lb (1,361-2,722 kg)
Spooless cores or steel reels for finer diameters:	110-1,000 lb (50-454 kg)

MECHANICAL SPRING WIRE SPECIFICATIONS

METRIC

Diameter mm	Tensile Strength MPa					
	CLASS I/CLASS I		CLASS II/CLASS II		CLASS III/CLASS III	
	min	max	min	max	min	max
0.50	1,960	2,240	2,240	2,520	2,400	2,650
0.55	1,940	2,220	2,220	2,500	2,380	2,620
0.60	1,920	2,200	2,200	2,480	2,350	2,600
0.65	1,900	2,180	2,180	2,460	2,320	2,580
0.70	1,870	2,140	2,140	2,410	2,300	2,550
0.80	1,830	2,100	2,100	2,370	2,250	2,500
0.90	1,800	2,070	2,070	2,340	2,200	2,450
1.00	1,770	2,040	2,040	2,310	2,150	2,400
1.10	1,740	2,000	2,000	2,260	2,120	2,380
1.20	1,720	1,980	1,980	2,240	2,100	2,350
1.40	1,670	1,930	1,930	2,180	2,050	2,300
1.60	1,640	1,880	1,880	2,120	2,000	2,250
1.80	1,600	1,840	1,840	2,080	1,980	2,220
2.00	1,580	1,810	1,810	2,040	1,950	2,200
2.20	1,550	1,780	1,780	2,010	1,900	2,150
2.50	1,510	1,730	1,730	1,960	1,850	2,100
2.80	1,480	1,700	1,700	1,920	1,820	2,050
3.00	1,460	1,680	1,680	1,900	1,800	2,000
3.50	1,420	1,630	1,630	1,840	1,750	1,950
4.00	1,380	1,590	1,600	1,700	1,700	1,900
4.50	1,350	1,550	1,550	1,750	1,680	1,880
5.00	1,320	1,510	1,510	1,700	1,650	1,850
5.50	1,300	1,490	1,490	1,670		
6.00	1,280	1,470	1,470	1,650		
6.50	1,250	1,440	1,440	1,630		
7.00	1,220	1,410	1,410	1,600		
7.50	1,200	1,390	1,390	1,580		
8.00	1,190	1,370	1,370	1,550		
9.00	1,160	1,340	–	–		
10.00	1,130	1,310	–	–		
11.00	1,110	1,280	–	–		
12.00	1,090	1,260	–	–		
14.00	1,050	1,210	–	–		
16.00	1,010	1,170	–	–		

Diameter mm	Permissible Variation Plus and Minus mm	Permissible Out of Round mm
0.51 - 0.70	0.02	0.02
0.71 - 2.00	0.03	0.03
2.01 - 9.00	0.05	0.05
9.01 - 15.80	0.08	0.08

IMPERIAL

Diameter in	Tensile Strength Ksi					
	CLASS I/CLASS I		CLASS II/CLASS II		CLASS III/CLASS III	
	min	max	min	max	min	max
0.020	283	323.0	324	364.0	350.0	387.0
0.023	279	319.0	320	360.0	343.0	380.0
0.026	275	315.0	316	353.0	337.0	373.0
0.029	271	311.0	312	352.0	331.0	366.0
0.032	266	306.0	307	347.0	327.0	361.0
0.035	261	301.0	302	342.0	322.0	356.0
0.041	255	293.0	294	332.0	314.0	347.0
0.048	248	286.0	287	325.0	306.0	339.0
0.054	243	279.0	280	316.0	300.0	331.0
0.062	237	272.0	273	308.0	293.0	324.0
0.072	232	266.0	267	301.0	287.0	317.0
0.080	227	261.0	262	296.0	282.0	312.0
0.092	220	253.0	254	287.0	275.0	304.0
0.106	216	248.0	249	281.0	268.0	296.0
0.120	210	241.0	242	273.0	263.0	290.0
0.135	206	237.0	238	269.0	258.0	285.0
0.148	203	234.0	235	266.0	253.0	279.0
0.162	200	230.0	231	261.0	249.0	275.0
0.177	195	225.0	226	256.0	245.0	270.0
0.192	192	221.0	222	251.0	241.0	267.0
0.207	190	218.0	219	247.0	238.0	264.0
0.225	186	214.0	215	243.0		
0.250	182	210.0	211	239.0		
0.312	174	200.0	201	227.0		
0.375	167	193.0	194	220.0		
0.438	165	190.0	191	216.0		
0.500	156	180.0	181	205.0		
0.562	152	176.0	177	201.0		
0.625	147	170.0	171	194.0		

Diameter in	Permissible Variation Plus and Minus in	Permissible Out of Round in
0.020 - 0.028	0.0008	0.0008
0.029 - 0.075	0.001	0.001
0.076 - 0.375	0.002	0.002
0.376 - 0.625	0.003	0.003

Tire Bead Wire

Bead Wire is used as reinforcement in radial and conventional tires. Our bead wire has excellent adhesion to rubber and superior mechanical characteristics.

Our product is manufactured and inspected to meet or exceed the strictest international industry standards such as ASTM D-1871-98.

STANDARDS

ASTM-D-1871
Customer requirements

USES

Manufacture of:

> Regular and radial tires for cars, bikes and trucks
> Air supports
> High-pressure hose
> Flexible duct

ADVANTAGES

> High tensile strength as well as high ductility (elongation)
> Special packaging to protect against corrosion and aimed at increasing shelf life
> Greater adhesion: resin-coating prevents rust
> Straightness: wire maintains straightness after uncoiling and contains no residual torsion stress
> Manufactured and packaged to your specifications in an ISO 9001:2000 facility

GRADES

High Tensile Strength
Regular Tensile Strength

PACKAGING

Steel reels:	992 lbs (450 kg)
Reeless cores:	992 lbs (450 kg)

TIRE BEAD WIRE DIAMETERS

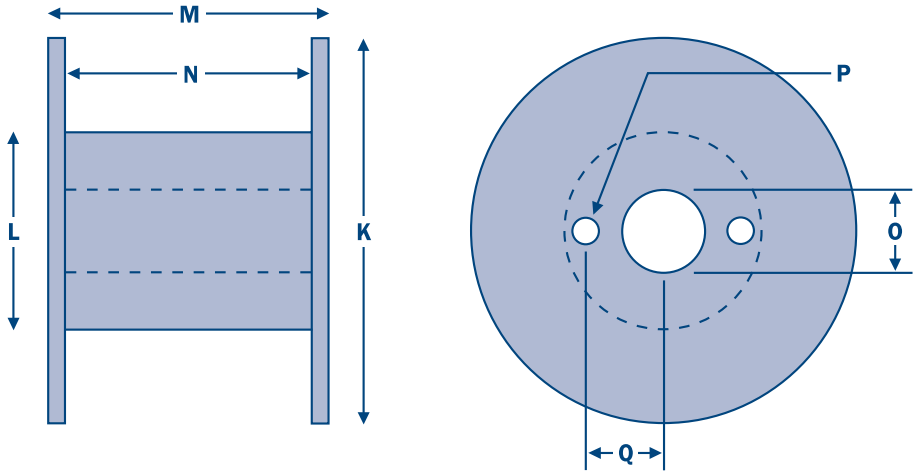
Regular or High Tensile Strength	
in	mm
0.035	0.89
0.038	0.96
0.051	1.30
0.061	1.55
0.063	1.59
0.072	1.83

TIRE BEAD WIRE SPECIFICATIONS

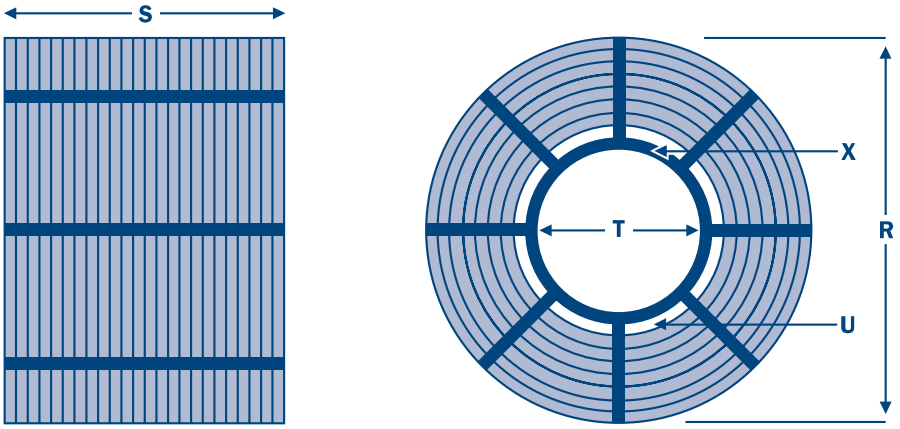
Specification	Units	High Tensile	Regular Tensile	High Tensile	Regular Tensile	High Tensile	Regular Tensile	High Tensile
Diameter	mm in	0.965 0.038	0.965 0.038	1.295 0.051	1.295 0.051	1.6 0.0625	1.83 0.072	1.83 0.072
Breaking Strength	N	1,540 Min.	1,270 Min.	2,800 Min.	2403 Min.	4180 Min.	4750 Min.	5,540 Min.
Total Elongation	%	5.3 Min.	5.0 Min.	5.0 Min.	5.0 Min.	6.0 Min.	6.0 Min.	6.0 Min.
Coating	g/kg	0.30 - 0.64	0.30 - 0.64	0.19 - 0.49	0.20 - 0.5	0.16 - 0.40	0.15 - 0.35	0.15 - 0.45
Copper	%	97.0 - 99.0	97.0 - 99.0	97.0 - 99.0	97.0 - 99.0	97.0 - 99.0	97.0 - 99.0	97.0 - 99.0
Tin	%	1.0 - 3.0	1.0 - 3.0	1.0 - 3.0	1.0 - 3.0	1.0 - 3.0	1.0 - 3.0	1.0 - 3.0
Weight	Kg lb	430 - 480 948 - 1058	430 - 480 948 - 1058	430 - 480 948 - 1058	430 - 480 948 - 1,058	430 - 480 948 - 1,058	430 - 480 948 - 1,058	430 - 480 948 - 1,058

Reel or reeless packaging.

K 29.92 in - 760 mm
L 13.97 in - 355 mm
M 12.99 in - 330 mm
N 11.02 in - 280 mm
O 1.28 in - 32.5 mm
P 0.81 in - 20.5 mm
Q 2.52 in - 64 mm



R 28.35 in - 720 mm
S 11.02 in - 280 mm
T 13.98 in - 355 mm
U 14.69 in - 373 mm
X 1.00 in - 25.4 mm



ACSR Wire and Strand

***Camesa* ACSR wire provides mechanical support to aluminum conductors in aerial high tension lines. The conductor wire is stranded around the ACSR wire or strand.**

***Camesa* has great experience manufacturing to the demanding specifications for wire and strand that provide the support to aluminum conductors without risk of breaking.**

STANDARDS

Wire: ASTM B-498

Strand: ASTM B-500

Galvanization in Coating Classes A or B

USES

> In laying of high tension electric lines, ACSR wire or strand work mechanically, supporting tension stresses to which the aluminum conductor is subjected.

ADVANTAGES

> Continuous filament with no welds
> Presentation in reels – no rewinding is necessary
> Coils are fastened tightly in order to avoid displacements during transportation
> High ductility & tension strength
> Consistent surface finish
> Surface quality improves adhesion of paints and coatings
> Galvanized core wire and strand are protected from corrosion and provide dependable performance for many years under adverse weather conditions
> Manufactured and packaged to your specifications in an ISO 9001:2000 facility

CONFIGURATIONS

> 7-wire strand
> 19-wire strand
> 37-wire strand
> 61-wire strand

DIAMETERS

Wire sizes:
0.0525-0.188” (1.33 mm-4.78 mm)

Strand sizes:
0.234-0.745” (5.94 mm-18.92 mm)

PACKAGING

Coils:	397-419 lb (180-190 kg)
Wooden reels:	1,100-2,200 lb (500-1,000 kg)

ACSR WIRE SPECIFICATIONS (IMPERIAL)

Diameter in	Stress At 1% Extension - Ksi		Ultimate Tensile Strength - Ksi		Elongation - 250" min. %	
	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
0.05 - 0.0899	190	180	210	200	3.0	3.0
0.90 - 0.1199	185	175	205	195	3.5	3.0
0.12 - 0.1399	180	170	205	195	4.0	3.0
0.14 - 0.1900	170	160	200	185	4.0	4.0

Diameter in	Zinc Coating - min. oz/ft²	
	CLASS A	CLASS B
0.0500 - 0.0599	0.60	1.20
0.0600 - 0.0749	0.65	1.30
0.0750 - 0.0899	0.70	1.40
0.0900 - 0.1039	0.75	1.50
0.1049 - 0.1199	0.80	1.60
0.1200 - 0.1399	0.85	1.70
0.1400 - 0.1799	0.90	1.80
0.1800 - 0.1900	1.00	2.00

ACSR WIRE SPECIFICATIONS (METRIC)

Diameter mm	Stress At 1% Extension - MPa		Ultimate Tensile Strength - MPa		Elongation - 250mm min. %	
	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
1.60 - 2.30	1310	1240	1450	1380	3.0	3.0
2.31 - 3.05	1280	1210	1410	1340	3.5	3.0
3.06 - 3.60	1240	1170	1410	1340	4.0	3.0
3.61 - 4.80	1170	1100	1380	1280	4.0	4.0

Diameter mm	Zinc Coating - min. g/m²	
	CLASS A	CLASS B
1.60 - 1.90	210	420
1.90 - 2.30	220	440
2.30 - 2.70	230	460
2.70 - 3.10	240	480
3.10 - 3.50	260	520
3.50 - 3.90	270	540
3.90 - 4.50	275	550
4.50 - 4.80	300	600

Low Carbon Wire

STANDARDS

ASTM A-506
EN 10016

USES

> Displays
> Construction panels
> Ornamental displays
> Grills for stoves
> Electrodes for welds
> Frames for fans
> Rivet components
> Nails and screws
> Hooks
> Bucket holders
> Supermarket carts
> Automotive shapes

ADVANTAGES

> Manufactured and packaged to your specifications in an ISO 9001:2000 facility
> Surface quality improves adhesion of paints and coatings
> Consistency in diameter and resistance to controlled tension

DIAMETERS

Wire sizes: 0.062-0.560” (1.57-14.2 mm)

GRADES

1012-1018

PACKAGING

Coils: 441-1,102 lb (200-500 kg)
Carriers: 1,653-1,764 lb (750-800 kg)

We understand the daily challenges you face and are fully prepared to provide the best products and support to meet those challenges.

Our commitment to ***Camesa*** wire is no different. **WireCo WorldGroup** – a company deep in resources and global services, is the only manufacturer in the world that is QPL qualified, API certified, and registered to both ISO 9001:2000 and AS-9100 Quality Systems. **WireCo WorldGroup** is the global leader in manufacturing and distributing wire, wire rope, wire rope assemblies and electromechanical cable.

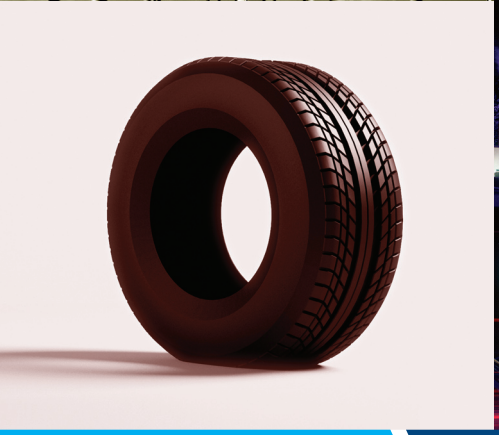
And, because our facilities in the U.S. and Mexico supply **WireCo WorldGroup** with vast amounts of raw wire, we understand the importance and impact of wire on your business. That's why we strive to provide the best quality wire and fulfill timely shipments, day after day, week after week, year after year.

camesa®

With a trusted team of support staff and with inventories at locations around the world, we are here for you, 24 hours a day, 7 days a week.

WIRECOWORLDGROUP.COM

CAMESA-WIRE.COM



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