WWR®

WASHINGTON WIRE ROPE

by WIREMAX

DOMESTIC PRODUCT CATALOG

WIREMAX

by DEACERO

CERTIFIED ISO 9001:2015 COMPANY

MANUFACTURED PER API-9A SPECIFICATIONS

9A-0085

Domestic Wire Rope and Cable®

AWRF Est. 1976

WWR®
WASHINGTON WIRE ROPE
by WIREMAX

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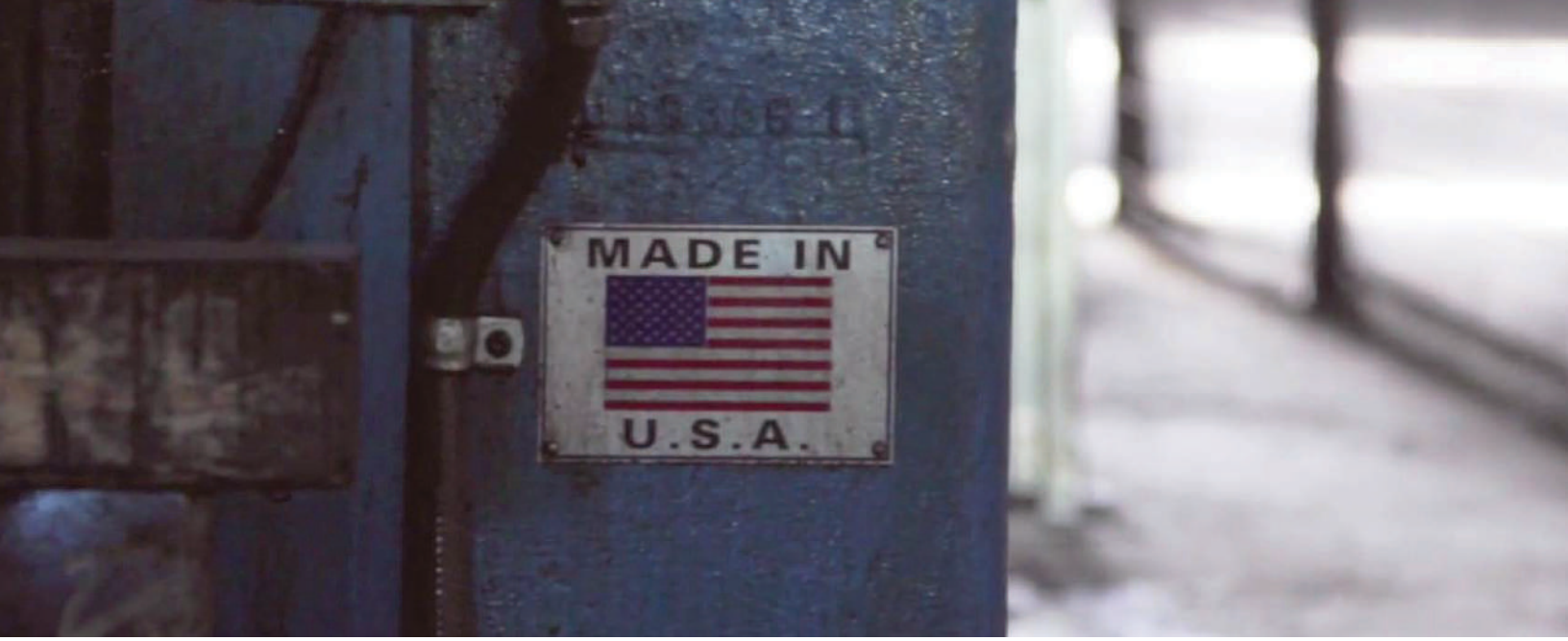


Committed to Quality.

Washington Wire Rope, by Wiremax operates as a certified API/ISO wire rope mill nestled in the heart of Texas, specifically in Houston. As a privately-owned, vertically-integrated entity, we take pride in producing, drawing, and rigorously testing our steel wires in ISO-accredited steel mills.

What sets us apart is our ability to manufacture our own raw materials, granting us the invaluable advantage of offering comprehensive traceability through certificates of conformance. This traceability spans from the initial steel pouring to the final stages of wire rope stranding and closing.

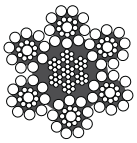
WWR is a valued member of the AWRF and shares its commitment to ensuring that our products are of the highest quality available in the world.

Our Domestic products, are manufactured per API-9A standards, ensuring top-tier manufacturing excellence.

Product specifications

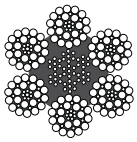
General Purpose

6x19 Class



This construction is the most widely used.
With its combination of flexibility and wear resistance, rope in this class can be suited to the specific needs of diverse kinds of machinery and equipment.

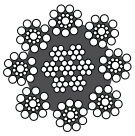
6x37 Class



This construction is characterized by the relatively large number of wires used in each strand. Ropes of this class are among the most flexible available due to the greater number of wires per strand.

Specialty Applications

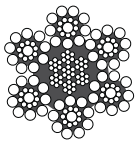
8x19 Class
Rotation Resistant



This construction contains rotation resistant ropes and is recommended for hoisting unguided loads with a single-part or multi-part line. The eight outer strands are manufactured in right lay, with the inner strands being left lay.

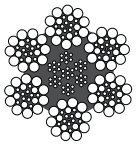
Oilfield Applications

6x19 Seale
Drill Line



The 6x19 construction provides flexibility & wear resistance, and becomes an oilfield application wire rope once a C-lube is applied.

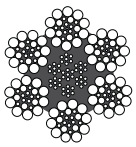
6x26 Swaged
6x31 Swaged
Tubing Line



Swaged tubing lines are used for the transfer of fluids and gases in the Oil and Gas Industry, including drilling operations, production facilities, and pipeline systems.

Logging Industry

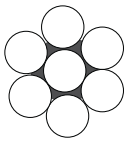
6x25 Swaged
6x26 Swaged
Compacted



The logging industry uses swaged ropes with compacted strands due to their durability, strength, and resistance to abrasion.

Telecom & Utilities

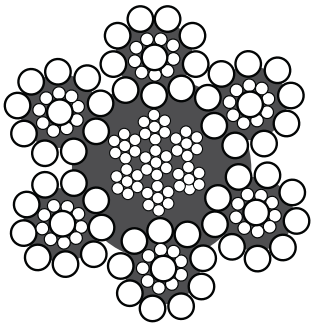
Guy Strand
Galvanized



This 1x7 or 1x19 construction strand is used for creating tension in telecom and utility applications. These strands are not used for lifting.

6x19 Class

6x19S (9/9/1) | 6x26WS (10/5+5/5/1)



Provides a stable rope structure and achieves excellent bending fatigue results.

- Flexibility and wear resistance
- Provides great ruggedness and resistance to abrasion and crushing

Diameter (in)	Diameter (mm)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs)	
			EIPS 1960	EEIPS* 2160
3/8	9.5	0.26	7.55	8.30
7/16	11.1	0.35	10.2	11.2
1/2	12.7	0.46	13.3	14.6
9/16	14.3	0.59	16.8	18.5
5/8	15.9	0.72	20.6	22.7
3/4	19.1	1.04	29.4	32.4
7/8	22.2	1.42	39.8	43.8
1	25.4	1.85	51.7	56.9
1 1/8	28.6	2.34	65.0	71.5
1 1/4	31.8	2.89	79.9	87.9
1 3/8	34.9	3.50	96.0	106
1 1/2	38.1	4.16	114	125
1 5/8	41.3	4.88	132	146
1 3/4	44.5	5.67	153	169
1 7/8	47.6	6.50	174	192
2	50.8	7.39	198	217
2 1/8	54.0	8.35	221	244
2 1/4	57.2	9.36	247	272
2 3/8	60.3	10.4	274	302
2 1/2	63.5	11.6	302	332

Available as Standard

Lay Type		
Regular	Lang	Alt
●		

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

*EEIPS made to order.
Contact your local representative for availability.

Standard Lubricants

LUBE - A | Our lightest standard lube for enhanced handling.

LUBE - B | Excellent lubricity and corrosion protection

LUBE - C | Heavy lube designed to give extra lubrication, corrosion protection, enhanced durability, and reduced wear and heat generation.

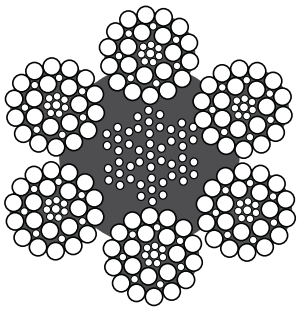
LUBE - D | Heavy C lube that is also applied at stranding process. Creates heaviest standard coat available for elevated heat and winter conditions.

SPECIAL LUBES | Specialty lubes available upon request.

6x37 Class

6x31WS (12/6 & 6/6/1) | 6x36WS (14/7 & 7/7/1)

Ropes of this class provide greater flexiblity and resistance to abrasion while maintaning strength.



Diameter (in)	Diameter (mm)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs)	
			EIPS 1960	EEIPS* 2160
3/8	9.5	0.26	7.55	8.30
7/16	11.1	0.35	10.2	11.2
1/2	12.7	0.46	13.3	14.6
9/16	14.3	0.59	16.8	18.5
5/8	15.9	0.72	20.6	22.7
3/4	19.1	1.04	29.4	32.4
7/8	22.2	1.42	39.8	43.8
1	25.4	1.85	51.7	56.9
1 1/8	28.6	2.34	65.0	71.5
1 1/4	31.8	2.89	79.9	87.9
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1 1/2	38.1	4.16	114	125
1 5/8	41.3	4.88	132	146
1 3/4	44.5	5.67	153	169
1 7/8	47.6	6.50	174	192
2	50.8	7.39	198	217
2 1/8	54.0	8.35	221	244
2 1/4	57.2	9.36	247	272
2 3/8	60.3	10.4	274	302
2 1/2	63.5	11.6	302	332

Available as Standard

Lay Type		
Regular	Lang	Alt
●		

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

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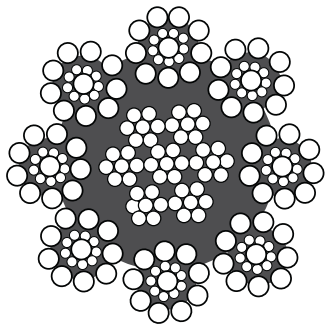
8x19 Class

ROTATION RESISTANT 8x19S (1/2" - 3/4") | 8x26WS (1/2" - 3/4")



The size relationship between strands and cores gives these ropes increased bendability over six strand ropes of the same diameter.

- Crush-resistant
- Increased bendability
- Rotation-resistant rope
- Used as a hoist rope in elevator applications

Diameter (in)	Diameter (mm)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs)	
			EIPS 1960	EEIPS* 2160
1/2	12.7	0.47	10.1	11.6
9/16	14.3	0.60	12.8	14.7
5/8	15.9	0.73	15.7	18.1
3/4	19.1	1.06	22.5	25.9
7/8	22.2	1.44	30.5	35
1	25.4	1.88	39.6	45.5
1 1/8	28.6	2.39	49.8	57.3
1 1/4	31.8	2.94	61.3	70.5

Available as Standard

Lay Type	
Regular	Lang
●	

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

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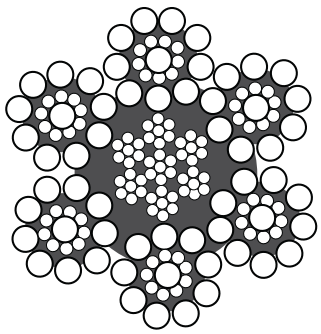
SPECIAL LUBES | Specialty lubes available upon request.

6x19 Seale

DRILLING LINES 6x19S (9/9/1)



Designed to provide excellent strength and resistance to abrasion, making it well-suited to be used as a rotary drill line.

- 19 to 26 wires per strand
- Flexibility and wear resistance
- Provides great ruggedness and resistance to abrasion and crushing
- Special lubricant that works on all different environments

Diameter (in)	Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs)	
			EIPS 1960	EEIPS* 2160
7/8	22.2	1.42	39.8	43.8
1	25.4	1.85	51.7	56.9
1 1/8	28.6	2.34	65.0	71.5
1 1/4	31.8	2.89	79.9	87.9
1 3/8	34.9	3.50	96.0	106
1 1/2	38.1	4.16	114	125
1 5/8	41.3	4.88	132	146
1 3/4	44.5	5.67	153	169
1 7/8	47.6	6.50	174	192
2	50.8	7.39	198	217

Available as Standard

Lay Type	
Regular	Lang
●	

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

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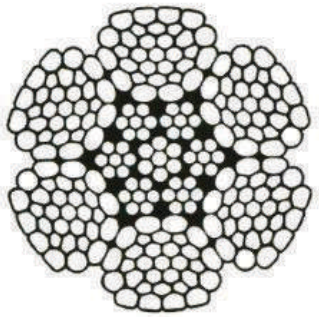
6x26 & 6x31 IWRC

TUBING LINES 6x26WS (10/5 & 5/5/1)



- High resistance to crushing
- Reduced friction
- High performance lubrication for durability in the harshest enviornments.

Diameter (in)	Construction	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs)	
			EIPS	EEIPS*
7/8	6x26 Swaged	1.7	47.8	52.6
7/8	6x31 Swaged	1.7	47.8	52.6
1	6x26 Swaged	2.22	62	68.2
1	6x31 Swaged	2.22	62	68.2
1 1/8	6x31 Swaged	2.66	79.3	87.2

Available as Standard

Lay Type	
Regular	Lang
●	

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

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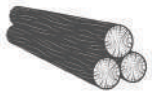
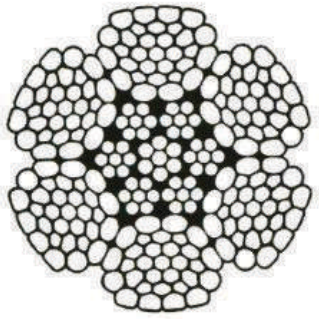
6x26 Swaged



6x26WS (10/5 & 5/5/1)

Swaged wire ropes are commonly used in the logging industry for a variety of purposes due to their durability, strength, and resistance to abrasion.

- High-density construction
- Abrasion resistance
- Greater strength



Available as Standard

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs) EEIPS* 2160
7/8	1.70	47.4
1	2.22	62.0
1 1/8	2.80	73.5
1 1/4	3.40	90.0

Lay Type	
Regular	Lang
●	

Lay Direction	
Right	Left
●	

Finish	
BRT	GALV
●	

Grade	
EIPS	EEIPS
●	

*EEIPS made to order.
Contact your local representative for availability.

6x25 & 6x26 Compacted Strand

Diameter (in)	Weight (lb/ft)	Minimum Breaking Force (tons for 2000 lbs) EEIPS* 2160
1/2	0.65	18.6
9/16	0.81	23.5
5/8	0.95	28.8
3/4	1.43	40
7/8	1.92	52
1	2.37	68
1 1/8	2.96	85
1 1/4	3.51	102
1 3/8	4.12	120

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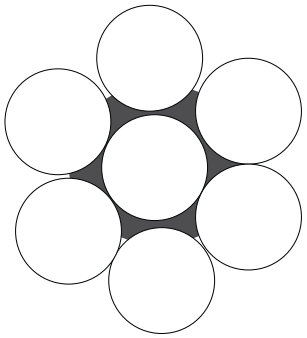
GUY STRAND

Galvanized 1x7 (6/1) Strand

- Available in 3 grades:
  Simmens Martin / High Strength / Extra High Strength
- Meets ASTM A475 and A363
- Can be produced with Class A and B zinc coatings
- For high-performance communications towers and other support structures, as an overhead ground wire for high voltage electric transmission. As a messenger cable to support electrical conductors and communications cables.



Diameter		Construction	Approx. Weight		Tensile Strength						Min. Weight of Zinc Coating (oz/ft²)			
					Siemens Martin		High Strength Grade		Extra High Strength Grade		Class A		Class B	
in	mm		kg/m	lb/1000ft	ton	lb	ton	lb	ton	lb	gr/m²	oz/ft²	gr/m²	oz/ft²
1/8	3.2	1x7	0.048	23	N/A	N/A	0.60	1330	122	1830	122	0.4	244	0.8
3/16	4.8	1x7	0.109	73	N/A	N/A	1.29	2850	153	3990	153	0.5	305	1
1/4	6.4	1x7	0.180	121	1.53	3380	2.15	4750	183	6650	183	0.6	366	1.2
5/16	8	1x7	0.305	205	2.43	5350	3.63	8000	244	11200	244	0.8	488	1.6
3/8	9.5	1x7	0.406	273	3.15	6950	4.90	10800	259	15400	259	0.85	519	1.7
1/2	13.0	1x7	0.769	517	5.49	12100	8.53	18800	275	26900	275	0.9	N/A	N/A
1/2	13.0	1x7	0.750	504	5.76	12700	8.66	19100	214	26700	214	0.7	427	1.4
9/16	14.3	1x7	0.948	637	7.30	16100	10.93	24100	244	33700	244	0.8	488	N/A
9/16	14.3	1x19	0.999	671	N/A	N/A	11.11	24500	305	35000	305	1	N/A	N/A
5/8	15.9	1x19	1.210	813	N/A	N/A	13.43	29600	305	42400	305	1	N/A	1.6
5/8	15.9	1x19	1.185	796	8.21	18100	12.75	28100	259	40200	259	0.85	519	1.7
3/4	19.1	1x19	1.719	1155	11.88	26200	18.51	40800	275	58300	275	0.9	N/A	N/A
7/8	22.2	1x19	2.353	1581	N/A	N/A	25.31	55800	275	79700	275	0.9	N/A	N/A
1	25.4	1x19	3.085	2073	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Inspection

All wire ropes will wear out eventually and gradually lose work capability throughout their service life. That's why periodic inspections are critical. Applicable industry standards such as ASME b30.2 for overhead and gantry cranes or federal regulations such as OSHA refer to specific inspection guidelines for varied applications.

WHY INSPECT?

Regular inspection of wire rope and equipment should be performed because:

- It reveals the rope's condition and indicated the need for replacement should there be one.
- It can indicate if you're using the most suitable type of rope for the application
- It makes possible the discovery and correction of faults in equipment or operation that can cause costly accelerated rope wear.

HOW OFTEN?

All wire ropes should be thoroughly inspected at regular intervals. The longer it has been in service or the more severe the service, the more thoroughly and frequently it should be inspected. Be sure to maintain records of each inspection.

WHO CAN INSPECT?

Inspections should be carried out by a person who has learned through special training or practical experience what to look for and who knows how to judge the importance of any abnormal conditions they may discover. It is the inspector's responsibility to obtain and follow the proper inspection criteria for each application inspected.

The "X" Chart

Abrasion Resistance VS Bending Fatigue Resistance

ABRASION RESISTANCE

Abrasion resistance refers to a rope's ability to withstand metal being worn away on the it's surface. Abrasion is one of the most destructive conditions that can occur to a wire rope - it usually takes place on drums or sheaves due to the rubbing against itself or other material. Abrasion causes the metal of the wire to bend into new shape, which impairs wire movement when the rope bends.

FATIGUE RESISTANCE

To have high fatigue resistance, wires must be capable of bending repeatedly under stress – for example, a rope passing over a sheave. This is achieved by increasing the number of wires in the rope. Every rope is subject to fatigue from bending stress while in operation, hence the rope's strength gradually decreases as it's used.

Conversion Factors & Tables

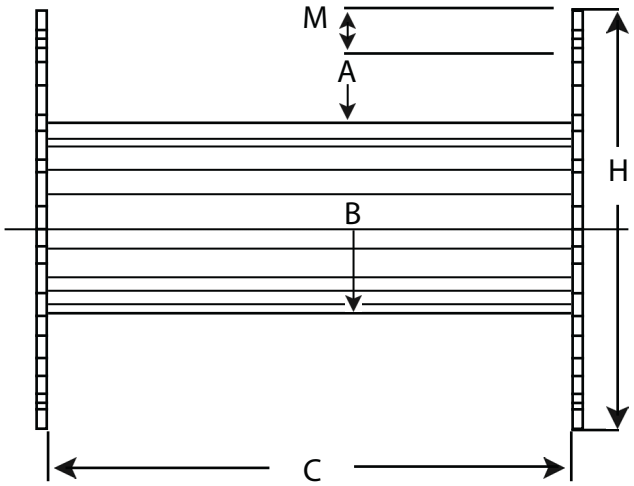
Temperatures

Fahrenheit	Celsius
806	430
608	320
212	100
100	38
86	30
75	24
68	20
59	15
50	10
41	5

Fahrenheit	Celsius
-250	-418
-50	-58
-40	-40
-22	-30
-4	-20
+14	-10
32	0

Capacity of Drum or Reel

The following formula may be used for computing the rope capacity (L) in feet for any size drum or reel. This formula is based on uniform rope winding and will not give correct results if rope is wound non-uniformly on the reel. **The dimensions shown in figure below are to be taken in inches.**



L= (A+B) x A x C x K; where:

L= Rope, Length in Feet

A= Depth of Rope Layer in inches = J-B/s - M

C= Width between Reel Flangs in inches

M= Desired Clearance

K= Contact as shown in table below.

Nominal Rope Diameter	K
.1/32"	270.
3/64/	119.
1/16	67.2
.5/64	43.0
3/32	29.8
7/64	21.8
1/8	16.8
5/32	10.7
3/16	7.44
7/32	5.48
1/4	4.19
9/32	3.31
5/16	2.68
3/8	1.86
7/16	1.37
1/2	1.05
9/16	.828
5/8	.671
11/16	.554

Nominal Rope Diameter	K
3/4"	.466
13/16	.397
7/8	.342
1	.262
1 1/8	.207
1 1/4	.168
1 3/8	.139
1 1/2	.116
1 5/8	.099
1 3/4	.086
1 7/8	.075
2	.066
2 1/8	.058
2 1/4	.052
1 3/8	.046
2 1/2	.042
2 5/8	.038
2 3/4	.035
2 7/8	.032

Nominal Rope Diameter	K
3"	.029
3 1/8	.027
3 1/4	.025
3 3/8	.023
3 1/2	.021
3 5/8	.020
3 3/4	.019
3 7/8	.017
4	.016
4 1/8	.0154
4 1/4	.015
4 3/8	.014
4 1/2	.013
4 5/8	.012
4 3/4	.0116
4 7/8	.011
5	.010

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Any warranty, expressed or implied as to quality, performance or fitness for use of Washington Wire Rope products is always premised on the condition that the published strengths apply only to new, unused products, that the mechanical equipment on which such products are used is properly designed and maintained, that such products are properly stored, handled, used and maintained, and properly inspected on a regular basis during the period of use.

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MANUFACTURED PER API-9A SPECIFICATIONS

9A-0085

Domestic Wire Rope and Cable®

AWRF Est. 1976