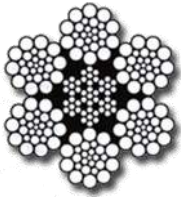
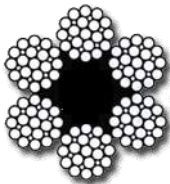


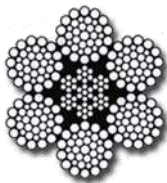
# WIRE ROPE



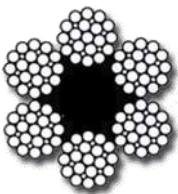
6 x 26 IWRC



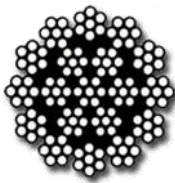
6 x 19 FC



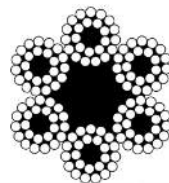
6 x 36 IWRC



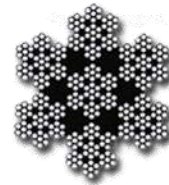
6 x 36 FC



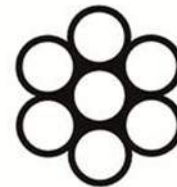
19 x 7 IWRC



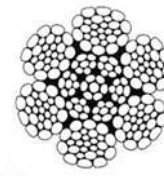
6 x 24 FC



7 x 7 x 7



1 x 7



Swaged



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**VANGUARD STEEL LTD.**



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## GENERAL INFORMATION

Vanguard Steel's Wire Rope and Hardware Division acts as a Wholesale Distributor of Wire Ropes and Rigging Hardware, catering predominantly to Industrial Distributors and Rigging Shops.

By offering North American designed products which are manufactured to Vanguard's specifications by the most economical and reputable global manufacturing base, Vanguard offers great value to its customers. Rather than seeking to position Vanguard as an importer of cheap products for which price considerations override any quality concerns, Vanguard will continue to compete directly against other 'top-of-the-line' brand names in the wire rope fabricating and rigging field.

## WIRE ROPE CORES

The core forms the heart of the rope and is the component around which the main strands are laid. The core supports the strands and is intended to keep them from jamming against or contacting each other under normal loads and flex. The most popular core constructions are the following:

### Fiber Core (FC):

These cores can be made from natural or synthetic fibers. The majority of Vanguard's Fiber Core ropes feature a Polypropylene Core (PPC), as they are less susceptible to compacting (especially under moist conditions) and are impervious to many acids.

### Independent Wire Rope Core (IWRC):

IWRC ropes are used in applications requiring maximum strength, resistance to crushing and all applications for which fiber core ropes are not suitable (i.e. excessive heat of 250° F or greater).

### Strand Core (SC):

This type of core would only be chosen for applications where 'stiffness' of the rope is not a drawback but is, in fact, desirable.



## FINISHES

To protect against friction and corrosion, proper lubrication of individual wires and strands plays an important role in the production of wire rope. Additional field lubrication may be required if the ropes are subjected to heavy usage or lengthy storage. The type of lubrication depends on the intended usage of the rope:

- Type A-1 & A-2:** Vaseline based lubricant, for light and medium duty applications
- Type B:** Petroleum based lubricant, for more severe applications (i.e. construction)
- Type C:** Asphalt based lubricant, often specified for non-rotating ropes

For additional protection against premature corrosion, the individual wires of an uncoated rope (generally referred to as 'bright' or 'black') are hot dip galvanized at finished size. This will, however, reduce the breaking strength of the rope by approximately 10% from a comparable bright rope.

Where wire ropes are subject to severe corrosive elements such as salt water, various acids, etc., stainless steel ropes may have to be considered.

## WIRE ROPE LAY

The term 'rope lay' signifies the direction of rotation of the wires and the strands in the rope. Rotation is either:

- Right Lay** - Clockwise, or
- Left Lay** - Counter-clockwise

### Regular Lay:



Right Lang Lay (RLL)

Left Lang Lay (LLL)

Wires in strands are laid in one direction, while the strands in the rope are laid in the opposite direction. This results in wire crown running approximately parallel to the longitudinal axis of the rope. These ropes are stable, have good resistance to kinking and twisting, and are easy to handle. They are also able to withstand a considerable amount of 'crushing' and 'distortion' due to the short length of exposed wires.



Right Lay Regular Lay (RRL)

Left Lay Regular Lay (LRL)

### Lang Lay:

Wires are laid in the same direction as the strands of the rope, and in an angle to the rope axis. With the outer wires presenting greater wearing surfaces, these ropes have greater resistance to abrasion than regular lay ropes. They are also more flexible and possess greater fatigue resistance. Lang Lay ropes should have both ends permanently fixed to prevent untwisting. They are not recommended for use on single part hoist-lines, nor should they be used with swivel end terminals.

## OTHER CONSIDERATIONS:

### Stretch:

There are two types of stretch that occur in wire ropes:

#### Constructional Stretch:

This is a permanent elongation that takes place due to a slight lengthening of the rope lay, compression of the core and adjustment of the wires and strands to the load. Constructional stretch varies with the severity of the operation and generally occurs during the first weeks of operation. It increases the length of the rope by approximately 1/2 % for fiber core ropes and 1/4 % for steel core ropes.

#### Elastic Stretch:

This is a recoverable elongation similar to the stretch in a rubber cord. If the load is kept within the elastic limit of the rope, the theory of elastic materials will apply.

#### Shifting Points of Wear:

Wear and fatigue usually take place at certain definite points along a rope. Removing short lengths from the drum end of the rope shifts these wear points and exposes relatively unworn sections of the rope to the harder working areas. To take advantage of this method of increasing service life, it is obviously necessary to initially order a slightly longer rope length than required.

#### Turning Rope End for End:

On many installations, destructive forces are more severe along one half of the rope than the other. By turning the rope end for end, it is possible to increase its service life.

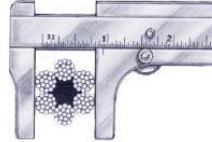
### Measuring Wire Rope:

The diameter of a wire rope is the diameter of the circle which encloses all the wires. When measuring wire rope, it is important to take the greatest distance of the outer limits of the 'crowns' of two opposite strands. A measurement across the valleys will result in incorrect (lower) readings.

Correct:



Incorrect:



### Rope Constructions:

#### Small Diameter Cables:

Ranging in diameters up to 3/8", the construction, material and finish of these cables depends on their ultimate use:

- 1) Commercial quality cables (often referred to as aircraft cables but not for use in aircraft!)
- 2) Control cables (used in the automotive industry)
- 3) Conveyor belt cables Small Diameter Cables Engineering & General Purpose Wire Ropes

#### Engineering & General Purpose Wire Ropes

The construction of wire ropes and strands covered under this heading varies within specific Classifications and will depend on the desired performance features, such as flexibility, resistance to abrasion, resistance to rotation, etc.

##### 1 x 7 Classification (Guy Strand)

##### 6 x 7 Classification

Used where ropes are dragged over the ground or over rollers and where resistance to abrasion is an important factor. The large outer wires will withstand a great deal of wear at the expense of flexibility.

##### 6 x 19 Classification

Constructions falling under this classification are the most widely used throughout all industries, as they feature a good balance between abrasion resistance and flexibility.

##### 6 x 37 Classification

Increasing the number of wires while reducing the wire diameter results in greater flexibility but diminishes abrasion resistance.

##### 19 x 7 Classification

Due to their rotation resistance characteristics, ropes falling under this classification are being used for many hoisting applications, but failure to easily detect damage to the inner core is among the reasons that usage has declined in favour of Specialty Ropes.

##### 8 x 19 Classification

Reverse bends and small sheaves may render 8 strand ropes a better choice than 19 x 7 or other rope constructions. Specialty Ropes

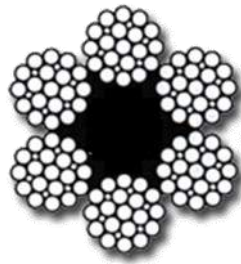
For applications where performance, down-time and/or safety considerations outweigh a rope's cost of acquisition, a wide range of specialty ropes has been developed. Proper selection, handling and installation of such ropes is essential in maximizing results.

## Galvanized 6 x 19 Class FC

A general purpose wire rope.

Most flexible rope in classification; best balance of abrasion and fatigue resistance.

They give excellent service with sheaves and drums of moderate size. 6 x 19 classification ropes contain 6 strands with 15 through 26 wires per strand, no more than 12 of which are outside wires.



| Galvanized Wire Rope | Construction IPS Grade | B/S Tons          | Product Code | Weight 100 ft |
|----------------------|------------------------|-------------------|--------------|---------------|
| <b>Size</b>          |                        | <b>(2000 lbs)</b> |              |               |
| 3/8"                 | 6 x 19 FC              | 5.49              | 26120024     | 23.60         |
| 7/16"                | 6 x 19 FC              | 7.44              | 26120028     | 32.00         |
| 1/2"                 | 6 x 19 FC              | 9.63              | 26120032     | 42.00         |
| 9/16"                | 6 x 19 FC              | 12.15             | 26120036     | 53.00         |
| 5/8"                 | 6 x 19 FC              | 15.00             | 26120040     | 66.00         |
| 3/4"                 | 6 x 19 FC              | 21.40             | 26120048     | 95.00         |
| 7/8"                 | 6 x 19 FC              | 29.00             | 26120056     | 129.00        |
| 1"                   | 6 x 19 FC              | 37.60             | 26120100     | 168.00        |
| 1-1/8"               | 6 x 19 FC              | 47.30             | 26120108     | 213.00        |
| 1-1/4"               | 6 x 19 FC              | 58.10             | 26120116     | 263.00        |

Other sizes available upon request

### APPLICATIONS

Most widely used of all wire rope - cranes hoists, skip hoists, haulage, mooring lines, conveyors, etc.

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT .**

Prefix

2512xxxx6 x 19 FC

2526xxxx6 x 25 FC

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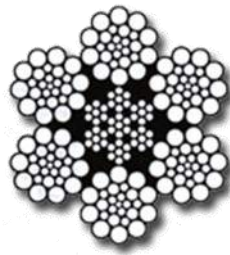


# Galvanized 6 x 19 Class IWRC

A general purpose wire rope.

Most flexible rope in classification; best balance of abrasion and fatigue resistance.

6 x 19 classification wire rope provides an excellent balance between fatigue and wear resistance. They give excellent service with sheaves and drums of moderate size. 6 x 19 classification ropes contain 6 strands with 15 through 26 wires per strand, no more than 12 of which are outside wires.



| Galvanized Wire Rope | Construction IPS Grade | B/S Tons (2000 lbs) | Product Code | Weight 100 ft |
|----------------------|------------------------|---------------------|--------------|---------------|
| Size                 |                        |                     |              |               |
| 1/4"                 | 6 x 19 IWRC            | 3.40                | 26660016     | 11.00         |
| 5/16"                | 6 x 19 IWRC            | 4.74                | 26660020     | 18.00         |
| 3/8"                 | 6 x 19 IWRC            | 6.80                | 26660024     | 25.00         |
| 7/16"                | 6 x 19 IWRC            | 9.18                | 26660028     | 34.00         |
| 1/2"                 | 6 x 19 IWRC            | 12.00               | 26660032     | 44.00         |
| 5/8"                 | 6 x 19 IWRC            | 18.50               | 26660040     | 69.00         |
| 3/4"                 | 6 x 19 IWRC            | 26.50               | 26660048     | 99.00         |
| 7/8"                 | 6 x 19 IWRC            | 35.80               | 26660056     | 135.00        |
| 1"                   | 6 x 19 IWRC            | 46.50               | 26660100     | 176.00        |
| 1-1/8"               | 6 x 19 IWRC            | 58.50               | 26660108     | 223.00        |
| 1-1/4"               | 6 x 19 IWRC            | 71.90               | 26660116     | 275.00        |

Other sizes and construction available upon request

## APPLICATIONS

Boom hoists, logging and tubing lines; IWRC shown, fiber core available

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed DO NOT EXCEED WORK LOAD LIMIT.**

|  |
|--|
| <p><b>Prefix:</b><br/> 2663xxx6 x 19 IWRC<br/> 2676xxx6 x 25 IWRC<br/> 26806xxx6 x 26 IWRC</p> |
|--|

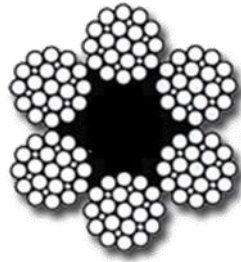
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# Galvanized 6 x 36 Class FC

6 x 36 Classification Wire Ropes have a third layer of wires which make them more flexible, although less abrasion-resistant than ropes of the 6x19 class. Each strand contains numerous, comparatively small diameter wires which offer superior bending ability. As the number of wires in each strand increases, flexibility increases.

This classification covers ropes with 6 strands having 27 to 49 wires per strand.



| Galvanized Wire Rope | Construction IPS Grade | B/S Tons | Weight 100 ft | Product Code |
|----------------------|------------------------|----------|---------------|--------------|
| <b>Size</b>          | <b>(2000 lbs)</b>      |          |               |              |
| 1/4"                 | 6 x 36 FC              | 2.47     | 10.50         | 26400016     |
| 5/16"                | 6 x 36 FC              | 3.83     | 16.40         | 26400020     |
| 3/8"                 | 6 x 36 FC              | 5.49     | 23.60         | 26400024     |
| 7/16"                | 6 x 36 FC              | 7.44     | 32.00         | 26400028     |
| 1/2"                 | 6 x 36 FC              | 9.63     | 42.00         | 26400032     |
| 9/16"                | 6 x 36 FC              | 12.15    | 53.00         | 26400036     |
| 5/8"                 | 6 x 36 FC              | 15.00    | 66.00         | 26400040     |
| 3/4"                 | 6 x 36 FC              | 21.40    | 95.00         | 26400048     |
| 7/8"                 | 6 x 36 FC              | 29.00    | 129.00        | 26400056     |
| 1"                   | 6 x 36 FC              | 37.60    | 168.00        | 26400100     |
| 1-1/8"               | 6 x 36 FC              | 47.30    | 213.00        | 26400108     |
| 1-1/4"               | 6 x 36 FC              | 58.10    | 263.00        | 26400116     |

**Other sizes and construction available upon request**

### APPLICATIONS

Overhead crane and mobile crane hoist ropes; winch lines; large diameter towing lines. The ropes in this group have excellent flexibility, reasonable resistance to crushing, and are well adapted to high speed and multiple reeving applications.

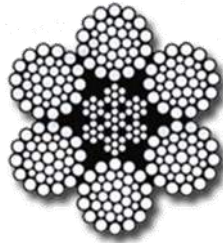
**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**



## Galvanized 6 x 36 Class IWRC

6 x 36 Classification Wire Ropes have a third layer of wires which make them more flexible, although less abrasion-resistant than ropes of the 6x19 class. Each strand contains numerous, comparatively small diameter wires which offer superior bending ability. As the number of wires in each strand increases, flexibility increases.

This classification covers ropes with 6 strands having 27 to 49 wires per strand.



| Galvanized Wire Rope | Construction EIPS Grade | B/S Tons | Weight 100 ft | Product Code |
|----------------------|-------------------------|----------|---------------|--------------|
| <b>Size</b>          | <b>(2000 lbs)</b>       |          |               |              |
| 1/4"                 | 6 x 36 IWRC             | 3.06     | 11.60         | 26900016     |
| 5/16"                | 6 x 36 IWRC             | 4.74     | 18.00         | 26900020     |
| 3/8"                 | 6 x 36 IWRC             | 6.80     | 26.00         | 26900024     |
| 7/16"                | 6 x 36 IWRC             | 9.18     | 35.00         | 26900028     |
| 1/2"                 | 6 x 36 IWRC             | 12.00    | 46.00         | 26900032     |
| 9/16"                | 6 x 36 IWRC             | 15.10    | 59.00         | 26900036     |
| 5/8"                 | 6 x 36 IWRC             | 18.50    | 72.00         | 26900040     |
| 3/4"                 | 6 x 36 IWRC             | 26.50    | 104.00        | 26900048     |
| 7/8"                 | 6 x 36 IWRC             | 35.80    | 142.00        | 26900056     |
| 1"                   | 6 x 36 IWRC             | 46.50    | 185.00        | 26900100     |
| 1-1/8"               | 6 x 36 IWRC             | 58.50    | 234.00        | 26900108     |
| 1-1/4"               | 6 x 36 IWRC             | 71.90    | 289.00        | 26900116     |

**Other sizes and construction available upon request**

### APPLICATIONS

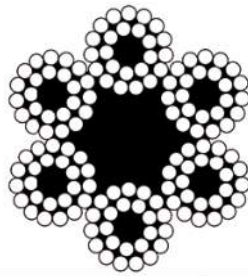
Overhead crane and mobile crane hoist ropes; winch lines; large diameter towing lines.

The ropes in this group have excellent flexibility, reasonable resistance to crushing, and are well adapted to high speed and multiple reeving applications.

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

## Galvanized 6 x 24 FC

This 6-strand rope with seven fibre cores provides extreme flexibility, but low breaking strength.



| Galvanized Wire Rope | Construction IPS Grade | B/S Tons          | Product Code | Weight 100 ft |
|----------------------|------------------------|-------------------|--------------|---------------|
| <b>Size</b>          |                        | <b>(2000 lbs)</b> |              |               |
| 3/8"                 | 6 x 24 FC              | 4.77              | 26210024     | 20.00         |
| 1/2"                 | 6 x 24 FC              | 8.40              | 26210032     | 35.00         |
| 9/16"                | 6 x 24 FC              | 10.60             | 26210036     | 44.00         |
| 5/8"                 | 6 x 24 FC              | 13.00             | 26210040     | 54.00         |
| 3/4"                 | 6 x 24 FC              | 18.60             | 26210048     | 78.00         |
| 7/8"                 | 6 x 24 FC              | 25.20             | 26210056     | 106.00        |
| 1"                   | 6 x 24 FC              | 33.90             | 26210100     | 138.00        |
| 1-1/8"               | 6 x 24 FC              | 42.20             | 26210108     | 175.00        |
| 1-1/4"               | 6 x 24 FC              | 52.20             | 26210116     | 216.00        |

Other sizes available upon request

### APPLICATIONS

Used for towboat, goods net, timber floating, shipping loading and unloading, binding, fastening. Slings, Lashing and Fishing.

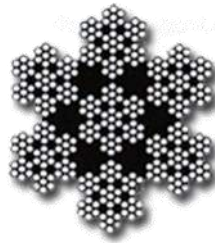
**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

## Cable Laid IWRC Galvanized

An extremely flexible wire rope.

Cable-laid rope consists of several constituent wire ropes that are helically laid or wound over a core into a single cable.

For example, a 7X7X7 cable-laid wire rope consists of seven (7x7) cables.



| Galv. Wire Rope | Construction   | B/S *<br>lbs | Weight<br>100 ft | Product<br>Code |
|-----------------|----------------|--------------|------------------|-----------------|
| <b>Size</b>     |                |              |                  |                 |
| 5/16"           | 7 x 7 x 7 IWRC | 10,700       | 14.00            | 36010020        |
| 3/8"            | 7 x 7 x 7 IWRC | 13,390       | 21.00            | 36010024        |
| 7/16"           | 7 x 7 x 7 IWRC | 18,000       | 30.00            | 36010028        |

**\* LISTED FOR COMPARISON ONLY**

ACTUAL OPERATING LOADS MAY VARY, BUT SHOULD NEVER EXCEED RECOMMENDED  
DESIGN FACTOR OF 20% OF CATALOGUE BREAKING STRENGTH !



# 1 x 7 GALVANIZED GUY STRAND

Commonly used for guying purposes where flexibility is not important.

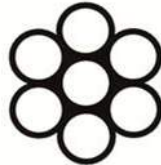
1x7 Galvanized Strand is very stiff and cannot be spliced

Used as a messenger cable for guying high-performance communications cables and electrical conductors

Typical applications

- Underground Cable
- Long distance overhead cable
- Tower erecting support

Manufactured in accordance with ASTM A472, Class A and/or CSA G12-92



### Class A Grade ASTM A

| Diameter (inches) | Siemens Martin | Product Code | High Strength | Product Code | Extra High Strength | Product Code | Weight (lbs/ft) |
|-------------------|----------------|--------------|---------------|--------------|---------------------|--------------|-----------------|
| 3/16"             | 1,900          |              | 2,850         |              | 3,990               | 35015012     | 0.08            |
| 1/4"              | 3,150          |              | 4,750         |              | 6,650               | 35015016     | 0.13            |
| 5/16"             | 5,350          |              | 8,000         |              | 11,200              | 35015020     | 0.22            |
| 3/8"              | 6,950          |              | 10,800        |              | 15,400              | 35015024     | 0.27            |
| 7/16"             | 9,350          |              | 14,500        |              | 20,800              | 35015028     | 0.39            |
| 1/2"              | 12,100         |              | 18,800        |              | 26,900              | 35015032     | 0.52            |
| 9/16"             | 15,700         |              | 24,500        |              | 35,000              | 35015036     | 0.67            |
| 5/8"              | 19,100         |              | 29,600        |              | 42,400              | 35015040     | 0.81            |

### CAN/CSA-G12/92

| Diameter (inches) | Grade 110 | Product Code | Grade 160 | Product Code | Grade 180 | Product Code | Weight (lbs/ft) |
|-------------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------------|
| 3/16"             | 2,400     | 35011012     | 3,500     | 35013012     | 4,000     | 35012012     | 0.08            |
| 1/4"              | 3,900     | 35011016     | 5,700     | 35013016     | 6,400     | 35012016     | 0.13            |
| 5/16"             | 6,800     | 35011020     | 9,900     | 35013020     | 11,100    | 35012020     | 0.22            |
| 3/8"              | 8,200     | 35011024     | 12,000    | 35013024     | 13,500    | 35012024     | 0.27            |
| 7/16"             | 11,900    | 35011028     | 17,300    | 35013028     | 19,500    | 35012028     | 0.39            |
| 1/2"              | 15,600    | 35011032     | 22,700    | 35013032     | 25,500    | 35012032     | 0.52            |
| 5/8"              | 24,600    | 35011040     | 35,800    | 35013040     | 40,200    | 35012040     | 0.67            |

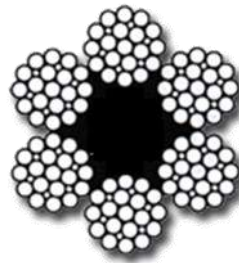
**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

## Ungalvanized 6 x 19 Class FC

A general purpose wire rope.

Most flexible rope in classification; best balance of abrasion and fatigue resistance.

They give excellent service with sheaves and drums of moderate size. 6 x 19 classification ropes contain 6 strands with 15 through 26 wires per strand, no more than 12 of which are outside wires.



| Ungalv. Wire Rope | Construction IPS Grade | B/S Tons          | Product Code | Construction EIPS Grade | B/S Tons          | Product Code | Weight 100 ft |
|-------------------|------------------------|-------------------|--------------|-------------------------|-------------------|--------------|---------------|
| <b>Size</b>       |                        | <b>(2000 lbs)</b> |              |                         | <b>(2000 lbs)</b> |              |               |
| 1/4"              | 6 x 26 FC              | 2.74              | 25300016     | 6 x 26 FC               | 3.02              | 25310016     | 10.50         |
| 5/16"             | 6 x 26 FC              | 4.26              | 25300020     | 6 x 26 FC               | 4.69              | 25310020     | 16.40         |
| 3/8"              | 6 x 26 FC              | 6.10              | 25300024     | 6 x 26 FC               | 6.71              | 25310024     | 23.60         |
| 7/16"             | 6 x 26 FC              | 8.27              | 25300028     | 6 x 26 FC               | 9.09              | 25310028     | 32.00         |
| 1/2"              | 6 x 26 FC              | 10.70             | 25300032     | 6 x 26 FC               | 11.80             | 25310032     | 42.00         |
| 9/16"             | 6 x 26 FC              | 13.50             | 25300036     | 6 x 26 FC               | 14.90             | 25310036     | 53.00         |
| 5/8"              | 6 x 26 FC              | 16.70             | 25300040     | 6 x 26 FC               | 18.30             | 25310040     | 66.00         |
| 3/4"              | 6 x 26 FC              | 23.80             | 25300048     | 6 x 26 FC               | 26.20             | 25310048     | 95.00         |
| 7/8"              | 6 x 26 FC              | 32.20             | 25300056     | 6 x 26 FC               | 35.40             | 25310056     | 129.00        |
| 1"                | 6 x 26 FC              | 41.80             | 25300100     | 6 x 26 FC               | 46.00             | 25310100     | 168.00        |
| 1-1/8"            | 6 x 26 FC              | 52.60             | 25300108     | 6 x 26 FC               | 57.90             | 25310108     | 213.00        |
| 1-1/4"            | 6 x 26 FC              | 64.60             | 25300116     | 6 x 26 FC               | 71.00             | 25310116     | 263.00        |

Other sizes available upon request

### APPLICATIONS

Most widely used of all wire rope - cranes hoists, skip hoists, haulage, mooring lines, conveyors, etc.

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

**Prefix**  
2512xxxx6 x 19 FC  
2526xxxx6 x 25 FC

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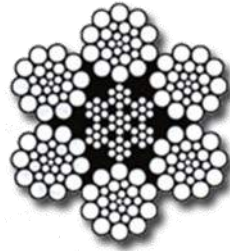


# Ungalvanized 6 x 19 Class IWRC

A general purpose wire rope.

Most flexible rope in classification; best balance of abrasion and fatigue resistance.

They give excellent service with sheaves and drums of moderate size. 6 x 19 classification ropes contain 6 strands with 15 through 26 wires per strand, no more than 12 of which are outside wires.



| Ungalv. Wire Rope | Construction IPS Grade | B/S Tons          | Product Code | Construction EIPS Grade | B/S Tons          | Product Code | Weight 100 ft |
|-------------------|------------------------|-------------------|--------------|-------------------------|-------------------|--------------|---------------|
| <b>Size</b>       |                        | <b>(2000 lbs)</b> |              |                         | <b>(2000 lbs)</b> |              |               |
| 1/4"              | 6 x 26 IWRC            | 3.00              | 25800016     | 6 x 26 IWRC             | 3.40              | 25810016     | 11.00         |
| 5/16"             | 6 x 26 IWRC            | 4.40              | 25800020     | 6 x 26 IWRC             | 5.27              | 25810020     | 18.00         |
| 3/8"              | 6 x 26 IWRC            | 6.40              | 25800024     | 6 x 26 IWRC             | 7.55              | 25810024     | 25.00         |
| 7/16"             | 6 x 26 IWRC            | 8.60              | 25800028     | 6 x 26 IWRC             | 10.20             | 25810028     | 34.00         |
| 1/2"              | 6 x 26 IWRC            | 11.80             | 25800032     | 6 x 26 IWRC             | 13.30             | 25810032     | 44.00         |
| 9/16"             | 6 x 26 IWRC            | 14.30             | 25800036     | 6 x 26 IWRC             | 16.80             | 25810036     | 56.00         |
| 5/8"              | 6 x 26 IWRC            | 17.70             | 25800040     | 6 x 26 IWRC             | 20.60             | 25810040     | 69.00         |
| 3/4"              | 6 x 26 IWRC            | 25.50             | 25800048     | 6 x 26 IWRC             | 29.40             | 25810048     | 99.00         |
| 7/8"              | 6 x 26 IWRC            | 34.40             | 25800056     | 6 x 26 IWRC             | 39.80             | 25810056     | 135.00        |
| 1"                | 6 x 26 IWRC            | 44.80             | 25800100     | 6 x 26 IWRC             | 51.70             | 25810100     | 176.00        |
| 1-1/8"            | 6 x 26 IWRC            | 57.00             | 25800108     | 6 x 26 IWRC             | 65.00             | 25810108     | 223.00        |
| 1-1/4"            | 6 x 26 IWRC            | 70.40             | 25800116     | 6 x 26 IWRC             | 79.90             | 25810116     | 275.00        |

Other sizes and construction available upon request

## APPLICATIONS

Boom hoists, logging and tubing lines; IWRC shown, fiber core available

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

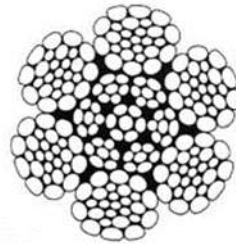
**Prefix:**  
**2563xxxx6 x 19 IWRC**  
**2566xxxx6 x 19 IWRC S**  
**2576xxxx6 x 25 IWRC**

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# Ungalvanized Swaged IWRC

Developed to meet the demands of logging operations but can be adapted for other uses. Swaged ropes are produced by reducing the diameter of a regular round rope by compacting it. Swaging provides additional stability to rope shape and creates surface-to-surface contact between element wires. By packing more steel into a smaller diameter, the swaging process produces a superior strength to diameter ratio and breaking that is higher than traditional rope.



| Ungalv. Wire Rope | Construction Swaged | B/S Tons          | Product Code | Weight 100 ft |  |  |  |  |
|-------------------|---------------------|-------------------|--------------|---------------|--|--|--|--|
| <b>Size</b>       |                     | <b>(2000 lbs)</b> |              |               |  |  |  |  |
| 1/2"              | 6 x 26 IWRC         | 15.90             | 25990032     | 55            |  |  |  |  |
| 9/16"             | 6 x 26 IWRC         | 19.30             | 25990036     | 71            |  |  |  |  |
| 5/8"              | 6 x 26 IWRC         | 24.20             | 25990040     | 87            |  |  |  |  |
| 3/4"              | 6 x 26 IWRC         | 34.90             | 25990048     | 125           |  |  |  |  |
| 7/8"              | 6 x 26 IWRC         | 34.40             | 25990056     | 170           |  |  |  |  |
| 1"                | 6 x 26 IWRC         | 62.00             | 25990100     | 222           |  |  |  |  |
| 1-1/8"            | 6 x 26 IWRC         | 73.50             | 25990108     | 281           |  |  |  |  |
| 1-1/4"            | 6 x 26 IWRC         | 90.00             | 25990116     | 347           |  |  |  |  |

**Other sizes and construction available upon request**

## APPLICATIONS

Boom hoists, logging operations but can be adapted for othe uses; IWRC shown, fiber core available.

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**

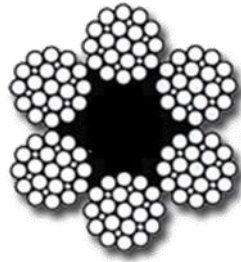
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## Ungalvanized 6 x 36 Class FC

6 x 36 Classification Wire Ropes have a third layer of wires which make them more flexible, although less abrasion-resistant than ropes of the 6x19 class. Each strand contains numerous, comparatively small diameter wires which offer superior bending ability. As the number of wires in each strand increases, flexibility increases.

This classification covers ropes with 6 strands having 27 to 49 wires per strand.



| Ungalv. Wire Rope | Construction IPS Grade | B/S Tons          | Product Code | Construction EIPS Grade | B/S Tons          | Product Code | Weight 100 ft |
|-------------------|------------------------|-------------------|--------------|-------------------------|-------------------|--------------|---------------|
| <b>Size</b>       |                        | <b>(2000 lbs)</b> |              |                         | <b>(2000 lbs)</b> |              |               |
| 1/4"              | 6 x 36 FC              | 2.74              | 25400016     | 6 x 36 FC               | 3.02              |              | 10.50         |
| 5/16"             | 6 x 36 FC              | 4.26              | 25400020     | 6 x 36 FC               | 4.69              |              | 16.40         |
| 3/8"              | 6 x 36 FC              | 6.10              | 25400024     | 6 x 36 FC               | 6.71              |              | 23.60         |
| 7/16"             | 6 x 36 FC              | 8.27              | 25400028     | 6 x 36 FC               | 9.09              |              | 32.00         |
| 1/2"              | 6 x 36 FC              | 10.70             | 25400032     | 6 x 36 FC               | 11.80             |              | 42.00         |
| 9/16"             | 6 x 36 FC              | 13.50             | 25400036     | 6 x 36 FC               | 14.90             |              | 53.00         |
| 5/8"              | 6 x 36 FC              | 16.70             | 25400040     | 6 x 36 FC               | 18.30             |              | 66.00         |
| 3/4"              | 6 x 36 FC              | 23.80             | 25400048     | 6 x 36 FC               | 26.20             |              | 95.00         |
| 7/8"              | 6 x 36 FC              | 32.20             | 25400056     | 6 x 36 FC               | 35.40             |              | 129.00        |
| 1"                | 6 x 36 FC              | 41.80             | 25400100     | 6 x 36 FC               | 46.00             |              | 168.00        |
| 1-1/8"            | 6 x 36 FC              | 52.60             | 25400108     | 6 x 36 FC               | 57.90             |              | 213.00        |
| 1-1/4"            | 6 x 36 FC              | 64.60             | 25400116     | 6 x 36 FC               | 71.00             |              | 263.00        |

**Other sizes and construction available upon request**

### APPLICATIONS

Overhead crane and mobile crane hoist ropes; winch lines; large diameter towing lines.

The ropes in this group have excellent flexibility, reasonable resistance to crushing, and are well adapted to high speed and multiple reeving applications.

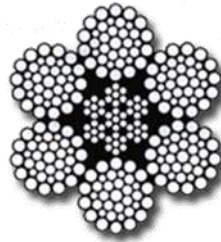
**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT.**



## Ungalvanized 6 x 36 Class IWRC

6 x 36 Classification Wire Ropes have a third layer of wires which make them more flexible, although less abrasion-resistant than ropes of the 6x19 class. Each strand contains numerous, comparatively small diameter wires which offer superior bending ability. As the number of wires in each strand increases, flexibility increases.

This classification covers ropes with 6 strands having 27 to 49 wires per strand.



| Ungalv. Wire Rope | Construction IPS Grade | B/S Tons | Product Code | Construction EIPS Grade | B/S Tons | Product Code | Weight 100 ft |
|-------------------|------------------------|----------|--------------|-------------------------|----------|--------------|---------------|
| Size              | (2000 lbs)             |          |              | (2000 lbs)              |          |              |               |
| 1/4"              | 6 x 36 IWRC            | 2.94     | 25900016     | 6 x 36 IWRC             | 3.40     | 25910016     | 11.60         |
| 5/16"             | 6 x 36 IWRC            | 4.58     | 25900020     | 6 x 36 IWRC             | 5.27     | 25910020     | 18.00         |
| 3/8"              | 6 x 36 IWRC            | 6.56     | 25900024     | 6 x 36 IWRC             | 7.55     | 25910024     | 26.00         |
| 7/16"             | 6 x 36 IWRC            | 8.89     | 25900028     | 6 x 36 IWRC             | 10.20    | 25910028     | 35.00         |
| 1/2"              | 6 x 36 IWRC            | 11.50    | 25900032     | 6 x 36 IWRC             | 13.30    | 25910032     | 46.00         |
| 9/16"             | 6 x 36 IWRC            | 14.50    | 25900036     | 6 x 36 IWRC             | 16.80    | 25910036     | 59.00         |
| 5/8"              | 6 x 36 IWRC            | 17.90    | 25900040     | 6 x 36 IWRC             | 20.60    | 25910040     | 72.00         |
| 3/4"              | 6 x 36 IWRC            | 25.60    | 25900048     | 6 x 36 IWRC             | 29.40    | 25910048     | 104.00        |
| 7/8"              | 6 x 36 IWRC            | 34.60    | 25900056     | 6 x 36 IWRC             | 39.80    | 25910056     | 142.00        |
| 1"                | 6 x 36 IWRC            | 44.90    | 25900100     | 6 x 36 IWRC             | 51.70    | 25910100     | 185.00        |
| 1-1/8"            | 6 x 36 IWRC            | 56.50    | 25900108     | 6 x 36 IWRC             | 65.00    | 25910108     | 234.00        |
| 1-1/4"            | 6 x 36 IWRC            | 69.40    | 25900116     | 6 x 36 IWRC             | 79.90    | 25910116     | 289.00        |

**Other sizes and construction available upon request**

### APPLICATIONS

Overhead crane and mobile crane hoist ropes; winch lines; large diameter towing lines.

The ropes in this group have excellent flexibility, reasonable resistance to crushing, and are well adapted to high speed and multiple reeving applications.

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
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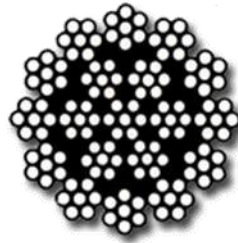


# Ungalvanized 19 x 7 IWRC

The non-rotating characteristic is achieved by two layers of strand, one having Right Lay, the other Left Lay.

This rope construction requires frequent inspection as damage to inner strands and wires cannot be easily detected.

Not recommended for multiple part lifting.



| Ungalvanized Wire Rope | Construction EIPS Grade | B/S Tons | Product Code | Weight 100 ft |
|------------------------|-------------------------|----------|--------------|---------------|
| <b>Size</b>            | <b>(2000 lbs)</b>       |          |              |               |
| 1/4"                   | 19 x 7 IWRC             | 2.70     | 25970016     | 10.50         |
| 5/16"                  | 19 x 7 IWRC             | 4.30     | 25970020     | 16.40         |
| 3/8"                   | 19 x 7 IWRC             | 6.10     | 25970024     | 23.60         |
| 7/16"                  | 19 x 7 IWRC             | 8.33     | 25970028     | 32.00         |
| 1/2"                   | 19 x 7 IWRC             | 10.50    | 25970032     | 42.00         |
| 9/16"                  | 19 x 7 IWRC             | 13.30    | 25970036     | 53.00         |
| 5/8"                   | 19 x 7 IWRC             | 16.00    | 25970040     | 66.00         |
| 3/4"                   | 19 x 7 IWRC             | 23.50    | 25970048     | 95.00         |
| 7/8"                   | 19 x 7 IWRC             | 31.80    | 25970056     | 129.00        |
| 1"                     | 19 x 7 IWRC             | 41.60    | 25970100     | 168.00        |
| 1-1/8"                 | 19 x 7 IWRC             | 52.30    | 25970116     | 213.00        |

## APPLICATIONS

Rotation Resistant but NOT Non Rotating.

Hoisting ropes on derricks, boom cranes, shaft sinking hoists and freely suspended mine hoists, deck cranes and piling rigs.

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Prefix:  
2596xxxx IPS

**Accepted strength is not less than 2.5 % below the nominal breaking strength listed**

## Wireline Cable

The term wireline usually refers to a cabling technology used by operators of oil and gas wells to lower equipment or measurement devices into the well for the purposes of well intervention and reservoir evaluation.

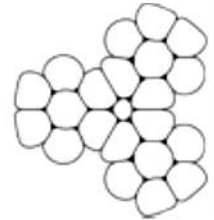
### Swaged Wire Rope

A wire rope 3/16 in or 1/4 in (4.8 mm or 6.4 mm) in diameter; used to handle the inner tube of a wire-line core barrel.

The 3-strand compacted design provides resistance to rotation while also providing a high strength/weight ratio.

These 3-strand ropes are ideal for diamond drilling operations.

| Ungalvanized Wire Rope Size | Construction Swaged | B/S lbs | Weight 100 ft | Product Code |
|-----------------------------|---------------------|---------|---------------|--------------|
| 3/16"                       | 3 x 7 IWRC          | 5240    | 8.00          | 25990012     |
| 1/4"                        | 3 x 7 IWRC          | 9240    | 16.00         | 25990016     |

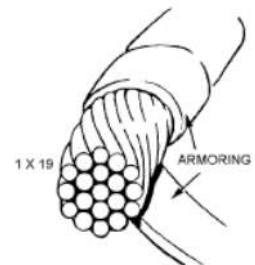
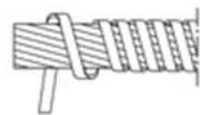


### Armored Cable

Used for retrieving core samples.

Armoring prevents fraying of cable in rough terrain.

| Outer Diameter | Inside Diameter | Construction | B/S lbs | Weight 100 ft | Product Code |
|----------------|-----------------|--------------|---------|---------------|--------------|
| 11/16"         | 1/8"            | 1 x 19       | 4000    | 8             | 25991111     |



**Accepted strength is not less than 2.5 % below the nominal breaking strength listed  
DO NOT EXCEED WORK LOAD LIMIT OR 20% OF THE PRODUCT'S BREAK STRENGTH.**



### General Warnings

All Vanguard rigging products are sold with the express understanding that both the purchaser and the end user are thoroughly familiar with the safe, proper and acceptable applications of the products.

It is the responsibility of the end user to establish proper safety programs and to provide thorough training for all personnel prior to use. The training programs must meet any federal/provincial/state/local code requirements, existing plant/site safety rules and regulations, and all instructions provided in the applicable section of this catalogue.

Product failure can occur due to abuse, misapplication, lack of maintenance, use by unqualified personnel and improper inspection prior to use. **Any failure of rigging products may result in property damage, personal injury and even death!!!!**

### Standards

There are numerous government and industrial standards that cover rigging products. This catalogue makes no attempt to reference all of them; it references to the standards that are most frequently asked about.

### Working Load Limit (WLL) – Safe Working Load (SWL)

The Working Load Limits shown in this catalogue are applicable to products that are new or “in as new” condition. The Working Load Limits ratings refer to the maximum amount of force or load that the rigging product can carry under normal working/environmental conditions. The Working Load Limits and Design Factor can be affected by wear, misuse, overloading, shock loading, side loading, corrosion, deformation, product alteration and other use conditions. Inspection of rigging products prior to use is required to determine whether the product continues to meet the assigned WLL provided in this catalogue, should be used at a reduced rating or removed from service.

**The WLL rating must never be exceeded!!!!**



### General information disclaimer

The contents contained in this publication are for general information only.

Although every effort has been made to assure the accuracy of the information at time of print, persons who use the Catalog should note that ratings, laws, rules, and policies change from time to time and that these changes may alter the information contained in this publication.

Vanguard Steel Ltd. assumes no liability for Catalog errors or omissions.

It is the responsibility of each person who uses this Catalog to ascertain current information that pertains to the individual lifting program, particularly with regard to satisfactory safety compliance requirements. Check your Provincial and Local safety standards before any operation or lift is attempted.

It is the responsibility of the person/operator to frequently search for updated reference information.

Do not use lesser than matching Grade components for any lifting application !

Do not use Slings, Chains or Accessories with signs of wear or deformation !

Inspections - Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use where service conditions warrant. Damaged or defective slings shall be immediately removed from service.

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