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# 8 Wire Rope

2014 edition

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# Wire Rope



# 8

High strength coupled with resistance to rotation, crushing, fatigue and abrasion, are just some of the qualities our wire ropes possess.

Our range of steel wire rope and fittings from world renowned manufacturers, Beaver Brands and Bridon, offer long service life across a variety of towing and lifting applications.

Robertsons can also provide Slingmax Tri-Flex Slings and Beaver manufactured wire rope slings made to order.

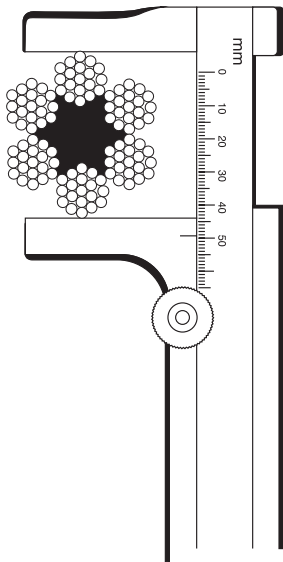
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## Wire Ropes Overview

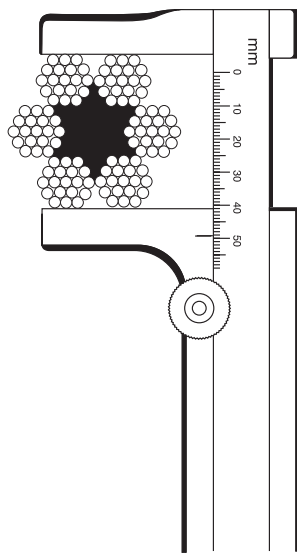
### Wire Rope Size and Measurement

Wire ropes are described by their diameter, (mm), and are measured across the widest point, The Crown, as shown below.

#### Correct Way



#### Incorrect Way

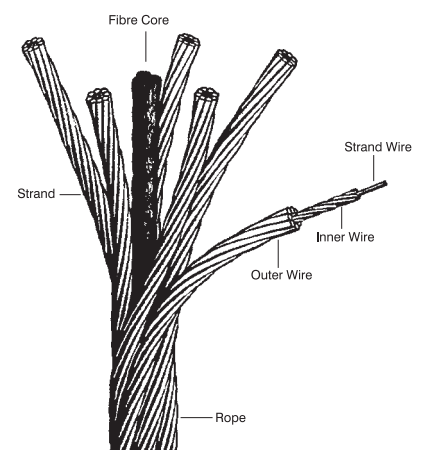


### Construction

The size and number of wires in each strand, as well as the size and number of strands in the rope greatly affect the characteristics of the rope. In general, a large number of small-size wires and strands produce a flexible rope with good resistance to bending fatigue. The rope construction is also important for tensile load (static, live or shock) abrasive wear, crushing, corrosion and rotation.

The number of strands and wires will influence the flexibility, fatigue and wear resistance of any given wire rope. Rope selection is often a compromise. Generally the more load bearing wires in the rope the greater the flexibility, however the smaller the wires the less abrasion resistance. For example, the same nominal diameter 7 x 7 wire would be less flexible than a 7 x 19 wire, hence a large number of small size wire and strands produce a flexible rope with good resistance to bending fatigue wear. The construction of wire rope is defined by the number of outer strands (first number), and the number of wires within that strand (second number) and then by the arrangement of the wires in each strand (shown in brackets). The wires in each strand can be arranged in several ways, for example a 6 x 19 construction the 19 wires in each strand are laid 9 around 9 around 1 centre wire.

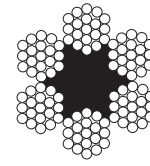
All wire rope is manufactured with three basic components: Wires, Strands and a Core.



# Wire Ropes Overview

## Core

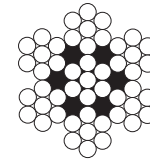
The core of a steel wire rope serves as a foundation for the strands, providing stability by keeping them in place throughout the life of the rope. Wire ropes can be supplied with either a fibre or wire core.



6 X 19 Fibre Core Wire

## Grade

Wire rope can be manufactured in different steel grades, which directly affects the Minimum Breaking Force, (MBF). The higher the grade the higher the MBF. Common wire grades include: 1570, 1770, 1960 and 2070

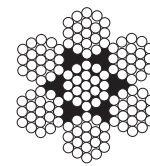


7 X 7 Wire Strand Core

## Finish

Wire Ropes can be supplied as Black (self-colour), Galvanised or Stainless Steel.

Wire rope is lubricated at the time of manufacture, to help reduce friction between wires and strands, and the friction between the rope and drum or sheave. In addition, the lubrication retards corrosion and inhibits possible rotting of the fibre core.



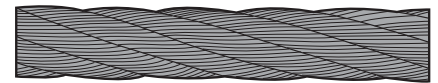
7 X 19 Wire Strand Core



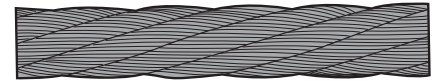
# Wire Ropes Overview

## Construction and Lays

RHOL	Right Hand Ordinary Lay
LHOL	Left Hand Ordinary Lay
RHLL	Right Hand Lang's Lay
LHLL	Left Hand Lang's Lay
Pref	Preformed
Post	Postformed
WRC	Wire Rope Core
WSC	Wire Strand Core
FC	Fibre Core
FW	Filler Wire Strand Construction
D or d	Diameter (in millimetres)



Right Hand Ordinary Lay



Left Hand Ordinary Lay



Right Hand Lang's Lay



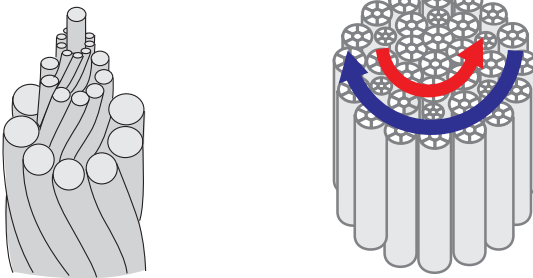
Left Hand Lang's Lay



Right Hand Alternate Lay

## Rotating or Non-Rotating

Rotation resistant wire ropes are manufactured to resist rotation under load and are suitable for crane use and where long lengths are required.



Non-Rotating or Rotation Resistant Wire Rope – should be used when:

- › Lifting an unguided load in single part
- › Lifting an unguided load at great height with multi part reeving

A regular rope (rotating) wire rope should be used when:

- › Lifting a guided load on several falls at a small height (e.g. overhead crane)
- › When lifting loads with right-hand and left-hand ropes in pairs

# Wire Ropes Overview

## Correct Spooling of Steel Wire Rope on Drum

It is imperative to correctly spool wire rope onto a drum. Improper spooling induces torque within the rope, which in turn reduces the life of the rope.

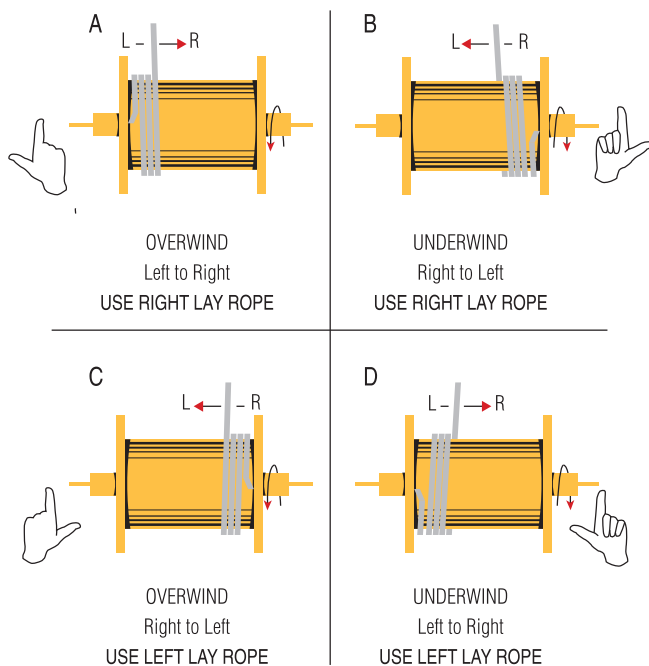
In any multi-layer spooling application it is important that when the rope is first installed on the drum, it is done so under tension to avoid any slack

on inner layers that can be crushed or nicked against the groove walls by outer layers.

In general, the tighter the line, the better the spooling, but the rope should be tensioned with at least 2% of the breaking load or 10% of the working load. However, provision

must also be made for the safety coefficient and the design of the cable. All subsequent spooling should also take place with the line under tension.

Please contact your local Robertsons' branch for further advice.

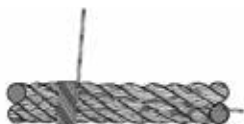


## Steel Wire Rope Cutting Procedure

Hand cutters for cutting ropes up to 8mm in diameter are sufficient. Mechanical or hydraulic cutters will be required for wire ropes with larger diameters. Careless cutting can result

in the balance of tension in the rope being destroyed. In every case, each side of the cut must be correctly seized to prevent strand disturbance. Annealed wire must always be

used for non-galvanised rope. For galvanised rope use soft, zinc coated wire.



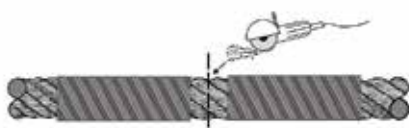
**A:** The rope and this wire end are now wrapped, moving away from the location of the intended cut.



**B:** The rope is tightly wrapped for a distance of approximately three rope diameters.



**C:** Both ends of the seizing wire are then pulled tight and twisted together for a length of one rope diameter. The twisted connection is then hammered into a strand valley.



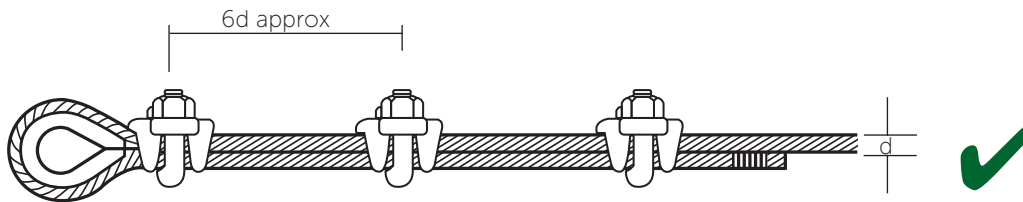
**D:** After preparing the other side of the cut accordingly, the rope can now be cut.

# Wire Ropes Overview

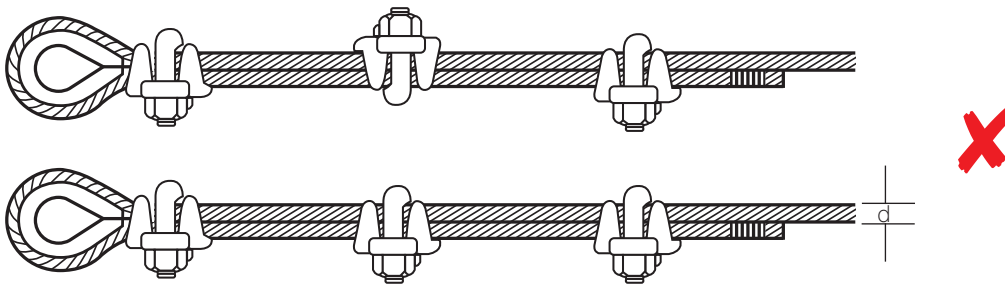
## Clamping Wire Rope

To ensure complete safety, it is imperative that wire ropes are clamped correctly. The diagrams below are a guide only. Please refer to the relevant Australian Standards AS 2076 for further information.

### The Right Way



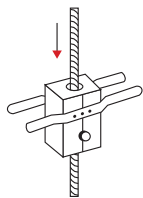
### The Wrong Way



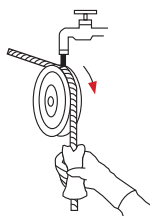
Note:  $d$  = diameter of rope

## Lubricating Steel Wire Ropes

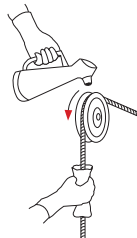
All steel wire ropes supplied by Robertsons are lubricated at the time of manufacture, however, periodic lubrication with good quality acid free and moisture free lubricant during use is required to ensure best performance. The following are accepted ways to lubricate wire ropes during use.



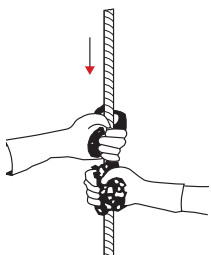
Continuous bath



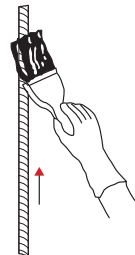
Dripping



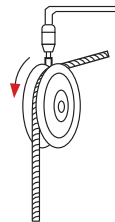
Pouring



Swabbing



Painting



Spray nozzle

# Wire Ropes Overview

## Storing Steel Wire Ropes

Ensure steel wire rope is stored in a weather-proof storage space. If wire rope is to be kept unused for a considerable amount of time, it must be protected from the elements. The ideal storage area is a dry, well-ventilated building or shed. Avoid closed, unheated, tightly sealed buildings or enclosures because condensation will form when warm,

moist outside (ambient) air envelopes the colder rope. Although wire rope is protected by a lubricant, this is not totally effective since condensation can still occur within the small sections between strands and wires, thereby causing corrosion problems. Ensure the reels are kept up off the ground, or are placed on a concrete floor.

Although the steel wire rope is lubricated at the time of manufacture, a suitable lubricant should be applied every three months. The reels containing the steel wire ropes should also be rotated 90 degrees every three months.

## Correct Handling of Steel Wire Ropes

Incorrect handling of steel wire ropes can cause kinking or loops forming in the steel wire rope, causing permanent damage. Below is a summary of the correct way to handle steel wire rope:

- › Reels should be mounted on jacks or placed on a swift (with a brake arrangement) and care taken to see that the reel rotates as the rope unwinds.
- › Ensure clearance for free rotation of the reel when the rope end is pulled and maintain continuous tension during haul off.
- › Over-winding should be avoided at all times to eliminate kinking.
- › Always prevent crossing the rope laps on the wheel.

### Method of uncoiling small coil



Correct



Incorrect

### Method of uncoiling large coils



Correct



Incorrect



Correct



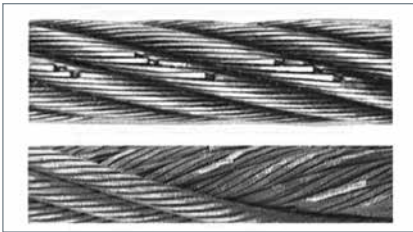
# Wire Ropes Overview

## Typical Steel Wire Rope Failures

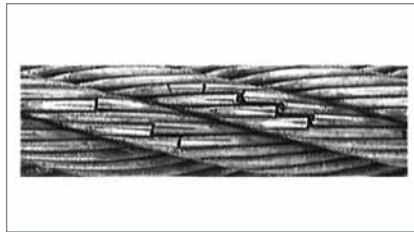
Steel wire rope is tough and durable, however eventually it will reach the end of its safe service life.

Below are some examples of typical damage and deterioration. Steel wire ropes should be inspected every 12 months.

Fatigue Failure



Thermal Damage



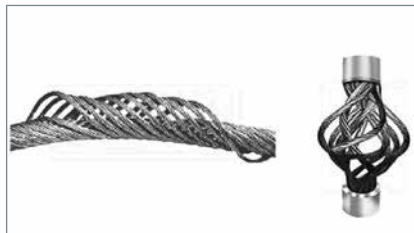
Shock Loading



Abrasion



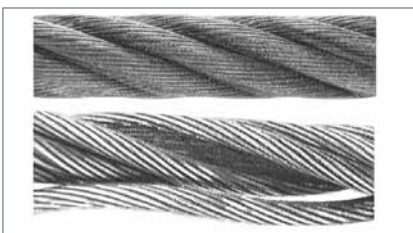
Birdcage (due to torsional unbalance)



Termination Failure



Corrosion (due to immersion in water)



# Wire Ropes Overview

## Wire Rope Terminations

Hand spliced or machine swaged slings, with your choice of terminations, can be manufactured and tested (if required) on our premises at short notice. All slings and assemblies are permanently marked with safe working loads, based on a 5:1 factor of safety.

### Machine Swaging:

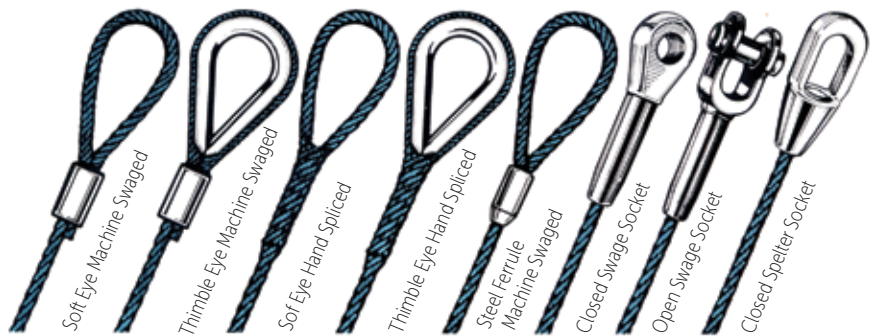
Aluminium Ferrules Sizes 2mm – 52mm.

Copper Ferrules Sizes 2mm – 10mm

Steel Ferrules Sizes 9mm – 75mm

Swage Sockets Sizes 3mm – 52mm

Hand Splicing from 2mm – 75mm dia



## Wire Ropes Overview

### Typical Steel Wire Rope Description

13 mm 6/36 G1770 RHOL WRC PREF G2 - 200 mm soft eye each end  
 - Machine spliced WLL 2.1 Tonne  
 - 3.0 metres effective length

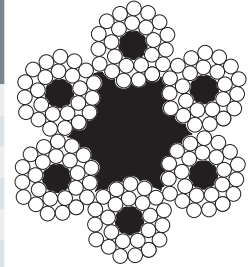
- |                           |   |
|---------------------------|---|
| (a) <b>13mm</b>           | Diameter, measured over crowns.   |
| (b) <b>6/36</b>           | Construction (six strands, each with thirty six wires).                                   |
| (c) <b>G1770</b>          | G signifies "galvanised" wires. 1770 signifies tensile grade of wires (in Megapascals).   |
| (d) <b>RHOL</b>           | Right Hand Ordinary Lay (strands laid up to the RIGHT, wires in each strand to the LEFT). |
| (e) <b>WRC</b>            | Wire Rope Core (approx 7.5% stronger and 11% heavier than FC).                            |
| (f) <b>PREF</b>           | Strands shaped (helix formed) before laying up into a rope.                               |
| (g) <b>G2</b>             | Lubricant (Petroleum Jelly).  |
| (h) <b>200mm</b>          | Eye size.   |
| (i) <b>Machine Splice</b> | Steel, copper or aluminium alloy ferrule pressed around the looped end of wire rope.      |
| (j) <b>WLL</b>            | Maximum load that can be lifted on a particular service.                                  |
| (k) <b>Length</b>         | In metres, measured from bearing points of eyes.  |



# Wire Rope

6 x 24 Construction, commonly used for general purpose use.

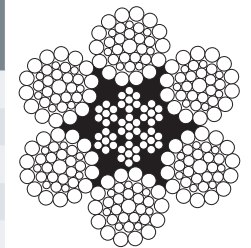
Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
711308	8	6x24	1570	Galvanised	Fibre	RHOL	28	20.4	Metre	1000
711309	9	6x24	1570	Galvanised	Fibre	RHOL	35.6	25.8	Metre	1000
711310	10	6x24	1570	Galvanised	Fibre	RHOL	44	31.8	Metre	1000
711311	11	6x24	1570	Galvanised	Fibre	RHOL	53	38.5	Metre	1000
711312	12	6x24	1570	Galvanised	Fibre	RHOL	63	45.8	Metre	1000
711313	13	6x24	1570	Galvanised	Fibre	RHOL	74	53.8	Metre	1000
711314-500	14	6x24	1570	Galvanised	Fibre	RHOL	86	62.4	Metre	500
711316	16	6x24	1570	Galvanised	Fibre	RHOL	113	81.5	Metre	1000
711318-500	18	6x24	1570	Galvanised	Fibre	RHOL	143	103	Metre	500
711320-500	20	6x24	1570	Galvanised	Fibre	RHOL	176	127	Metre	500
711322-500	22	6x24	1570	Galvanised	Fibre	RHOL	213	154	Metre	500
711324-500	24	6x24	1570	Galvanised	Fibre	RHOL	253	183	Metre	500
711332	32	6x24	1570	Galvanised	Fibre	RHOL	450	326	Metre	500



\*Cut lengths available on request

6 x 36 Construction, commonly used for overhead and mobile crane hoist ropes.

Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
713410	10	6x36	1770	Galvanised	Wire	RHOL	63	41.8	Metre	1000
713412	12	6x36	1770	Galvanised	Wire	RHOL	90	60.2	Metre	1000
713413	13	6x36	1770	Galvanised	Wire	RHOL	107	70.7	Metre	1000
713414-500	14	6x36	1770	Galvanised	Wire	RHOL	124	82	Metre	500
713416	16	6x36	1770	Galvanised	Wire	RHOL	161	107	Metre	1000
713418	18	6x36	1770	Galvanised	Wire	RHOL	204	135	Metre	1000
713420-500	20	6x36	1770	Galvanised	Wire	RHOL	252	167	Metre	500
713422-500	22	6x36	1770	Galvanised	Wire	RHOL	304	202	Metre	500
713424-500	24	6x36	1770	Galvanised	Wire	RHOL	363	241	Metre	500
713426-500	26	6x36	1770	Galvanised	Wire	RHOL	426	283	Metre	500
713428-500	28	6x36	1770	Galvanised	Wire	RHOL	493	328	Metre	500
713432-500	32	6x36	1770	Galvanised	Wire	RHOL	644	428	Metre	500
713436-500	36	6x36	1770	Galvanised	Wire	RHOL	816	542	Metre	500
713438-250	38	6x36	1770	Galvanised	Wire	RHOL	911	604	Metre	250
713440-250	40	6x36	1770	Galvanised	Wire	RHOL	1009	669	Metre	250
713444-250	44	6x36	1770	Galvanised	Wire	RHOL	1220	810	Metre	250
713452	52	6x36	1770	Galvanised	Wire	RHOL	1700	1110	Metre	500

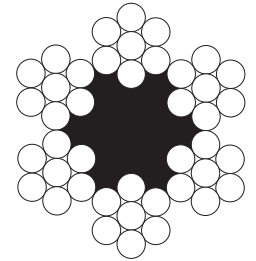


\*Cut lengths available on request

## Wire Rope

6 x 7 Construction, commonly used for guying and catenary wires. Larger sizes are used as ferry, (punt), ropes.

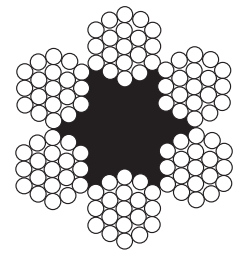
Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
707302	2	6x7	1570	Galvanised	Fibre	RHOL	2.1	14	Metre	1000
707302A	2.5	6x7	1570	Galvanised	Fibre	RHOL	3.2	2.65	Metre	1000
707303	3	6x7	1570	Galvanised	Fibre	RHOL	4.7	3.22	Metre	1000
707304	4	6x7	1570	Galvanised	Fibre	RHOL	8.4	5.5	Metre	1000
707305	5	6x7	1570	Galvanised	Fibre	RHOL	13.1	8.6	Metre	1000
707306	6	6x7	1570	Galvanised	Fibre	RHOL	18.8	12.4	Metre	1000



\*Cut lengths available on request

6 x 19 Construction, commonly used for general purpose winch and marine applications

Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
709303	3	6x19	1570	Galvanised	Fibre	RHOL	4.3	3.2	Metre	1000
709303A	3.5	6x19	1570	Galvanised	Fibre	RHOL	5.8	4.3	Metre	1000
709304	4	6x19	1570	Galvanised	Fibre	RHOL	7.7	5.8	Metre	1000
709305	5	6x19	1570	Galvanised	Fibre	RHOL	12	8.8	Metre	1000
709306	6	6x19	1570	Galvanised	Fibre	RHOL	17.6	12.4	Metre	1000
709308	8	6x19	1570	Galvanised	Fibre	RHOL	30.8	22.5	Metre	1000
709309	9	6x19	1570	Galvanised	Fibre	RHOL	39	28.4	Metre	1000
709310	10	6x19	1570	Galvanised	Fibre	RHOL	48.2	35.1	Metre	1000
709312	12	6x19	1570	Galvanised	Fibre	RHOL	69.4	50.5	Metre	1000



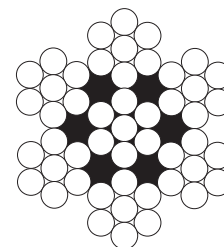
\*Cut lengths available on request



# Wire Rope

7 x 7 Construction, commonly used for fixed guy ropes and catenary wires.

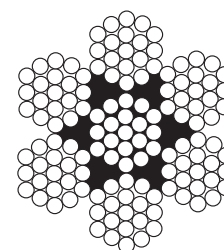
Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
708305	5	7X7	2070	Galvanised	Wire	RHOL	18.9	10.4	Metre	1000
708306	6	7X7	2070	Galvanised	Wire	RHOL	27.2	14.3	Metre	1000
708307	7	7X7	2070	Galvanised	Wire	RHOL	37.2	20.2	Metre	1000
708308	8	7X7	2070	Galvanised	Wire	RHOL	47.5	25.66	Metre	1000
708309	9	7X7	2070	Galvanised	Wire	RHOL	59.3	32	Metre	1000
708310	10	7X7	2070	Galvanised	Wire	RHOL	73	39.4	Metre	1000



\*Cut lengths available on request

7 x 19 Construction, commonly used for general purpose winch and marine applications.

Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
712403	3.2	7x19	2070	Galvanised	Wire	RHOL	7.1	4.4	Metre	1000
712404	4	7x19	2070	Galvanised	Wire	RHOL	11.2	6.22	Metre	1000
712405	5	7x19	2070	Galvanised	Wire	RHOL	17.2	8.6	Metre	1000
712406	6	7x19	2070	Galvanised	Wire	RHOL	25	12.4	Metre	1000
712408	8	7x19	2070	Galvanised	Wire	RHOL	43.5	24.4	Metre	1000
712410	10	7x19	2070	Galvanised	Wire	RHOL	64.4	46.1	Metre	1000



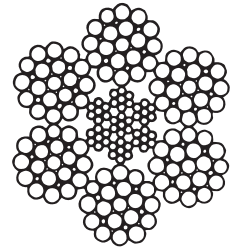
\*Cut lengths available on request



## Wire Rope

TIRFOR Ropes, suitable for Tirfor and similar wire rope pullers also used on multi-layered winches.

Product Code	Dia (mm)	Construction	Grade	Finish	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
712408	8	6x19	2070	Galvanised	Wire	ROHL	47	25.5	Metre	1000
712411	11	6x25	2070	Galvanised	Wire	RHOL	89	50.9	Metre	1000
712416-500	16	6x25	2070	Galvanised	Wire	RHOL	188	106	Metre	500

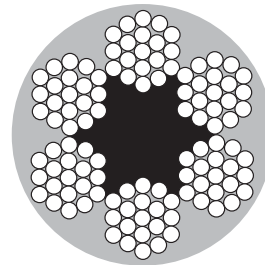


\*Cut lengths available on request

6 x 19 Construction PVC Coated, commonly used for balustrade rails and marine rigging applications.

Product Code	Wire Dia (mm)	PVC/ Outside Dia (mm)	Construction	Grade	Wire Finish	PVC	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
706030	3	5	6x19	1570	Galvanised	Blue	Fibre	RHOL	4.3	3.16	Metre	1000
706030A	3.5	5.5	6x19	1570	Galvanised	Blue	Fibre	RHOL	5.8	4.2	Metre	1000
706040	4	6	6x19	1570	Galvanised	Blue	Fibre	RHOL	7.7	5.5	Metre	1000
706050	5	7	6x19	1570	Galvanised	Blue	Fibre	RHOL	12	8.6	Metre	1000
706060	6	8	6x19	1570	Galvanised	Blue	Fibre	RHOL	17.6	12.4	Metre	1000
706080	8	10	6x19	1570	Galvanised	Blue	Fibre	RHOL	30.8	22.1	Metre	1000
706100	10	12	6x19	1570	Galvanised	Blue	Fibre	RHOL	48.2	34.6	Metre	1000

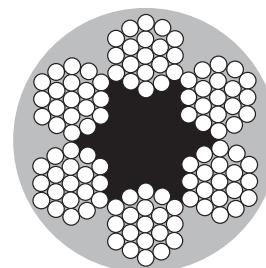
\*Cut lengths available on request



6 x 19 Construction Red PVC Coated, commonly used for safety lines on conveyor systems.

Product Code	Wire Dia (mm)	PVC/ Outside Dia (mm)	Construction	Grade	Wire Finish	PVC	Core	Lay	MBF (kN)	Approx. Mass (kg/100m)	UOM	Metre Per Reel
706030AR	3.5	5.5	6x19	1570	Galvanised	Red	Fibre	RHOL	5.8	4.2	Metre	1000
706050R	5	7	6x19	1570	Galvanised	Red	Fibre	RHOL	12	8.6	Metre	1000

\*Cut lengths available on request



# Bridon Crane Wire Rope

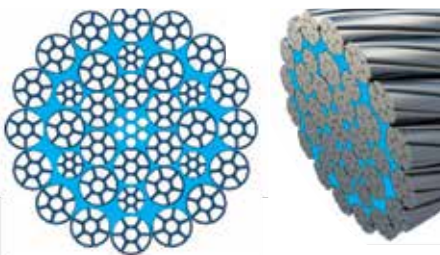
## Endurance Dyform® 34LR

- › Low rotation Dyform
- › Recommended for high lifting operations
- › Reduced rope sheave wear
- › Accurate diameter, recommended for multi-layer coiling
- › Long service life
- › Crush resistant
- › Reduced down time
- › Suitable for single-part and multi-part reeving



Diameter (mm)	Approx. nominal length mass (kg/m)	Minimum breaking force (Fmin) EIPS/1960 grade		Axial stiffness @20% load (MN)	Torque generated @20% load		Metallic cross section (mm <sup>2</sup> )
		(kN)	(t)		Ordinary (Nm)	Lang's (Nm)	
<b>Dyform 34x7</b>							
10	0.50	92.1	9.39	5.8	1.5	3.3	58
11	0.61	111	11.4	7.0	2.0	4.4	70
12	0.72	133	13.5	8.3	2.5	5.7	84
13	0.85	156	15.9	9.7	3.2	7.3	98
14	0.98	181	18.4	11	4.0	9.1	114
15	1.13	207	21.1	13	5.0	11	131
16	1.28	236	24.0	15	6.0	14	149
17	1.45	266	27.1	17	7.2	16	168
18	1.62	298	30.4	19	8.6	19	188
19	1.81	333	33.9	21	10	23	210
20	2.00	368	37.6	23	12	27	232
21	2.21	406	41.4	25	14	31	256
22	2.42	446	45.4	28	16	35	281
23	2.65	487	49.7	30	18	40	307
24	2.88	531	54.1	33	20	46	335
25	3.13	576	58.7	36	23	52	363
26	3.38	623	63.5	39	26	58	393
27	3.65	672	68.5	42	29	65	424
28	3.92	722	73.6	45	32	73	456
29	4.21	775	79.0	48	36	81	489
30	4.50	829	84.5	52	40	90	523
32	5.12	939	95.7	59	48	108	595
34	5.78	1060	108	67	58	130	672
35	6.13	1124	115	70	63	142	712
36	6.48	1189	121	75	68	154	753
38	7.22	1325	135	83	81	181	839
40	8.00	1468	150	92	94	211	930

\*Not all sizes kept in stock.



Note: Plastic impregnated (PI) options may be ordered (subject to availability).

Dockside Crane Ropes



Mobile Crane Ropes



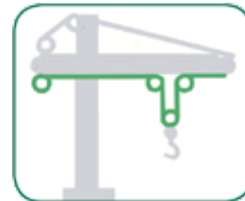
Overhead Crane Ropes



Piling Crane Ropes



Tower Crane Ropes



The Endurance Dyform 34LR is used as the main hoist rope for these applications.



# Bridon Crane Wire Rope

## Endurance 50DB

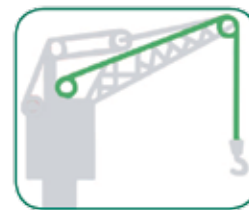
- › Highest breaking force of all conventional low rotation and rotation resistant ropes
- › Excellent resistance to rotation
- › Unique strand and rope construction
- › Lubricated during manufacture with an exclusive Bridon product
- › Excellent wear characteristics
- › Good flexibility
- › Suitable for single-part and multi-part reeving



Diameter (mm)	Approx. nominal length mass (kg/m)	Minimum breaking force (Fmin) EIPS/1960 grade		Axial stiffness @20% load (MN)	Torque generated @20% load		Metallic cross section (mm <sup>2</sup> )
		(kN)	(t)		Ordinary (Nm)	Lang's (Nm)	
8	0.27	49.6	5.06	3.1	n/a	2.9	32
9	0.35	62.8	6.41	3.9	n/a	4.1	40
10	0.43	77.6	7.91	4.8	n/a	5.6	40
11	0.52	93.9	9.6	5.8	n/a	7.4	60
12	0.61	112	11.4	6.9	n/a	10	71
13	0.72	131	13.4	8.1	n/a	12	84
14	0.84	152	15.5	9.4	n/a	15	97
15	0.96	175	17.8	11	n/a	19	111
16	1.09	199	20.2	12	n/a	23	127
17	1.23	224	22.9	14	n/a	27	143
18	1.38	251	25.6	16	n/a	33	160
19	1.54	280	28.5	17	n/a	38	179
20	1.71	310	31.6	19	n/a	45	198
21	1.88	342	34.9	21	n/a	52	218
22	2.07	375	38.3	23	n/a	59	239

\*Not all sizes kept in stock.

Dockside Crane Ropes



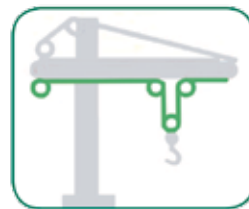
Mobile Crane Ropes



Overhead Crane Ropes



Tower Crane Ropes



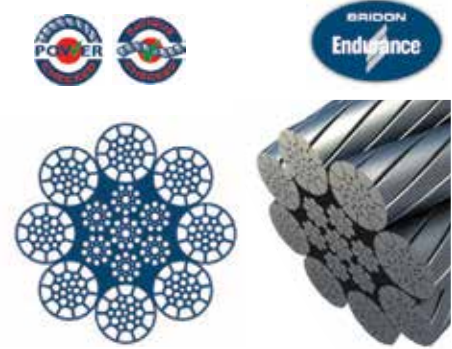
The Endurance 50DB is used as the main hoist rope for these applications.



# Bridon Crane Wire Rope

## Endurance Dyform® 8

- › Excellent service life
- › High breaking force
- › Lower downtime
- › Cut resistant Dyform strands
- › Flexible eight strand construction
- › High temperature lubricant
- › Reduced stretch
- › Consistently high quality
- › Reduced lifetime costs



Diameter (mm)	Approx. nominal length mass (kg/m)	Minimum breaking force (Fmin) EIPS/1960 grade		Axial stiffness @20% load (MN)	Torque generated @20% load		Metallic cross section (mm²)
		(kN)	(t)		Ordinary (Nm)	Lang's (Nm)	
<b>Dyform 8x19S</b>							
10	0.47	88.2	8.99	5.3	12	16	53
11	0.57	107	10.9	6.5	16	21	65
12	0.68	127	12.9	7.7	21	27	77
13	0.80	149	15.2	9.0	27	35	90
14	0.92	173	17.6	10	34	44	105
15	1.06	198	20.2	12	42	54	120
16	1.20	226	23.0	14	51	65	137
17	1.36	255	26.0	15	61	78	154
<b>Dyform 8x26WS</b>							
18	1.52	286	29.1	17	72	93	173
19	1.70	318	32.5	19	85	109	193
20	1.88	353	36.0	21	99	127	214
22	2.28	427	43.5	26	131	169	258
24	2.71	508	51.8	31	171	219	308
26	3.18	596	60.8	36	217	279	361
28	3.69	691	70.5	42	271	349	419
30	4.23	794	80.9	48	333	429	481
32	4.82	903	92.1	55	405	520	547
34	5.44	1020	103.9	62	485	624	617
<b>Dyform 8x36WS</b>							
36	6.10	1143	116.5	69	576	741	692
38	6.79	1274	129.8	77	678	871	771
40	7.53	1411	143.9	85	790	1016	854
42	8.30	1556	158.6	94	915	1176	942
44	9.11	1708	174.1	103	1052	1352	1034
46	9.95	1866	190.2	113	1202	1545	1130
48	10.8	2032	207.1	123	1366	1756	1230
50	11.8	2205	224.8	134	1544	1985	1335

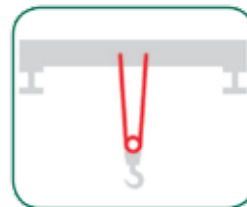
Dockside Crane Ropes



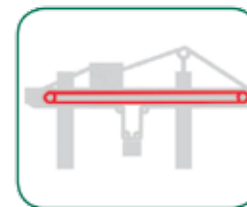
Mobile Crane Ropes



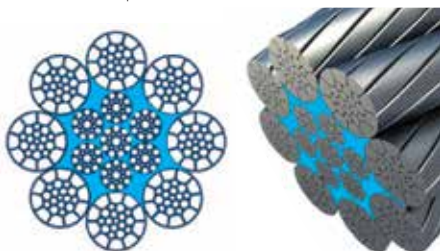
Overhead Crane Ropes



Container Crane Ropes



\*Not all sizes kept in stock.



Note: Plastic impregnated (PI) options may be ordered (subject to availability).

The Endurance Dyform 8 is used as the boom hoist rope for these applications.



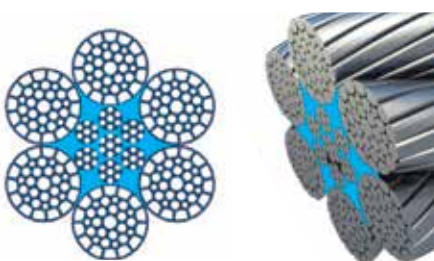
# Bridon Crane Wire Rope

## Endurance Dyform® 6

- › Exceptional service life
- › Robust crush resistant Dyform construction
- › Accurate diameter
- › Long life, reduced lifetime costs
- › Suitable for multi-layer spooling

Diameter (mm)	Approx. nominal length mass (kg/m)	Minimum breaking force (Fmin) EIPS/1960 grade		Axial stiffness @20% load (MN)	Torque generated @20% load		Metallic cross section (mm <sup>2</sup> )
		(kN)	(t)		Ordinary (Nm)	Lang's (Nm)	
<b>Dyform 6x26WS</b>							
8	0.29	53.0	5.40	3.5	5.8	9.2	34
9	0.37	67.0	6.83	4.4	8.3	13	43
10	0.46	82.8	8.44	5.4	11	18	53
11	0.56	100	10.2	6.6	15	24	64
12	0.66	119	12.1	7.8	20	31	76
13	0.78	140	14.3	9.2	25	40	89
14	0.90	162	16.5	11	31	50	103
15	1.03	186	19.0	12	39	61	118
<b>Dyform 6x36WS</b>							
16	1.17	212	21.6	14	47	74	135
17	1.33	239	24.4	16	56	89	152
18	1.49	268	27.3	18	67	105	170
19	1.66	299	30.5	20	78	124	190
20	1.84	331	33.7	22	91	144	210
22	2.22	401	40.8	26	122	192	255
24	2.64	477	48.6	31	158	249	303
26	3.10	559	57.0	37	201	317	356
28	3.60	649	66.1	42	251	396	413
30	4.13	745	75.9	49	308	487	474
32	4.70	847	86.4	56	374	591	539
34	5.30	957	97.5	63	449	709	608
36	5.95	1073	109	70	533	842	682
38	6.62	1195	122	78	627	990	760
40	7.34	1324	135	87	731	1155	842
42	8.09	1460	149	96	846	1337	928
44	8.88	1602	163	105	973	1537	1019
46	9.71	1751	179	115	1112	1756	1113
48	10.6	1907	194	125	1263	1995	1212
50	11.5	2069	211	136	1428	2255	1316

\*Not all sizes kept in stock.



Note: Plastic impregnated (PI) options may be ordered (subject to availability).



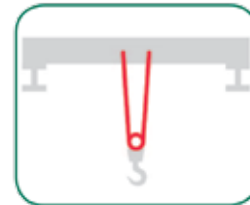
Dockside Crane Ropes



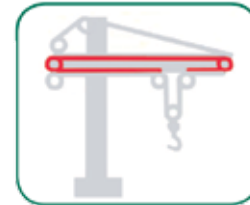
Mobile Crane Ropes



Overhead Crane Ropes



Tower Crane Ropes



Piling Crane Ropes



The Endurance Dyform 6 is used as the boom hoist rope for these applications.

## Brilube Lubricating Dressing

Ropes are like any other machine and to achieve maximum operating life in service lubrication must be applied. The type of service lubricant and frequency of application varies with the rope construction the operating conditions and its functional application.

Brilube is an advanced formulation with proven performance to help get the best from your wire rope.

Brilube 30, 40 and 50 can be applied by brush, drip feed or portable pressurised sprayer.

Brilube 60, 70 and 90 can be pressure applied using in-line application systems which are available to suit a wide range of rope sizes and constructions. These systems operate by forcing the lubricant into the rope under high pressure, whilst simultaneously cleaning the rope and removing the moisture, residual lubricant and contaminants.

### Features

- › Advanced corrosion protection
- › High lubricity
- › Reduced fling off

- › Enhanced rope life
- › Effective penetration
- › Easy application.



Product	Applications	Description
Brilube 30	Tower Cranes Mobile Cranes Dockside Cranes Fishing Ropes	BRILUBE 30 - a semi-dry thin film lubricant with excellent penetration and corrosion resisting properties. Formulated for frequent use in harsh working conditions, whilst minimising lubricant build-up and abrasive particle contamination. Effective operating range -30°C to +60°C Minimum application temperature -5°C
Brilube 40	Lifts & Elevators Friction Hoists	BRILUBE 40 - a synthetic lubricant which deposits a slip-resistant film on the wire surfaces. Formulated for use where frictional grip is vital, it provides internal lubrication whilst avoiding excessive build-up with repeated applications. BRILUBE 40 is recommended for use on lifts, elevators and similar friction driven rope installations. Effective operating range -80°C to +40°C Minimum application temperature -5°C
Brilube 50	Indoor Cranes Piling Applications Small Excavators	BRILUBE 50 - an oil based lubricant with additives to increase adherence and enhance corrosion protection. It has excellent penetration and lubrication properties for working ropes in normal industrial environments. BRILUBE 50 is recommended for overhead cranes, hoist ropes and similar working ropes, where fatigue is the major factor in rope deterioration. Effective operating range -70°C to +30°C Minimum application temperature -25°C
Brilube 60	Excavators Guy Ropes Winch Ropes	BRILUBE 60 - a medium thixotropic gel lubricant with excellent corrosion protection and stable properties over a wide temperature range. Formulated for long life on static or dynamic ropes. BRILUBE 60 is recommended for outdoor use providing effective lubrication and corrosion protection where only infrequent lubrication is possible. Effective operating range -55°C to +100°C Minimum application temperature -20°C
Brilube 70	Off-shore Cranes Rigging Mooring & Towing Cables Fishing Ropes	BRILUBE 70 - a medium thixotropic gel lubricant with stable properties over a wide temperature range offering corrosion protection against marine working conditions. Formulated for long life on static or dynamic ropes in highly aggressive environments. BRILUBE 70 is recommended for use in off-shore and other hostile environments where effective lubrication and optimum corrosion protection are vital. Effective operating range -55°C to +100°C Minimum application temperature -20°C
Brilube 90	Off-shore Installations Lake & River Ferries Dock Facilities Water Treatment Operations	BRILUBE 90 - a BIODEGRADABLE heavy duty, marine quality wire rope lubricant, developed by Bridon to meet the needs of wire ropes working in highly aggressive conditions and the demand for environmental acceptability. Formulated for heavy duty applications in environmentally sensitive locations. BRILUBE 90 is recommended for use wherever rope lubrication is a problem due to environmental concerns. Effective operating range -20°C to +120°C

Note: Please contact your local Robertsons branch for full usage instructions and a product MSDS.

## Wire Rope Slings

### Typical Steel Wire Rope Sling Description

Hand spliced or machine swaged slings, with your choice of terminations, can be manufactured and tested (if required) on our premises at short notice. All slings and assemblies are permanently marked with safe working loads, based on a 5:1 factor of safety.

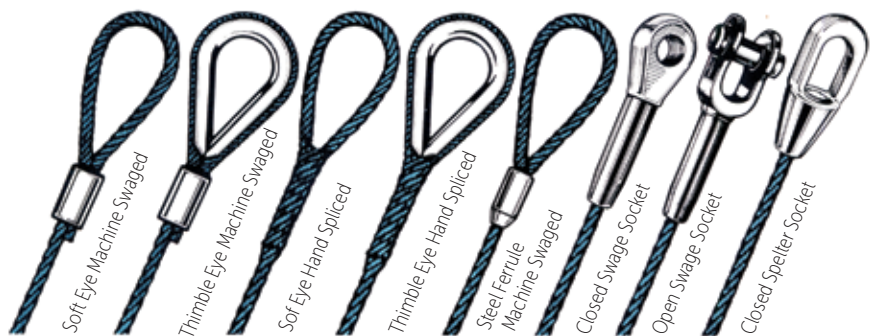
13 mm 6/36 G1770 RHOL WRC PREF G2 - 200 mm soft eye each end  
 - Machine spliced WLL 2.1 Tonne  
 - 3.0 metres effective length



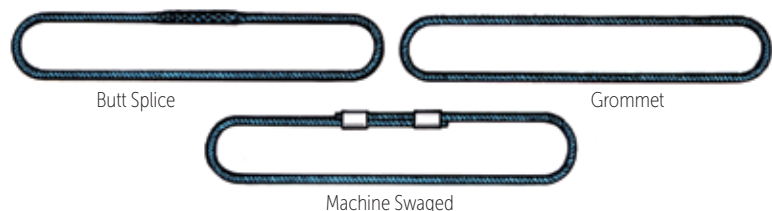
- |                           |   |
|---------------------------|---|
| (a) <b>SWR</b>            | Steel Wire Rope.  |
| (b) <b>FC</b>             | Fibre Core.   |
| (c) <b>13mm</b>           | Diameter (nominal) of SWR measured over "crowns".   |
| (d) <b>6/36</b>           | Construction (six strands, each with thirty six wires).                                   |
| (e) <b>G1770</b>          | "G" signifies "galvanised" wires. 1770 signifies tensile grade of wires (in Megapascals). |
| (f) <b>RHOL</b>           | Right Hand Ordinary Lay (strands laid up to the RIGHT, wires in each strand to the LEFT). |
| (g) <b>WRC</b>            | Wire Rope Core (approx 7.5% stronger and 11% heavier than FC).                            |
| (h) <b>PREF</b>           | Strands shaped (helix formed) before laying up into a rope.                               |
| (i) <b>G2</b>             | Lubricant (Petroleum Jelly).  |
| (j) <b>200mm</b>          | Eye size.   |
| (k) <b>Machine Splice</b> | Steel, copper or aluminium alloy ferrule pressed around the looped end of wire rope.      |
| (l) <b>WLL</b>            | Maximum load that can be lifted on a particular service.                                  |
| (m) <b>Length</b>         | For restrictions refer to AS 1666-1995.   |

#### Machine Swaging:

Aluminium Ferrules Sizes 2mm – 52mm  
 Copper Ferrules Sizes 2mm – 10mm  
 Steel Ferrules Sizes 9mm – 75mm  
 Swage Sockets Sizes 3mm – 52mm  
 Hand Splicing from 2mm – 75mm dia



#### Endless Slings



# Wire Rope Slings

## Table of Working Load Limits for Standard Galvanised Slings – Grade 1570, Fibre Core in accordance with AS1666.1.

Wire Rope DIA. (mm)	MN Breaking Force (kN)	Direct Load			Choke Hitch				Basket Hitch								
		Direct Load	Round Load	Rectangular Load	Round Load		Other Than Round Load		Round Load				Other Than Round Load				
					Single Wrap	Double Wrap	Single Wrap	Double Wrap	Direct Load	Round Load	Other Than Round Load	Single Wrap	Double Wrap				
														0°-60°	90°	120°	0°-45°
1 x 0.95	0.75 x 0.95	0.5 x 0.95	1.73 x 0.95	1.41 x 0.95	1 x 0.95	1.30 x 0.95	0.87 x 0.95	2 x 0.95	1.73 x 0.95	1.41 x 0.95	1 x 0.95	1 x 0.95	0.87 x 0.95	0.71 x 0.95	0.5 x 0.95		
WLL in Tonnes for 1570 Grade Fibre Core																	
8	28.7	0.55	0.41	0.27	0.96	0.78	0.55	0.72	0.48	1.11	0.96	0.78	0.55	0.55	0.48	0.39	0.27
9	35.4	0.70	0.52	0.35	1.21	0.99	0.70	0.91	0.61	1.40	1.21	0.99	0.70	0.70	0.61	0.50	0.35
10	44.9	0.86	0.65	0.43	1.50	1.22	0.86	1.13	0.75	1.73	1.50	1.22	0.86	0.86	0.75	0.61	0.43
11	54.3	1.05	0.78	0.52	1.81	1.48	1.05	1.36	0.91	2.10	1.81	1.48	1.05	1.05	0.91	0.74	0.52
12	64.0	1.23	0.92	0.61	2.14	1.74	1.23	1.61	1.07	2.47	2.14	1.74	1.23	1.23	1.07	0.88	0.61
13	74.9	1.47	1.10	0.73	2.54	2.07	1.47	1.91	1.27	2.94	2.54	2.04	1.47	1.47	1.27	1.04	0.73
14	88.0	1.70	1.27	0.85	2.94	2.40	1.70	2.21	1.48	3.40	2.94	2.40	1.70	1.70	1.48	1.21	0.85
16	115	2.22	1.67	1.11	3.85	3.14	2.22	2.89	1.93	4.45	3.85	3.14	2.22	2.22	1.93	1.58	1.11
18	145	2.80	2.10	1.40	4.85	3.95	2.80	3.65	2.44	5.61	4.85	3.95	2.80	2.80	2.44	1.99	1.40
20	180	3.48	2.61	1.74	5.63	4.91	3.48	4.53	3.03	6.97	6.0	4.91	3.48	3.48	3.03	2.47	1.74
22	217	4.20	3.15	2.10	7.27	5.92	4.20	5.46	3.65	8.40	7.27	5.92	4.20	4.20	3.65	2.98	2.10
24	259	5.01	3.76	2.50	8.67	6.9	5.01	6.52	4.36	10.03	8.67	7.07	5.01	5.01	4.36	3.56	2.50
26	304	5.88	4.41	2.94	10.18	8.30	5.88	7.65	5.12	11.77	10.18	8.30	5.88	5.88	5.12	4.18	2.94
28	352	6.81	5.11	3.40	11.79	9.61	6.81	8.86	5.93	13.63	11.79	9.61	6.81	6.81	5.93	4.84	3.40
32	460	8.9	6.68	4.45	15.41	12.56	8.9	11.58	7.75	17.81	15.11	12.56	8.90	8.90	7.75	6.32	4.45

# Wire Rope Slings

Table of Working Load Limits for Standard Galvanised Slings – Grade 1770, Steel Core in accordance with AS1666.1.

Wire Rope DIA. (mm)	MN Breaking Force (kN)	Direct Load	Choke Hitch		Direct Load			Choke Hitch				Basket Hitch																				
			Round Load	Rectangular Load	0°-60°	90°	120°	Round Load		Other Than Round Load		Round Load			Other Than Round Load																	
								Single Wrap	Double Wrap	Single Wrap	Double Wrap	0°	60°	90°	120°	0°	60°	90°	120°													
Included Angle	1 x 0.95		0.75 x 0.95		0.5 x 0.95		1.73 x 0.95		1.41 x 0.95		1 x 0.95		1.30 x 0.95		0.87 x 0.95		2 x 0.95		1.73 x 0.95		1.41 x 0.95		1 x 0.95		1 x 0.95		0.87 x 0.95		0.71 x 0.95		0.5 x 0.95	
WLL in Tonnes for 1770 Grade Fibre Core																																
8	40.2	0.78	0.58	0.39	1.35	1.1	0.78	1.01	0.68	1.56	1.35	1.1	0.78	0.78	0.68	0.55	0.39															
9	51.1	0.99	0.74	0.49	1.71	1.4	0.99	1.29	0.86	1.98	1.71	1.4	0.99	0.99	0.86	0.7	0.49															
10	63.1	1.22	0.92	0.61	2.1	1.72	1.22	1.59	1.06	2.4	2.1	1.72	1.22	1.22	1.06	0.87	0.61															
11	76.3	1.48	1.11	0.74	2.6	2.1	1.48	1.92	1.29	3	2.6	2.1	1.48	1.48	1.29	1.05	0.74															
12	90.8	1.76	1.32	0.88	3	2.5	1.76	2.3	1.53	3.5	3	2.5	1.76	1.76	1.53	1.25	0.88															
13	107.0	2.1	1.55	1.04	3.6	2.9	2.1	2.7	1.8	4.1	3.6	2.9	2.1	2.1	1.8	1.47	1.04															
14	124.0	2.4	1.8	1.2	4.2	3.4	2.4	3.1	2.1	4.8	4.2	3.4	2.4	2.4	2.1	1.71	1.2															
16	161.0	3.1	2.3	1.56	5.4	4.4	3.1	4.1	2.7	6.2	5.4	4.4	3.1	3.1	2.7	2.2	1.56															
18	204.0	4.0	3	1.98	6.8	5.6	4	5.1	3.4	7.9	6.8	5.6	4	4	3.4	2.8	1.98															
20	252.0	4.9	3.7	2.4	8.4	6.9	4.9	6.3	4.2	9.8	8.4	6.9	4.9	4.9	4.2	3.5	2.4															
22	305.0	5.9	4.4	3	10.2	8.3	5.9	7.7	5.1	11.8	10.2	8.3	5.9	5.9	5.1	4.2	3															
24	363.0	7	5.3	3.5	12.2	9.9	7	9.1	6.1	14.1	12.2	9.9	7	7	6.1	5	3.5															
26	426.0	8.3	6.2	4.1	14.3	11.6	8.3	10.7	7.2	16.5	14.3	11.6	8.3	8.3	7.2	5.9	4.1															
28	494.0	9.6	7.2	4.8	16.6	13.5	9.6	12.4	8.3	19.1	16.6	13.5	9.6	9.6	8.3	6.8	4.8															
32	646.0	12.5	9.4	6.3	22	17.6	12.5	16.3	10.9	25	22	17.6	12.5	12.5	10.9	8.9	6.3															
36	817.0	15.8	11.9	7.9	27	22	15.8	21	13.8	32	27	22	15.8	15.8	13.8	11.2	7.9															
40	1010.0	19.6	14.7	9.8	34	28	19.6	25	17	39	34	28	19.6	19.6	17	13.9	9.8															
44	1220.0	24	17.7	11.8	41	33	24	31	21	47	41	33	24	24	21	16.8	11.8															
48	1450.0	28	21	14	49	40	28	37	24	56	49	40	28	28	24	19.9	14															
52	1710.0	33	25	16.6	57	47	33	43	29	66	57	47	33	33	29	24	16.6															
56	1980.0	38	29	19.2	66	54	38	50	33	77	66	54	38	38	33	27	19.2															
60	2270.0	44	33	22	76	62	44	57	38	88	76	62	44	44	38	31	22															

# Wire Rope Slings

## Tri-Flex Wire Rope Slings

Tri-Flex slings provide strength and flexibility. Because of the patented TRI-FLEX SLING construction, there are substantial savings in material and machine costs in the larger sizes.

Pin size equals D/d of 1.5:1 in the eye.

Basket hitch equals D/D of 5:1 using finished diameter



Composed		Design Factor 5:1 Rated Loads			Finished Diameter
(Inches)	(mm)	Vertical (t)	Choker (t)	Vertical Basket (t)	
1/4"	6	1.5	1.1	3.1	12
5/16"	8	2.3	1.7	4.7	16
3/8"	10	3.2	2.4	6.5	19
7/16"	11	4.4	3.3	8.8	22
1/2"	12	5.8	4.3	11.6	25
9/16"	14	7.2	5.4	14.5	28
5/8"	16	8.9	6.7	17.9	32
3/4"	19	12.7	9.5	23.5	38
7/8"	22	17.2	12.9	34.4	44
1"	25	22.4	16.8	44.9	51
1-1/8"	28	28.3	21.2	56.6	57
1-1/4"	32	34.8	26.1	69.6	63
1-3/8"	35	41.7	31.2	74.3	70
1-1/2"	38	49.8	37.3	99.7	76
1-3/4"	44	66.2	49.7	132.4	89
2"	51	86.1	64.5	172.3	102
2-1/4"	57	107.4	80.2	214.9	114
2-1/2"	63	131.5	98.8	263.8	127

## Superflex Slings

Superflex slings are made of Superflex Cable, which is a plaited configuration, not laid or twisted like wire rope. The interplaiting of the sets of strands creates a tough set-resistant cable composed of many wires.

### Features

- › Very tough, durable yet flexible.
- › Easily handled, placed in position, cleaned and stored.
- › Will not spring back like wire rope.
- › Alloy ferrules chamfered at each end to EN13411.



Method of Loading	Direct Loaded	Choke Hitch		Basket Hitch	Direct Loaded	Endless Strop		
		Round Load	Square Load			Cradle Strop	Choked Strop on Round Load	Choked Strop on Square Load
Cable Size								
Loads in Tonnes								
Two-5	1.0	0.7	0.5	1.9	1.5	2.8	1.1	0.8
Three-0	1.4	1.1	0.7	2.7	2.2	4.3	1.6	1.1
Three-5	1.8	1.4	0.9	3.5	2.7	5.2	2.0	1.4
Four -0	2.4	1.8	1.2	4.6	3.6	6.9	2.7	1.8
Four -5	3.0	2.3	1.5	5.8	4.5	8.7	3.4	2.3
Five-0	4.0	3.1	2.0	7.7	6.0	11.7	4.5	3.0
Six-5	6.7	5.0	3.4	13.0	10.0	19.0	7.6	5.1
Eight-0	10.3	7.8	5.2	20.0	15.6	29.6	11.8	7.8
Ten-0	15.3	11.5	7.6	29.8	22.9	43.5	17.5	11.6



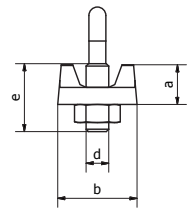
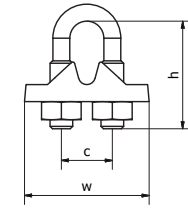
# Wire Rope Terminations

## Wire Rope Grips Galvanised AS2076

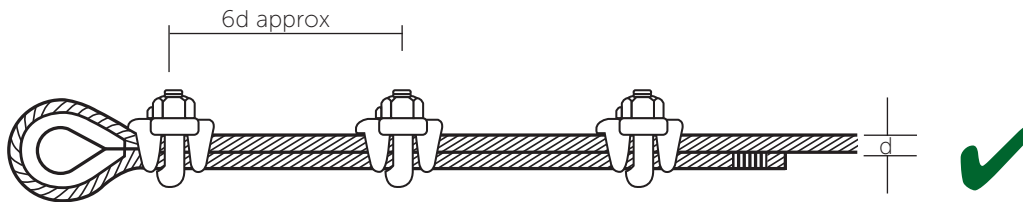
Wire Rope Grips Hot Dipped Galvanised AS2076

Product Code	Size (mm)	c (mm)	h (mm)	w (mm)	e (mm)	d (mm)	b (mm)	a (mm)	Min number of Grips to form an eye	UOM	Pack Qty
303306	6	13	29	28	20	6	15	13	3	Each	400
303308	8	18	32	34	22	8	19	14.5	3	Each	300
303310	9-10	22	41	42	28	10	24	18	3	Each	200
303312	11-12	26	49	50	33	12	30	21	3	Each	100
303316	16	28	52	52	33	12	31	22	4	Each	75
303318	18	34	69	66	44	16	37	26	4	Each	60
303320	20	36	74	68	44	16	38	29	4	Each	50
303322	20 - 22	38	77	89	44	16	40z	31	4	Each	50
303326	24 - 26	40	80	89	44	16	40	32.5	5	Each	20
303328	28	50	96	90	55	22	48	38	5	Each	20
303332	32	52	102	92	55	22	48	39	6	Each	20
303338	38	56	105	112	55	22	48	41.5	6	Each	10

Not Suitable for Lifting Purposes.



### The Right Way

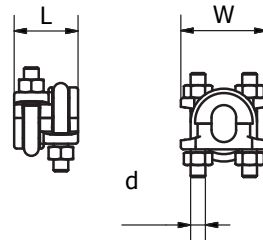


Note: d = diameter of rope

## Double Throat Wire Rope Grips Hot Dipped Galvanised

Product Code	Wire Dia (mm)	W (mm)	L (mm)	d (mm)	UOM	Pack Qty
304308-9	8-9	46	40	8	Each	5
304310-12	10-12	52	40	10	Each	5
304316	16	58	46	10	Each	2
304320-22	20-22	76	56	12	Each	2
304326-28	26-28	78	61	12	Each	2

Not Suitable for Lifting Purposes.



# Wire Rope Terminations

## Commercial Wire Rope Grips Electro Galvanised



Product Code	Size (mm)	UOM	Pack Qty
301203	3	Each	1200
301205	5	Each	600
301206	6	Each	400
301208	8	Each	300
301210	10	Each	200
301213	13	Each	100
301216	16	Each	75
301220	20	Each	60
301223	23	Each	20
301225	25	Each	20
301232	32	Each	20

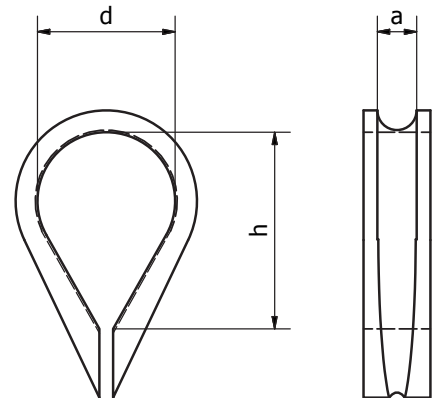


Not Suitable for Lifting Purposes.

## Wire Rope Thimbles AS1138

### Wire Rope Thimbles Hot Dipped Galvanised AS1138

Product Code	Size (mm)	a (mm)	d (mm)	h (mm)	UOM	Pack Qty
312306	6	7	16	25	Each	400
312308	8	7.9	22	33	Each	400
312310	10	10.3	25	38	Each	400
312311	11	12.7	29	41	Each	200
312313	13	14.3	32	44	Each	100
312314	14	15	32	46	Each	100
312316	16	15.9	41	59	Each	75
312320	20	21.6	52	75	Each	30
312322	22	22.2	57	83	Each	25
312324	24	25.4	64	92	Each	20
312326	26	27	72	108	Each	15
312328	28	28.6	76	112	Each	15
312332	32	33.4	95	133	Each	10
312335	35	38	105	152	Each	7
312338	38	43	114	165	Each	5
312342	42	43	120	180	Each	5
312345	45	47	127	178	Each	2
312348	48	51	134	190	Each	2
312350	50	55	140	203	Each	2



# Wire Rope Terminations

## Commercial Wire Rope Thimbles & Grips



Commercial Wire Rope Thimbles Galvanised

Product Code	Size (mm)	UOM	Pack Qty
310304	4	Each	2000
310305	5	Each	2000
310306	6	Each	1000
310308	8	Each	400
310310	10	Each	400
310313	13	Each	100
310314	14	Each	100
310316	16	Each	75
310320	20	Each	30
310323	23	Each	25
310325	25	Each	20
310328	28	Each	15
310332	32	Each	10



Not Suitable for Lifting Purposes.

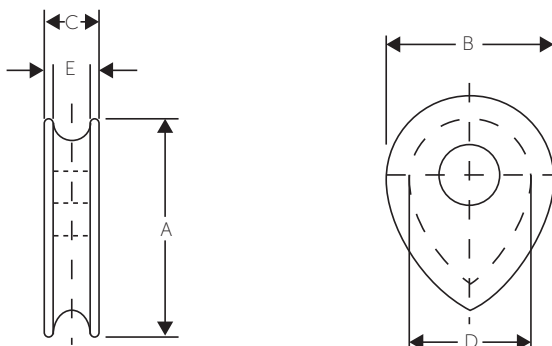


Solid Heart Thimbles

Rope Dia (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
8	48	36	13	27	8
10	58	45	16	33	10
11	71	52	20	39	11
12-14	84	60	23	47	14
16	96	71	27	52	17
18-20	117	84	29	63	22
22	130	95	34	69	24
24	140	105	36	76	26
26	155	115	40	82	27
28mm	170	125	44	90	30

Rope Dia (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
32mm	192	140	46	100	33
36mm	205	150	50	110	37
38mm	235	175	62	130	41
42mm	235	170	56	125	44
44mm	260	198	64	135	47
48mm	275	200	66	148	51
52-54mm	300	225	72	163	55
58mm	330	245	82	174	61
64mm	375	275	92	200	67
70-75mm	405	310	105	223	77

Note: Please specify hole size required when placing an order.

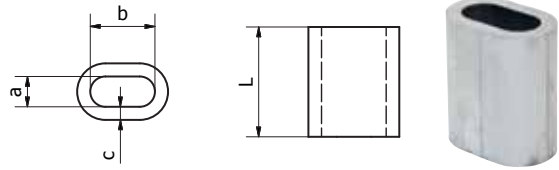


# Wire Rope Terminations

## Wire Rope Ferrules

Aluminium Ferrules to EN13411

Standard ferrule for machine swaging eyes in galvanised or black wire rope.



Product Code	DIN Code	a (mm)	b (mm)	c (mm)	L (mm)	UOM	Pack Qty
317101A	1.5	1.8	3.6	1.05	6	Each	100
317102	2	2.2	4.4	0.90	7	Each	100
317102A	2.5	2.7	5.4	1.05	9	Each	100
317103	3	3.3	6.6	1.25	11	Each	100
317103A	3.5	3.8	7.6	1.5	13	Each	100
317104	4	4.4	8.8	1.7	14	Each	100
317105	5	5.5	11.0	2.1	18	Each	100
317106	6	6.6	13.2	2.5	21	Each	100
317106A	6.5	7.2	14.4	2.7	23	Each	100
317107	7	7.8	15.6	2.9	25	Each	100
317108	8	8.8	17.6	3.3	28	Each	100
317109	9	9.9	19.8	3.7	32	Each	100
317110	10	10.9	21.8	4.1	35	Each	100
317111	11	12.1	24.2	4.5	39	Each	100
317112	12	13.2	26.4	4.9	42	Each	100
317113	13	14.2	28.4	5.4	46	Each	100
317114	14	15.3	30.6	5.8	49	Each	100
317116	16	17.5	35.0	6.7	56	Each	100

Product Code	DIN Code	a (mm)	b (mm)	c (mm)	L (mm)	UOM	Pack Qty
317118	18	19.6	39.2	7.6	63	Each	100
317120	20	21.7	43.4	8.4	70	Each	100
317122	22	24.3	48.6	9.2	77	Each	100
317124	24	26.4	52.8	10.0	84	Each	100
317126	26	28.5	57.0	10.9	91	Each	100
317128	28	31.0	62.0	11.7	98	Each	100
317130	30	33.1	66.2	12.5	105	Each	100
317132	32	35.2	70.4	13.4	112	Each	100
317134	34	37.8	75.6	14.2	119	Each	100
317136	36	39.8	79.6	15	126	Each	100
317138	38	41.9	83.8	15.8	133	Each	100
317140	40	44.0	88.0	16.6	140	Each	100
317142	42	45.0	90.0	17.4	147	Each	100
317144	44	48.4	96.8	18.3	154	Each	100
317146	46	49.0	98.0	19	161	Each	100
317152	52	57.2	114.4	21.6	182	Each	100
317156	56	61.6	123.2	23.3	196	Each	100

## Copper Ferrules

Standard ferrule for machine swaging eyes in stainless steel wire rope.



Product Code	Wire Size (mm)	Bore *1	Length before swaging	Bites per sleeve (min)*2
CP-105	1.5	4.9	8	2
CP-115NP	1.6	4.9	8.8	2
CP-115S	1.5	4.9	8.8	2
CP-120	2	4.9	9	2
CP-120NP	2	4.9	9	2
CP-125	2.5	6	10	2
CP-125NP	2.5	6	10	2
CP-130	3	7.3	13	2-3
CP-130NP	3	7.3	13	2-3
CP-130S	3	7.3	13	2-3
CP-140	4	9.1	16	2-3

Product Code	Wire Size (mm)	Bore *1	Length before swaging	Bites per sleeve (min)*2
CP-140NP	4	9.1	16	2-3
CP-140S	4	9.1	16	2-3
CP-150	5	10.9	18	2-3
CP-150NP	5	10.9	18	2-3
CP-150S	5	10.9	18	2-3
CP-160	6	12.7	20	3
CP-164		12.7	20	3
CP-164NP		12.7	20	3
CP-180	8	17	25	3
CP-180NP	8	17	25	3
CP-199	10	19	27	3

\*1 Bore = Dia of cavity in the pressing tool or die used for pressing.

\*2 = When using CP Hand Tools.

# Wire Rope Terminations

## Nickel Plated Copper Hand Swage Ferrules

Can be swaged in the field using a hand swage too.



Product Code	Dies marked T	Diameter after pressing (mm)		Required pressure approx. (kN)
			Tol.	
GTC015	1,5	3,8	0	20
GTC02	2	4	+0,1	30
GTC025	2,5	5	0	45
GTC03	3	6		60
GTC035	3,5	7		80
GTC04	4	8		100
GTC045	4,5	9		125
GTC05	5	10		180
GTC06	6	12	+0,3	210
GTC065	6,5	13	0	250
GTC07	7	14		320
GTC08	8	16		410
GTC09	9	18		500

Product Code	Dies marked INOX	Diameter after pressing (mm)		Required pressure approx. (kN)
			Tol.	
GTC10	10	20	+0,4	600
GTC11	11	22	0	720
GTC12	12	24		850
GTC13	13	26		1000
GTC14	14	28	+0,5	1300
GTC16	16	32	0	1600
GTC18	18	36	+0,6	2000
GTC20	20	40	0	2400
GTC22	22	44		2900
GTC24	24	48	+0,8	3400
GTC26	26	52	0	3900
GTC28	28	56		4500
GTC30	32	64	0	5800

## Stainless Steel Ferrules

For stainless steel single layer wire ropes.



Product Code	Dies marked INOX	Diameter after pressing (mm)		Required pressure approx. (kN)
			Tol.	
GTS015	1,5	4,2	+0,15	100
GTS02	2	4,8	0	160
GTS025	2,5	5		200
GTS03	3	6		250
GTS035	3,5	7,8		300
GTS04	4	8		350
GTS045	4,5	9,8		400
GTS05	5	10,8	+0,3	500
GTS06	6	12	0	600
GTS07	7	14		700
GTS08	8	16		850
GTS09	9	18		1000
GTS10	10	20	+0,4	1100

Product Code	Dies marked INOX	Diameter after pressing (mm)		Required pressure approx. (kN)
			Tol.	
GTS11	11	21,3	0	1350
GTS12	12	24		1500
GTS13	13	26		1750
GTS14	14	28	+0,5	2000
GTS16	16	32	0	2500
GTS18	18	36	-0,6	3100
GTS20	20	40	0	3400
GTS22	22	44		3900
GTS24	24	48	+0,8	4500
GTS26	26	52	0	5000
GTS28	28	56		5600
GTS30	30	60		6000

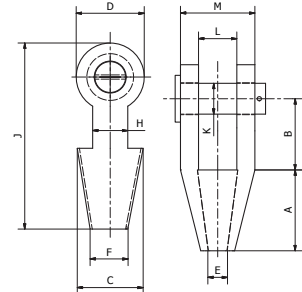
# Wire Rope Terminations

## Open Type Sockets



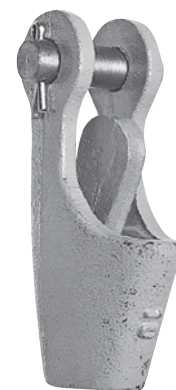
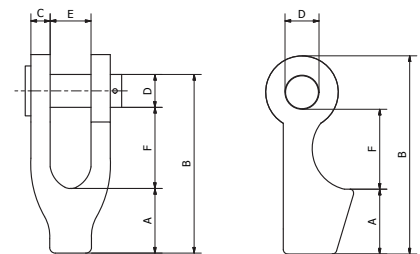
### Open Type Metalling Sockets

Product Code	Wire Dia. (mm)	D (mm)	J (mm)	H (mm)	P (mm)	S (mm)	M (mm)	R (mm)	B (mm)	A (mm)	C (mm)	WLL (t)	UOM	Pack Qty
309016	16	50	159	27	29	50	56	35	24	64	70	4.2	Each	Each
309020	20	64	175	33	33	62	70	38	29	67	76	7.5	Each	Each
309026	26	86	237	46	49	83	89	48	38	89	105	13.9	Each	Each
309028	28	92	262	50	57	92	94	50	41	102	114	14.8	Each	Each
309032	32	105	297	60	64	108	111	54	48	111	133	24.5	Each	Each
309036	36-42	127	330	67	70	127	135	65	57	114	152	33.8	Each	Each
309044	44-54	175	450	100	110	190	180	90	90	170	195	53.5	Each	Each



### Open Type Wedge Sockets

Product Code	Wire Dia. (mm)	D (mm)	J (mm)	H (mm)	P (mm)	S (mm)	M (mm)	R (mm)	WLL (t)	UOM	Pack Qty
306010	10	16	22	52	8	135	60	22	2.6	Each	Each
306013	13	24	45	90	24	206	75	45	10.3	Each	Each
306016	16	33	54	85	30	235	85	54	13.4	Each	Each
306020	20	36	67	120	35	300	110	67	20	Each	Each
306022	22	36	67	142	35	340	140	67	21.3	Each	Each
306026	26-28	42	77	144	43	350	135	77	33.7	Each	Each
306032	32	56	70	200	45	445	200	70	39.6	Each	Each
306038	38	60	105	210	58	540	240	105	57.4	Each	Each

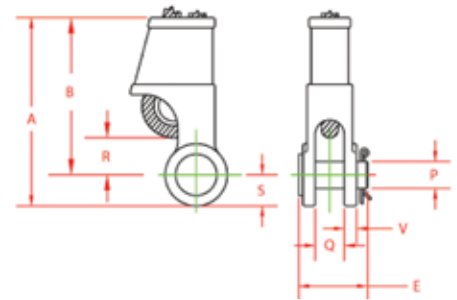


# Wire Rope Terminations

## GUNNEBO Open Wedge Sockets



Open wedge sockets combine positive attachment with optimum versatility. Easy-to-change Gunnebo Johnson Wedge Sockets are a high strength cast alloy steel. Each socket accepts at least two different ductile iron wedges. This allows the socket to be used with more than one wire rope size. Together, wedge and body act as a vice which grips the wire rope and locks it into place. The headed attachment pin is standard.



Product Code	Wire Rope Size (mm)	Wt. (kg)	A (mm)	B (mm)	E (mm)	P (mm)	Q (mm)	R (mm)	S (mm)	V (mm)
WS-4	10	1.4	165	137	67	25	25	44	29	10
WS-4	13	1.4	165	137	67	25	25	49	29	10
WS-5	13	3.9	222	184	89	32	35	62	38	16
WS-5	14	3.9	222	184	89	32	35	71	38	16
WS-5	16	3.9	222	184	89	32	35	70	38	16
WS-6	16	4.1	224	186	89	32	38	64	38	14
WS-8A	16	7.7	286	232	105	41	44	81	54	25
WS-8	19	4.1	224	186	89	32	38	45	38	14
WS-8A	19	7.7	286	232	105	41	44	72	54	25
WS-7	22	6.8	279	241	89	32	33	75	38	16
WS-8	22	7.3	289	241	105	41	44	73	48	19
WS-7	24	6.6	279	241	89	32	33	73	38	16
WS-8	24	7.3	289	241	105	41	44	64	48	19
WS-10	28	20.5	392	337	105	41	44	78	56	19
WS-11	28	25.0	406	343	140	64	64	114	64	21
WS-10	32	20.5	392	337	105	41	44	79	56	19
WS-11	32	25.0	406	343	140	64	64	108	64	21
FS-26	36	45.0	467	381	175	76	67	106	86	32

Note: When ordering, please specify model number and exact rope size.

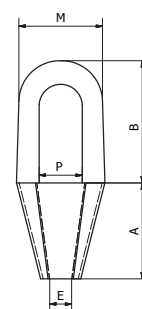
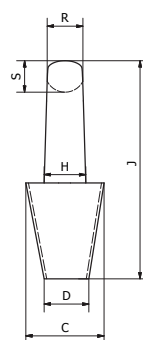
# Wire Rope Terminations

## Closed Type Sockets



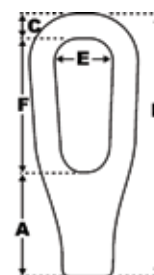
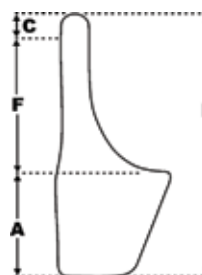
### Closed Type Metalling Sockets

Product Code	Wire Dia. (mm)	D (mm)	J (mm)	H (mm)	P (mm)	S (mm)	M (mm)	R (mm)	B (mm)	A (mm)	C (mm)	E (mm)	WLL (t)	UOM	Pack Qty
309120	20	33	178	33	38	24	75	25	102	76	62	21	5.66	Each	Each
309122	22	41	200	40	44	25	83	29	114	86	70	25	6.7	Each	Each
309126	26	49	235	46	50	29	100	35	130	105	83	29	8.63	Each	Each
309128	28	57	257	50	57	32	114	38	143	114	92	32	10	Each	Each
309132	32	64	286	60	64	38	124	41	152	133	108	35	14.1	Each	Each
Special Order	36-42	152	184	127	70	43	67	337	146	76	48	44	19.0	Each	Each
Special Order	44-54	170	220	180	100	54	89	390	180	90	63	51	30.4	Each	Each
Special Order	58-64	240	330	230	135	76	135	570	267	140	82	76	58.7	Each	Each



### Closed Type Wedge Sockets

Product Code	Rope Dia. (mm)	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)	SWL (t)
06320010	6	41	90	13	12	40	1.27
06320020	10	61	127	15	17	51	1.69
06320030	13	75	165	19	21	71	2.72
06320040	16	86	220	21	44	111	3.32
06320050	20	100	245	25	36	116	4.71



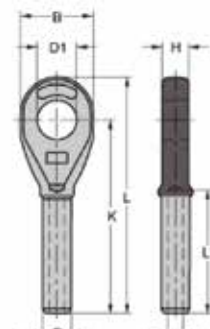


# Wire Rope Terminations

## Forged Closed Swage Wire Rope Socket

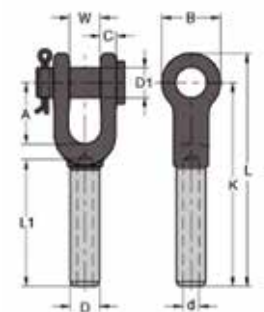


Product Code (self-colour)	Wire Dia. (mm)	L (mm)	D (mm)	B (mm)	D1 (mm)	d (mm)	L1 (mm)	H (mm)	K (mm)	Max after swage Dim. (mm)	N.W. (kg)
46832	6-7	110	13	35	19	7.0	54	13	89	12	0.2
46833	8	140	20	41	22	9.0	80	17	114	18	0.3
46834	9-10	140	20	41	22	11.0	80	17	114	18	0.3
46835	11-12	176	25	51	27	12.0	108	22	146	23	0.7
46836	13	176	25	51	27	14.0	108	22	146	23	0.6
46837	14-15	221	32	61	32	16.0	135	29	185	30	1.4
46838	16	221	32	61	32	17.0	135	29	185	30	1.3
46839	18-20	259	39	73	36	21.0	162	33	217	36	2.2
46840	22-23	304	43	79	43	24.0	189	38	258	39	3.1
46841	24-25	342	50	92	52	27.0	216	45	293	46	4.8
46842	28	382	57	102	59	30.0	243	51	323	52	6.7
46843	32	431	64	114	65	34.0	270	57	364	58	10.1
46844	35-36	475	71	127	65	37.0	297	57	402	65	12.9
46845	38	511	78	140	71	41.0	323	64	432	71	16.9
46846	44-45	598	86	159	90	47.2	378	76	508	78	24.3
46847	48-51	702	100	184	97	54.1	432	83	584	90	40.5



## Forged Open Swage Socket with round pin

Product Code (self-colour)	Product Code (galvanised)	Wire Dia. (mm)	L (mm)	D (mm)	B (mm)	D1 (mm)	d (mm)	L1 (mm)	W (mm)	K (mm)	C (mm)	A (mm)	Max after swage Dim. (mm)	N.W. (kg)
46812	46796	6-7	122	13	35	18	7	55	17	102	9	38	12	0.3
46813	46797	8	159	20	42	21	9	80	20	135	12	45	18	0.6
46814	46798	9-10	159	20	42	21	10	80	20	135	12	45	18	0.7
46818	46799	11-12	199	25	50	25	12	110	25	174	14	50	23	1.1
46819	46800	13	199	25	50	25	14	110	25	174	14	50	23	1.1
46820	46801	14-15	240	32	60	30	16	135	31	210	17	57	30	2.4
46821	46802	16	240	32	60	30	17	135	31	210	17	57	30	2.3
46822	46803	18-20	295	39	70	35	21	161	38	256	20	70	36	4.0
46823	46804	22-23	340	43	80	41	24	189	45	300	24	82	40	5.9
46824	46805	24-25	395	50	100	51	27	216	50	345	26	98	46	9.1
46826	46806	28	442	57	103	57	30	238	57	383	30	108	52	12.8
46827	46807	32	484	64	113	64	34	269	63	419	34	120	59	17.8
46828	46808	35-36	534	71	127	64	37	297	64	463	35	132	65	21.8
46829	46809	38	581	78	140	70	41	315	76	502	43	146	72	28.9
46830	46810	44-45	674	86	170	89	47	378	89	584	54	171	78	44.0
46831	46811	48-51	798	100	203	95	54	431	101	682	60	203	91	73.1



# Wire Rope Products

## Wirelock

WIRELOCK® is a two pack socket capping compound that has the following advantages:

- › No heat
- › No acid
- › No hazardous molten metal
- › No long cooling/curing process
- › No annealing of wires at socket neck
- › No guessing of temperature
- › No loss of lubricant at socket neck
- › No special storage conditions
- › No expensive equipment
- › Provides 100% efficiency
- › Improves fatigue life
- › Is suitable for operation in extremes of temperature
- › Is ideal for on site application
- › Is approved by Lloyds Register of Shipping and Det Norske Veritas (D.N.V.)

Please contact your local Robertsons' branch for usage instructions and a product MSDS.



Product Code	Pack Size (cc)
DWL0100	100
DWL0250	250
DWL0500	500
DWL1000	1,000

### Minimum amount of Wirelock required for a given size of wire rope socket

Wire Rope Diameter (mm)	14-16	18-20	22	24-26	28	32-36	38	40	44-48	52	56-60	64	70	76	83	89-92	96	100-104
Volume (cc)	52	86	125	160	210	350	420	495	700	1,265	1,410	1,830	2,250	3,160	3,795	4,920	5,980	7,730

## Felco Wire Rope Cutters

Swiss made, the Felco two-hand wire rope and cable cutters deliver a powerful, clean cut with enhanced user comfort and safety.

### Features

- › Strong, lightweight, aluminium handles and alloy steel blades ensure outstanding performance
- › Handle shape optimises cutting capacity
- › Durable and reliable.

Product Code	Description	Capacity Wire Rope (mm)	UOM	Pack Qty
06350020	Felco C9	9	each	1
06350030	Felco C12	12	each	1
06350040	Felco C16	16	each	1
06350060	Felco C112	12.7	each	1



## Wire Rope Products

### Wire Rope Lubricants

#### Heavy Duty Liquid Lanolin

A lubricant and corrosion inhibitor best suited to marine, heavy industrial and commercial applications.

#### Features

- › Biodegradable. Non toxic, resists wash off
- › Penetrates to the core of the rope, whilst also remaining on the outer strands
- › Can be easily sprayed on wire rope; also popular for dipping baths, high speed and load bearing chains
- › Perfect for wire rope slings and all industrial chains (forklift) - non fling & non webbing
- › For long lasting lubrication of moving parts in a highly corrosive environment
- › Lubricates & protects pulleys, blocks, swivels, cables & chains.

Product Code	Description	Carton Qty
HD/PP-0400	400g Aerosol	12
HD/SP-0750	750ml Spray Pack	12
HD/0005	5 Litre Jerry Can	4
HD/0020	20 Litre Drum	each



#### Wire Rope Lube

For wire ropes operating in corrosive environments or above 16mm

Ideal for use around waterways and coastal environments.

#### Features

- › Semi fluid grease
- › Provides long lasting protection
- › Formulated for marine cranes
- › Acid & salt resistant
- › Biodegradable

Product Code	Description	Carton Qty
HW/RL20-Pail	20 Litre Pail	each



## Wire Rope Products

### Type 'A' Grease

A corrosion and moisture proofing compound made from pure industrial grade lanolin.

Suitable for offshore & submerged wire ropes

#### Features

- › Can be injected into wire rope with pressurised applicators including Masto & Viper
- › Anti-seize for shackles, nuts & bolts
- › Biodegradable

Product Code	Description	Carton Qty
GS/0500	500ml Pail	12
GS/0001	1 litre Pail	each
GS/0004	4 litre Pail	each
GS/0020	20litre Pail	each



### Powa Wash

An industrial strength, all purpose cleaner.

#### Features

- › Parts Washer
- › Workshop Cleaner
- › Quick Break Degreaser
- › Non-flammable, non-toxic
- › Biodegradable
- › Water Soluble
- › Dries quickly upon wash off.

Product Code	Description	Carton Qty
PW/0005	5 litre Jerry Can	4
PW/0020	20 litre Cube	each
PW/0200	200 litre Drum	each
PW/1000	1000 litre IBC	each



## Wire Rope Products

### Fluid Wire Rope Grease

#### Features

- › Rapidly penetrates wire ropes
- › Provides excellent anti-wear properties and repels water
- › Protects against corrosion
- › Carries high loads
- › NZFSA Approved C12 (All animal product except dairy)
- › AgriQuality Approved

Product Code	Pack Size	UOM
RY453321	20 litre	Each

#### Areas of Application:

- › Wire ropes
- › Dockyard cranes
- › Mobile Cranes
- › Chair lifts
- › Flying foxes
- › Slipways



### Wire Rope Grease

A semi-fluid grease with a combination of lubricating solids and molybdenum disulphide for lubrication and corrosion prevention of wire ropes.

Product Code	Pack Size	UOM
RY453291	20kg	Each

#### Features

- › Rapidly penetrates wire ropes
- › Provides high load carrying capacity
- › Repels water
- › Excellent anti-wear properties
- › Provides high corrosion protection
- › NZFSA Approved C12 (All animal product except dairy)
- › AgriQuality Approved

#### Areas of Application:

- › Wire ropes
- › Dockyard cranes
- › Cranes
- › Chair lifts
- › Flying foxes
- › Slipways



### Wire Rope Spray

A semi-fluid grease with a combination of lubricating solids and molybdenum disulphide for lubrication and corrosion prevention requirements of wire ropes.

Product Code	Pack Size	UOM
RY452412	300g	Each

#### Features

- › Rapidly penetrates wire ropes and repels water
- › Provides anti-wear properties
- › Protects against corrosion
- › NZFSA Approved C12 (All animal product except dairy)
- › NZ AgriQuality Approved

#### Areas of Application

- › Wire ropes
- › Dock yard cranes
- › Mobile cranes
- › Chain lifts
- › Slipways
- › Flying foxes





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