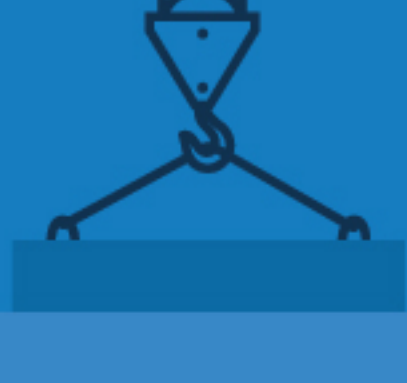


A-Z OF

Wire Rope

There are so many facts to learn about the world of wire rope. Rope Services Direct [1] is happy to discuss many elements of the wire rope industry in this infographic, "An A-Z of Wire Rope".

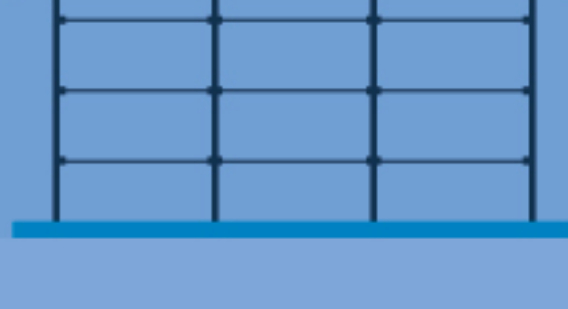
A



Assemblies

There are many types of wire rope assemblies [2] which are available for a range of applications and uses. Examples of assemblies include crane ropes, gym cables, lift ropes, traller ropes, winch cables, wire rope slings and bespoke / custom assemblies.

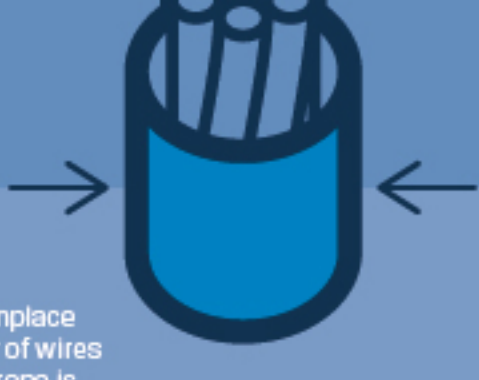
B



Balustrades

Wire rope balustrades are a type of barrier which uses wire rope for safety applications within balconies, boats, garden decking and stairways. Various materials are available (e.g. stainless steel) which influence price, strength and style.

C



Compacted

The compacting of wire rope is a commonplace deformation process where the diameter of wires is reduced/compacted. Compacted wire rope is used particularly in applications/industries where there are high levels of stress and high load capacities.

D



Discard criteria

There are numerous criteria to look for when discarding wire rope [3]. In particular wire rope needs to be replaced when it is broken, corroded, has excessive wear, has suffered temperature related damage or has distortions such as kinks, twists, knots, etc.

E



Eyes

The term "eyes" is a term used for a type of termination used when forming a loop. Strands of wire rope are unwound to the required distance and then are plaited back within the wire rope forming an "eye".

F



Fittings (aka terminations)

A range of wire rope fittings are used to secure the ends of wire rope. These fittings include eyebolts, grips, hooks, shackles, sockets, terminals, thimbles and turn buckles.

G



Grips

A popular type of fitting are wire rope grips. These as the name suggests are used to "grip" wire rope and in many cases to form loops at the end of the rope.

H



Hoists

Wire rope was originally developed in Germany in the 1830's [4] to aid hoisting in mines. To this day wire rope hoists are used in a wide variety of ways, such as in cranes, elevators and in hoisting devices which are used in many sectors of industry.

I



Inspections

Wire rope must be inspected each and every time it is going to be used for flaws such as obvious corrosion, damage, kinks and stress/wear. Read the discard criteria above and inspect to these standards.

J



Jute & other fibres

Although wire rope is most commonly made of metal, other materials both synthetic and natural are used too. Jute is a frequently used natural material; other natural fibres would include hemp, henequen, manilla and sisal.

K



Kinks

Due to the heavy-duty nature in which wire ropes are used they can become subject to "wear and tear". Kinks are a type of distortion which can occur with wire ropes, where this arises the wire rope must be replaced as strength is significantly reduced where kinks are present.

L



Lubricant

It is important that wire rope is lubricated on a regular and ongoing basis; this will reduce friction which in turn reduces "wear and tear". Examples of wire rope lubricants which can be used include oils and grease.

M



Metals

Wire rope is usually metallic but can also be made of natural and/or synthetic materials too. Typical metals used in wire rope manufacture include carbon steel and stainless steel (historically wrought iron was used). A galvanised zinc layer coating is also often applied.

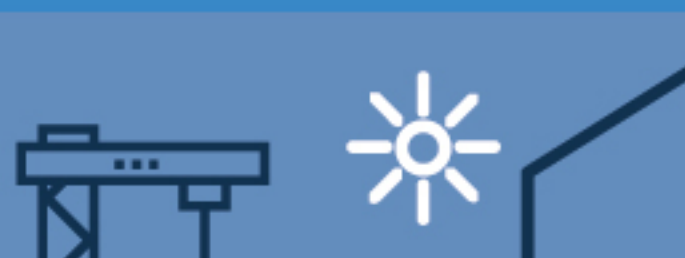
N



Number of strands

A numbering convention applies to wire ropes, which are available in a range of shapes and sizes, e.g. 1 x 19, 6 x 37 and 7 x 19, etc. These numbers represent first the number of groups and secondly the number of strands within a group, so for example 1 x 19 = one group with nineteen strands within it.

O



Outdoor

Wire rope is frequently used outdoors as well as inside properties. For most outdoor applications galvanised wire rope is fine, although specialist wire ropes may be needed in locations with excessive salt and/or chemicals exposure.

P



Pulleys

Wire ropes are frequently used in conjunction with pulleys for the smooth movement of loads through a pulley type mechanism.

Q



Quality

When buying wire rope always insist on buying top-quality grade wire rope. Potentially if you buy cheap you buy twice with inferior grade wire rope having a much lower life expectancy. In addition higher quality wire rope reduces workplace health and safety risks as well as reducing potential workplace downtimes.

R



Rope

Essentially wire rope is wire that is drawn into the shape of a rope. It's at the very heart of everything we do here at Rope Services Direct and has a massive range of applications and uses.

S



Slings

Wire rope lifting slings can be used for a wide variety of lifting applications (e.g. cargo slings and crane slings). There are various types of lifting slings available including endless slings, multi-leg slings, round slings, web slings, etc.

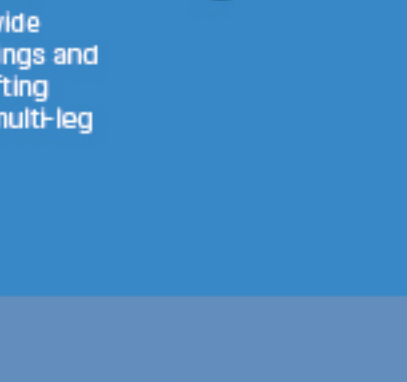
T



Tools

A number of wire rope tools are available to use. A valuable tool is lubricant which ensures the smooth operation and maximisation of the wire rope lifecycle. For anybody using wire ropes regularly, wire rope cutters are a necessity and will grip the rope to prevent rope ends untwisting during cutting. Crimping tools can be used to crimp ferrules onto wire rope.

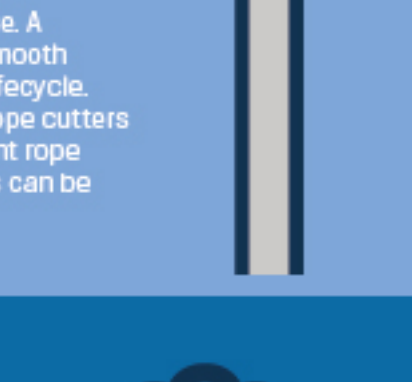
U



Uses

One of the main benefits of wire rope is its sheer versatility and its potential uses and applications. Wire rope is used in an incredibly diverse number of ways across a wide variety of industries and sectors [6].

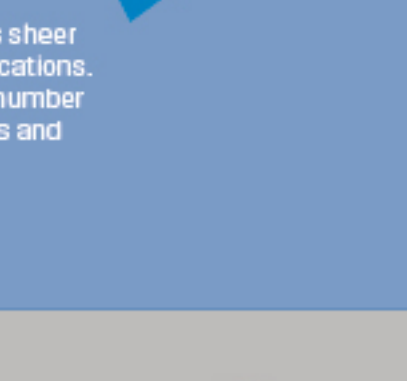
V



Vibration isolators

As the name suggests wire ropes can suffer from vibrations and shocks. Wire rope isolators [5] can help absorb shocks and vibrations, particularly in extremely demanding settings.

W



Wire

A main element of wire rope is naturally the "wire" it is made up from which is shaped into a "rope". The wire is usually metallic, but could also be made from natural and/or synthetic fibres.

X



XIP (eXtra Improved Plow Steel Grade)

OK, "X" was quite hard, but we can discuss here XIP and wire rope grades [7]. XIP stands for improved plow steel grade, which is available in standard (XIP) or galvanised (GXIP) versions. View the link we have provided to see a selection of abbreviations for different wire rope types.

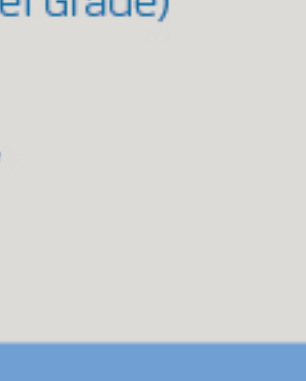
Y



Yield strength

Calculation of the yield strength for wire rope can actually be quite complicated, so it's a good job we've provided this link! [8] When using wire rope it's essential to understand aspects such as the minimum breaking strength and recommended safe load.

Z

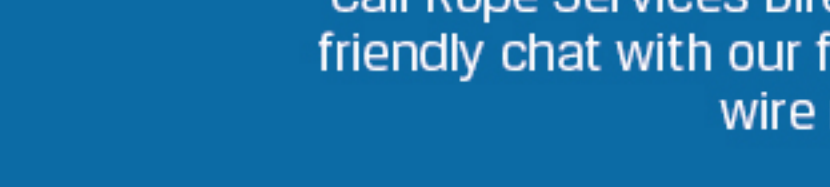


Zinc plated/coated

Zinc plating/coating is frequently applied to wire rope to prevent oxidation and corrosion of the metal in the wire rope which lies beneath the surface. This process of zinc plating is also often called galvanization.

Buying wire rope from Rope Services Direct

Well that's it; we have now completed our "A-Z of wire rope". Call Rope Services Direct today on 01384 78004 to have a friendly chat with our friendly experienced staff about your wire rope requirements.



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