

# The UK's Top 10 Copper Based Alloys

## Ultimate Alloys

### **NIBRON SPECIAL® - The Super Strength Nickel Bronze**

Offers a superb combination of properties not found in any other alloy, specially formulated to give high strength and an excellent corrosion resistance, together with an exceptionally low magnetic permeability, resistance to sparking, galling and seizure. It is resistant to hydrogen embrittlement and stress corrosion cracking in a wide variety of media. Often used for high strength bolting marine shafts & bushes, sub-sea fasteners & couplings, landing gear and other critical engineering components.

### **TROJAN™ - Extra High Strength Copper Nickel Silicon**

Developed by careful control of alloy composition, fabrication and heat treatment to optimise its high mechanical performance. The alloy possesses excellent strength, high corrosion resistance, superb wear resistance, anti-galling and good dimensional stability. TROJAN out-performs many alternative alloys in areas such as high performance engine valve guides, electrical connectors, bearing bushes, die casting plunger tips, plastic injection mould inserts and tooling.

### **COLSIBRO® - The Multi-purpose Alloy**

A Copper Nickel Silicon alloy offering a remarkable blend of properties. The alloy's combination of strength, corrosion resistance, high conductivity, wear resistance, spark resistance, cryogenic properties and numerous other attributes has enabled COLSIBRO to find a place in virtually every field of engineering, from automotive to electrical and mechanical to marine. A truly multi purpose alloy!!!

### **COLSPEED 90™ - Free Machining Aluminium Bronze**

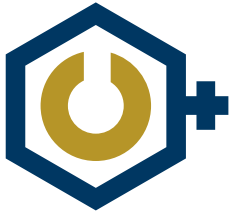
An Aluminium Bronze with excellent machinability. Having the basic composition, mechanical properties and corrosion resistance of a high strength Nickel Aluminium Bronze, the addition of a fine dispersion of lead particles dramatically improves the machining characteristics making it the perfect choice for intricate parts. It also improves the self lubricating and anti-friction properties, making the material ideal for wear applications such as shafts, bushes, wear plates and couplings.

### **COLPHOS 90™ - Free Cutting Phosphor Bronze**

A small addition of lead gives this alloy its exceptional machinability, excellent wear resistance and bearing properties. It also offers good mechanical properties, excellent corrosion resistance, good thermal and electrical conductivity and a low magnetic permeability, making it ideal for many mechanical and electrical uses. With a beautiful golden colour it is readily engraved and enamelled. The ease of finishing is also a great advantage with the fine grain size and smooth surface resulting in easy polishing, buffing and plating, making the alloy very attractive for many decorative applications.

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## **BECOL-25™ - Beryllium Copper**

Supplied solution heat treated, for optimum workability, Becol-25 is capable of attaining the highest strength and hardness of any commercially available copper based alloy following final aging. This strength combined with a very good corrosion resistance, high electrical and thermal conductivity, spark resistance and low magnetic permeability create a superb engineering alloy. Used in applications such as die-casting plunger tips, connectors, springs, fasteners, offshore drilling equipment, precision instruments, valve, pump & shaft components, resistance welding electrodes, seam welding electrode shafts and bearing bushes.

## **CHROMZIRC 328™ - Copper Chromium Zirconium**

A high copper alloy containing small additions of chromium and zirconium which significantly increase the strength and high temperature softening resistance, whilst maintaining outstanding electrical and heat transfer properties. It has traditionally been used for resistance welding equipment, switchgear components, circuit breaker parts, rotating electrical machinery, current carrying arms and shafts, switch contacts, heat sinks, MIG welding contact tubes, soldering iron tips and any other electrical or thermal conductor applications requiring greater strength than copper.

## **COLDUR-A® - High Silicon Bronze**

One of the most versatile copper based alloys with unique fabrication properties. This reddish old gold material is aesthetically pleasing to architects. It offers good strength properties, excellent corrosion resistance and a good resistance to wear, shock and creep. COLDUR-A has exceptional forgability and can also be easily hot or cold formed, it is readily machinable and can be joined by a variety of methods. The alloy of choice for artisan blacksmiths and traditionally used for architectural metalwork, outdoor signs, gates and sculptures, it has also established itself as popular grade for marine hardware, chemical processing plant, pressure vessels, fasteners, bushes, tie rods, springs and pump shafts.

## **ZAMALLOY™ - High Tensile Aluminium Brass Rod**

A high performance, high aluminium brass having strength and hardness far in excess of other high tensile brasses. It is noted not only for these high mechanical properties, but also its excellent resistance to corrosion, erosion, wear, abrasion and fatigue. These features plus a low friction and high galling resistance make the alloy ideal for aerospace and marine applications. It is most frequently specified for highly stressed components subject to wear, such as landing gear bearing bushes, shafts, axles, pump and valve trim, slides, pins and fasteners.

## **COLBRONZE™ - High Strength Phosphor Bronze**

A high performance 8% tin (phosphor) bronze which possesses exceptional bearing, wear and spring properties, combined with excellent fatigue and corrosion characteristics in marine and other corrosive environments. It is utilised in a wide range of industries for components such as heavy duty fasteners, bearing bushes, drive shafts, pump and valve components, high performance engine valve guides, electrical clamps and connectors.

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Our technical advisory team can assist you on material selection and other specific questions. Contact us now for a competitive quote:

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