



## Metal Alloys Corporation

Manufacturer & Exporter of Copper and Copper Alloys Products

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Corporate Contact

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Nearest Domestic Air Port : Jamnagar - 3 kms.  
Nearest International Air Port : Ahmedabad 325 kms.

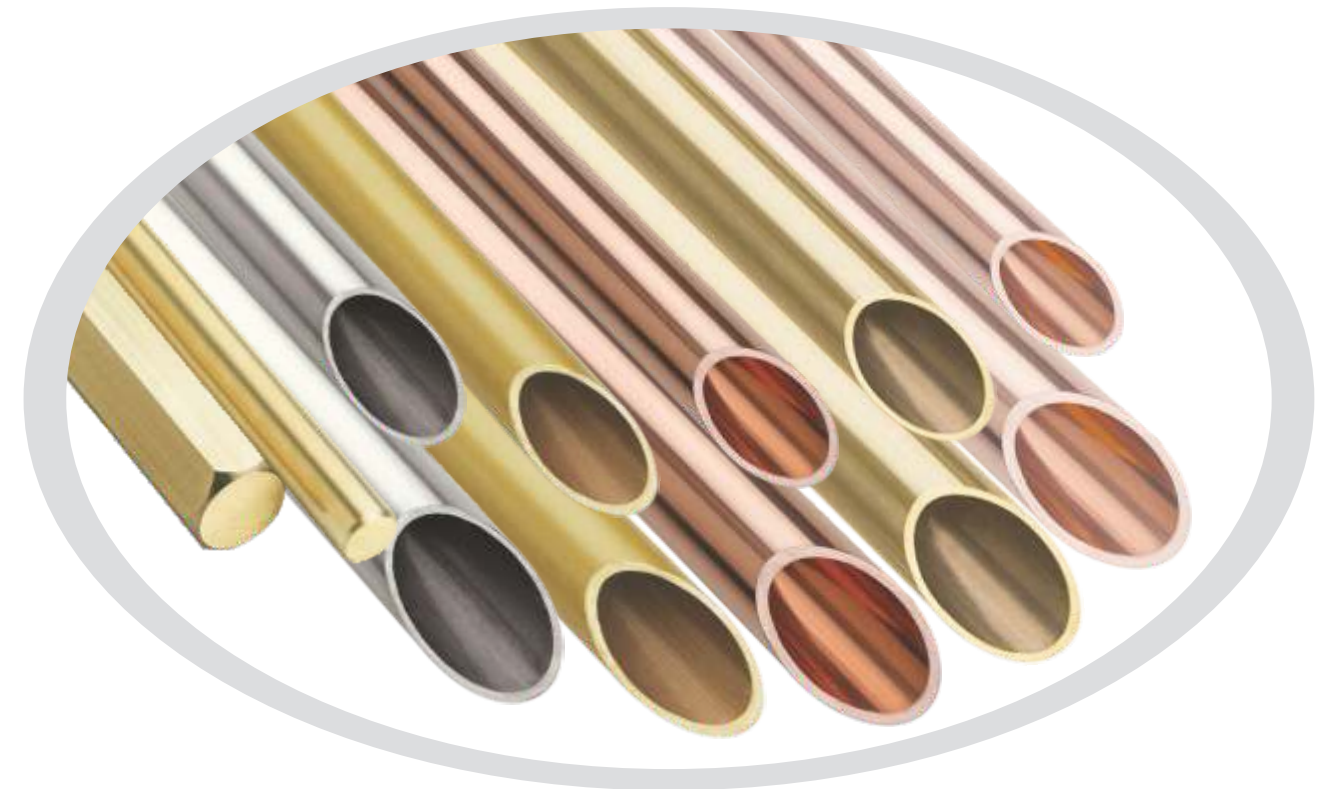


Nearest Port : Kandla - 222 kms., Mundra - 300 kms.

## Metal Alloys Corporation

### Quality, Technology & Vision at its Best

World Class Sourcing Solution for Copper & Copper Alloys Products

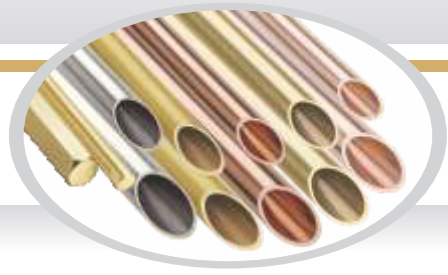


[www.metalalloyscorp.com](http://www.metalalloyscorp.com)

An ISO 9001 Certified Company







## Copper & Copper Alloys

## Seamless Tubes & Solids



ENGINEERS INDIA LIMITED  
(A Govt. of India Undertaking)

We are...

Metal Alloys Corporation - One of the leading manufacturer of Copper and Copper Alloys Cast, Extruded and Drawn products, viz. Billets/Ingots, Mother Shells, Tubes/Pipes, Hollow/Solid Rods, Sections, Profiles etc.

QUALITY:

METALCO is an ISO 9001 Certified unit having sophisticated quality control & quality assurance systems along with an ultra modern chemical & physical testing laboratory having Computerized Spectroscopic Analyzer for precise alloying, Multi - Range Microscope for micro structure examination, Eddy Current Testing, Hydraulic Pressure Testing etc.

TECHNOLOGY:

METALCO - with a production capacity of 6000 MT per annum sprawls across an area of 150,000 sq. ft. with a unique design of the constructed area of 60,000 sq. ft. which maximizes productivity & enables us to transfer benefits of the large scale operations to the customers. In order to consistently manufacture international quality products, the company has employed a dedicated team of highly qualified and experienced Engineers and Management Professionals.

VISION:

The vision of the management & the technical expertise of entrepreneurs led to the design, construction and installation of state of art manufacturing facility for casting, extrusion, pilgering, cold drawing, finishing, inspection and testing, under one roof.

Our Pride

SIEMENS

GEA

Godrej



ThyssenKrupp

एनटीपीसी  
NTPC

TATA  
TATA POWER



बी एच ई एल  
BHEL

Lloyd's  
Register

Reliance  
Industries Limited

KNPC

इंडियन ऑइल  
IndianOil

भारत पेट्रोलियम  
HP

भारत पेट्रोलियम  
Bharat Petroleum

اورپک  
Orpic

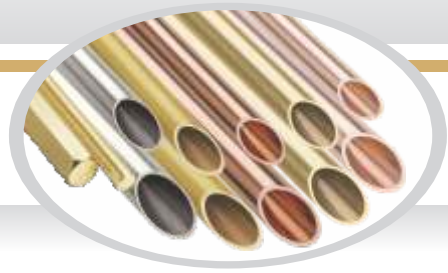
تکریر  
TAKREER

ادما  
ADMA

sasol  
reaching new frontiers

سابک  
SABIC





# Copper & Copper Alloys

## Products & Products Details

METALCO Specializes in manufacturing following Copper & Copper Alloys Seamless Tubes for Heat Exchangers & Condensers.



### ● ADMIRALTY BRASS

Admiralty Brass is generally used with fresh, clean waters free from suspended abrasive solids and Originating from rivers lakes and canals. It may also be used with brackish or even saline water. The inhibitive action of Arsenic Protects Admiralty Brass from dezincification and the fully annealed alloy can also withstand stress-corrosion cracking.

Admiralty Brass used in Heat exchangers & Condensers, Automobile Industry, General Engineering Purposes, Industrial Refrigeration, Radiator, Evaporator copper Tubes.

### ● ALUMINUM BRASS

Aluminum Brass is generally used with brackish or sea water. Through its arsenic inhibition, it is virtually immune from dezincification and when fully annealed, also practically free from stress corrosion racking. Aluminum Brass Tubing which are preferred across the globe owing to its superior quality, durability and accurate dimensions.

Aluminum Brass used in Heat exchangers & Condensers, Automobile Industry, Industrial Refrigeration Oil Burner Tube, Radiator, General Engineering Purposes, Evaporator.



### ● 90/10 COPPER NICKEL

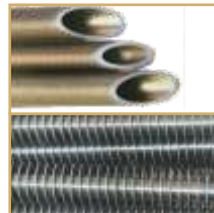
90/10 Copper Nickel is widely used in sea water. It has very good corrosion resistance to clean or moderately polluted marine or estuary water, even containing dissolved incondensable gases Known for their flexibility, high corrosion resistance, superior tensile strength, trouble free installation and maintenance.

Excellent corrosion resistant to turbulently used in condensers for coastal power plants, petroleum refineries and chemical plants.

### ● 70/30 COPPER NICKEL

Our 70/30 Copper Nickel Tubes are sturdy in construction dimensionally accurate, corrosion resistant, easy to install and maintenance free. Available in different standard specifications, the tubes can also be customized as per the clients' specifications at nominal prices.

High impingement corrosion resistant to brackish sea water at velocities upto 3 to 4 m/sec used in desalination plants and other sea water condenser application.



### ● FINNED TUBES / PIPES

METALCO offers different finned tubes: Integral Fin Tubes (Low Fin Tubes) and External Fin Tubes (High Fin Tubes) Low Fin (Integral) Tubes tension wound finned tubes, copper fin tubes, embedded finned tubes, extruded finned and low finned Tubes. Tension wound finned tubes are formed by winding a strip made of Aluminum or copper around the tube under tension. The strip winding technology provides different types of fins: L-fin, LL fin, KL fin, G-Fin. High Fin, are obtained by roll forming the outer surface of a plain tube. This process results in an increase in strength of the finned sections, whereas the plain ends and lands remain soft. The fin density ranges from 19 fins per inch to 26 fins per inch. The finned tubes quality is assured by hydrostatic and pneumatic tests

### ● U-BEND TUBES / PIPES

METALCO manufactures U-Bend tubes confirming to the international Standards and as per the customer requirements. These tubes have been added to our product range so to offer added value to our esteemed customers. Roundness, Straightness, Uniformity of the wall thickness and inner and outer surface of the tube are the unique features so as to make them suitable for intended.

Applications. U-bend tubes are mainly used to enhance the design of heat exchangers & Condensers.



### ● 85/15 – RED BRASS TUBES

METALCO make 85/15 Red Brass is the most durable of all metals for commercial water pipe in the practical price range. Excellent for its resistance to dezincification and season cracking for which the high copper brasses are known. Moderate strength and good retention of spring properties. Specified for underground service lines since it offers greatest corrosion resistance to all types of potable waters. Other Applications include costume jewelry, fire hose couplings, zippers, condenser and heat exchanger tubes.



# Seamless Tubes & Solids



## Products & Products Details

METALCO Specializes in manufacturing following Copper & Copper Alloys Tubes for Sugar, Air - Conditioning, Refrigeration, U Tube Bundle, Finned Tubes



### ● DHP / DLP COPPER TUBES

We are one of the leading manufacturers, exporters and suppliers of a large array of DHP/ DLP Copper Tubes These are used in different industries due to their flawless quality, durable finish standards rigid construction, reliable performance and corrosion & wear resistance. General Engineering Purpose & Electrical Component.

### ● 70/30 SUGAR BRASS TUBE

Being the leaders in the industry, we are engaged in manufacturing and exporting a varied assortment of 70/30 Brass Tubes, Condenser Tubes. Precisely manufactured using premium grade raw materials that are sourced from trusted & reliable dealers, the brass tubes offered by us are used in various industries including, sugar & general engineering. Our 70/30 Brass Tubes are sturdy in construction, easy to install, durable, corrosion proof and offered at nominal costs.

Our Tubes are used in Sugar Industries, Plumbing & Fittings, Furniture, Hand Pumps and Ammunitions.



### ● 63/37 BRASS TUBES

We are one of the leading manufacturers, exporters and suppliers of a complete line of 63/37 Brass Tubes. These are manufactured by adept technicians in accordance to the set domain guidelines & norms to ensure excellent performance, durability, rugged construction, reliable operation and corrosion resistance. We offer Tubes with polish & mirror finished Surface.

Tubes are specially for Faucets & Sanitary, Plumbing & Fittings, Furniture and Hand Pumps.

### ● DZR (LOW LEADED BRASS ) / ECO BRASS

The DZR Brass or Eco Brass of products carefully finds a balance between lead free compliance strategies and the reviling necessity of remaining competitive and maintaining productivity. As opposed to other lead free or low lead alternatives; DZR / Eco Brass has taken a more customer-centric approach when it developed its lead free alloys and assembled the products. Instead of simply replacing the lead with potentially. used in Potable water components, fixtures & applications, plumbing applications & systems, Forged products requiring lead free &/or dezincification compliance We are manufacturers and develop dezincification-resistant alloys which retain the appreciated properties of free-machining brass on the one hand and the excellent, lowcost workability into turned or forged parts on the other.



### ● HIGH TENSILE BRASS HOLLOWS

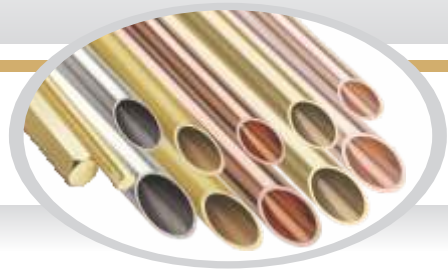
Metalco is the world's biggest producer of high-tensile brass, these alloys meet the more and more complex requirements given by specific applications. The material properties of brass alloys can be influenced very effectively by alloying additional elements such as aluminum, manganese, silicon, nickel, tin. The so-called high-tensile brass alloys show a modified microstructure resulting in optimized and custom-tailored material properties.

### ● LEADED BRASS HOLLOWS / PIPES

We are manufacturer of brass hollow rods and brass hollow bar with wide range of inner and outer diameters, alloys & grades. These rods and bars are said to be the best alternative for machined parts which has bore like cable glands, brass sleeves, valves and various other brass components which has bore in its center. Industry using hollow rods are Precision Components, hardware, cable glands, automobile electronic parts. industrial valves, defense components watch case Marine Industry and sanitary parts industry. Hollow bars are very thick seamless tubes that can be used as machining stock instead of solid bar. They offer a cost effective alternative for the manufacture of various turned components used in the automotive industry. Metal Alloys Corp. can supply Hollow Bars in standard or customized grades of Copper and copper Alloys







# Copper & Copper Alloys

## Our Special Products



### ● TUBE FOR BEARING CAGE MANUFACTURER

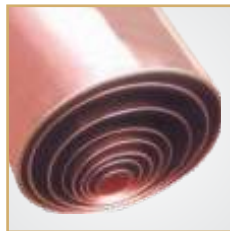
Metal Alloys Corporation is one of the world largest and most diversified manufacturers of specialized seamless tubes. We produce seamless tubes ranging from an outside diameter of 8 mm to 110 mm.

These Tubes are used in manufacturing different Bearing Cages such as Taper Roller Bearings Cage, Spherical Roller Bearing Cage, Ball and Cylindrical Roller Bearing Cages Etc. These Bearing cages finds its application in the bearing for construction machinery gear construction, vehicle manufacture, rolling mills & railway wagons. They are suitable for applications which require high-speed rotation, low vibration, and low noise as in transmissions, electric motors & generators, pumps, compressors, gear boxes, drive elevators, textile machinery, printing machinery and two wheeler axles.

### ● TUBES FOR FAUCETS & SANITARY

A Copper and Zinc Alloy containing small amount of Arsenic. This is added as an inhibitor against dezincification. The alloy exhibits a good combination of strength and ductility and is commonly selected whenever excellent cold working properties, bright finish and relatively low cost are desirable. Severe environment must be considered to predict corrosion behavior. The alloy is often used for variety of deep drawn components.

We provide a complete range of sizes and types, engineered to exact specifications to meet the highest standards of performance. with buffing, polishing and bending specially for Faucets and sanitary We offer these tubes in different shapes, Round, Square, Rectangle, D-Profile, octagon and profiles.



### ● TUBES FOR SHIPBUILDING / MARINE & NAVAL APPLICATIONS

Metal Alloys Corporation is proud to serve the marine and naval industry. For decades, seawater pipe systems made of cupronickel alloys have been put to successful use on seagoing vessels and offshore production unit like platforms, drilling rigs and semisubmersible FPSO's. The chemical composition of CuNi 90/10 and CuNi 70/30 cupronickel alloys meet the requirements for all the main international standards. Please read our brochure for more information and specifics.

Metal Alloys Corporation sells alloy 706/7062 copper nickel. Copper nickel is most commonly used for marine applications because of its high seawater corrosion resistance and anti-biofouling properties. 706/7062 copper nickel offers the best characteristics for marine hardware and can be formed, bent, and welded. This product is available in pipe, tube and Rods product forms cut to your specifications. 706/7062 copper nickel has excellent soldering, brazing, gas shielded arc welding, and butt weld fabrication properties.

### ● TUBES FOR SYNCHRONIZER RINGS MANUFACTURER

We Supplies Tubes / Hollows for Synchronizer Rings manufacturer, this synchronizer rings can be used in highly stressed transmissions, Gears We have a state-of-the-art production unit that is well equipped with latest technology and sophisticated machines. Our workforce comprises of skilled professionals, experts and laborious workers. Our professionals contribute comprehensive knowledge to meet our clients' specifications and maximize their satisfaction. These are machined in line with the set industry standards using qualitative raw materials that are sourced from authentic vendors of the domain.

These Tubes are of Grade : CuZn36MnAl2Si1, CuZn37Mn3Al2PbSi1, CuZn30Mn8Al3Si1NiCr and as per CuZn40(DIN), MBA2 Cr.



### ● TUBES FOR FITTINGS, FLANGES & ELBOWS

Metal Alloys corporation provide Tubes/pipes which are used in fittings and flanges, we supplied Tubes/Pipes for manufacturer of Flanges & fittings which are used in plumbing, heating and related mechanical applications. air conditioning systems as well as drainage, waste and vent piping for use in residential, commercial, industrial and institutional applications.

Our range of Tubes and Pipes can produce as per your drawings and specifications.



### ● BRASS TUBES FOR WATER-LUBRICATED BEARINGS

METALCO manufactures Brass Tubes, Naval Brasses & Leaded Brasses for the Water-Lubricate Bearing manufacturer which confirming to the international Standards and as per the customer requirements. These tubes have been added to our product range so to offer added value to our esteemed customers. This Water-Lubricate Bearings offer an alternative solution to the ever growing concerns of environmental restrictions, the high costs of maintenance and the replacement in today's marine industry.



# Seamless Tubes & Solids



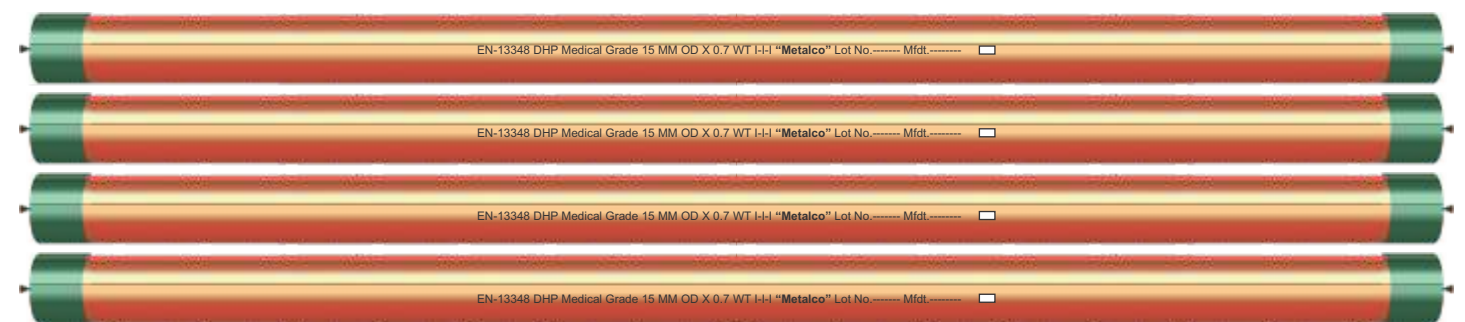
### ● MEDICAL GRADE COPPER PIPES - MGPS AS PR EN 13348

At Metal Alloys Corporation we proudly manufacture **METALCO** marked Medical Grade Copper Pipes used in Medical system. Uninterrupted Medical Gas supply is a necessity in hospitals (ICCU, Operation Theater, Wards, Nursery etc.) Pipemost effective manner.

**METALCO** marked medical grade copper tubes are manufactured as per EN13348 / BS EN 1057 specifications. The pipes are manufactured under thorough inspections and quality control measures.

**METALCO** marked medical grade copper tubes are available in size range 6mm to 108mm OD, 0.6mm to 2.0mm wall thickness in Half Hard/Hard conditions and Length 3 meter or as per requirement.

**METALCO** Pipes are subjected to TPI by reputed agencies like Lloyds Register SGS, TUV as per customer demand. Mandatory Specifications and **METALCO**



### METALCO Copper Tubes for Plumbing & Potable Water Supply Application as per EN 1057

Metal Alloys Corporation proudly manufactures **METALCO** marked Plumbing & Potable Water Supply Grade Copper Tubes as per EN1057. **METALCO** Plumbing Grade copper tubes are manufactured by the European standard EN: 1057 For Water, gas and sanitation. The pipes are manufactured under thorough inspections and quality control measures.

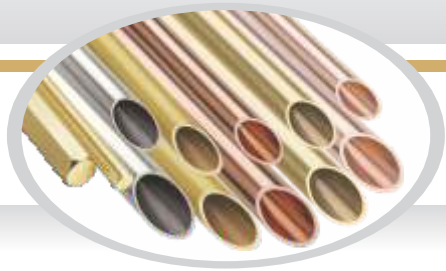
### Aplication

The METALCO make Copper Tubes can be used supply of Hot / Cold Water and varied Plumbing applications. Also as Anti - Bacterial capacities of Copper Make METALCO Copper Tubes perfect means of supply for potable Water.



### Properties

The METALCO Copper tubes have high tensile strength, thin walls and easily bendable hence is easy to work with. METALCO Plumbing Grade copper tubes are provided as per EN 1057. METALCO Plumbing grade copper tubes are available in size range 10 mm to 159 mm OD, 0.6mm to 2.0mm wall thickness in Half Hard / Hard conditions. and Length 3 or 6 meter as



# Copper & Copper Alloys

## Capabilities

Production range : TUBES / RODS / HEX / SQUARE / FLAT / PROFILE / HOLLOWS		
Tubes	6.35 mm to 110 mm	
Round Wires	1 mm to 8 mm	
Round Rods	6 mm to 250 mm	
Hex	5 mm to 60 mm	
Square	4 mm to 60 mm	
Flat	5 mm Min Thickness and Max Width 120 mm	
Profile	As per Customer Drawing	
Hollow Rods	Min Bore size 20 MM and Max OD 130 mm	
Condenser Tubes Ingots / Billets / Mother tubes / Pilger Tubes / Finished Tubes / Finned Tubes / U- Bend Tubes / Rods	Admiralty Brass  Aluminum Brass  Aluminum Bronze	ASTM B 111 C 44300/ ASME SB 111 C 44300 / BS 2871 Part 3 CZ - 111 / EN 12451 CuZn28 Sn1As - CW 706R / NFA 51 102 CuZn29Sn1 / JIS H 3300 C 4430 ASTM B 111 C 68700/ ASME SB 111 C 68700 / BS 2871 PART 3 CZ - 110 / EN 12451 CuZn20 AL2As-CW 702R / NFA 51 102 CuZn22 Al2 / JIS H - 3300 C 6870 / ASTM B 111 C60800 / ASME SB 111 C 60800 / EN 12451 CuAl5As / CW300G
Cupro Nickel Ingots / Billets/ Mother tubes / Pilger Tubes / Finished Tubes / Finned Tubes / U- Bend Tubes / Rods	70/30 copper Nickel  90/10 Copper Nickel  95/5 Copper Nickel	ASTM B 111 C 71500 / ASME SB 111 C 71500/ BS 2871 part 3 CN 107 / EN 12451 CuNi 30 Fe 1 Mn - CW 354H,CW 353H / NFA 51 102 CuNi 30 Fe 1 Mn / JIS H 3300 C 7150 / ASTM B 111 C 70600 / ASME SB 111 C 70600 / BS 2871 Part 3 CN 102/ EN 12451 CuNi10 Fe 1Mn - CW 352H / NFA51 102 CuNi10 Fe1Mn / JIS H 3300 C 7060 ASTM B 111 C 70400/ ASME SB 111 C 70400 / BS 2870 CN 101/ ISO 1635 CuNi5Fe1MN/ JIS C 2532 GCN10 / DIN CuNi5fe / DIN 17658 20862
Copper Ingots / Billets / Mother tubes / Pilger Tubes / Finished Tubes / Finned Tubes / U- Bend Tubes / Rods/ Pancake Coils	DHP Copper DLP Copper  EC / ETP Copper  Other Copper	ASTM B 68 C 12200 / ASTM B 75 DLP C12000 / BS 2871 Part 2 C 101 / BS 2871 Part 3 C 106/ EN 12451 DHP - CW 024A / JIS H3300 C 1220 ASTM B 68 C 12200/ ASTM B 75 DLP C12000 / BS 2871 Part 2 C 101 / BS 2871 Part 3 C 106/ EN 12451 DHP - CW 023A / JIS H3300 C 1220 ASTM B 68 C 12200/ ASTM B 75 DLP C12000 / BS 2871 Part 2 C 101 / BS 2871 Part 3 C 106 / EN 12451 DHP- CW 004A / JIS H3300 C 1220 Beryllium & Chromium Copper, Cadmium Copper, Sulphur Copper, Arsenic Copper, Tellurium Copper, Zirconium Copper, Commercial Copper
Lead Free Brass Ingots / Billets / Mother tubes /Pilger Tubes / Finished Tubes / Rods (Solid and Hollows) - Hex / Rectangles / Square / Profile	70/30 Brass  65/35 Brass 63/37 Brass 60/40 Brass Red Brass Naval Brass	ASTM B 135 C 26000 / BS 2871 Part 3 CZ - 126 / EN 12449 CuZn30As CW 505L / NFA 51 102 CuZn30 / JIS H 3300 C 2600 / AS 1572 26130 ASTM B 135 C27000 / CuZn35 / BS Cz107 ASTM B135 C 27000 / JIS H33000 C 2700 / ISO 1637 CuZn37, ASTM C27200, IS4413 grade I&II / EN 12449 CW 507L IS 4170/67 ASTM C36500, CZ109, JIS3250H C-2800 ASTM B135 C 23000 / BS 2870 CZ 102 / EN 12449 CW 502L /JIS H3300 C 2300 ASTM C69400, C69430 Is291 Grade I or II / BS 2874 CZ 112 / JIS 3250 C4622 / ASTM C48200, C48500, C46200, C46400 / En 12167 CW 714R
DZR Brass Eco Brass/DZR Brass (Dezincification Resistant Brass) Rods (Solid and Hollows) - Hex/ Rectangles/ Square/ Profile	Lead Free Brass Dezincification Resistant Brass Copper-Lead-Zinc Alloys Low Leaded Brass Leaded Muntz Metal DZR Forging Brass	C27450, ISO CuZn37, EN CW508L, UNS C35200, BS CZ132, EN CW602N  JIS C36300, ISO CuZn37, EN CW508L JIS C33000, ISO C330, EN CW705R C36500,EN CW610N, ISO CuZn40Pb C48600, ISO CuZn28Sn1, EN CuZn28Sn1As, BS CZ 111, JIS C4430, Russian L62-1
Leaded Brasses Rods (Solid and Hollows) - Hex/ Rectangles/ Square/ Profile	Free Cutting Brass Forging Brass High Tensile Brass Rivetting Brass Nickel Silver	ASTM B 455 / B 16 C 38500 / C 36000/ BS 2874 CZ - 121Pb3 or Cz124 / IS319 Grade I/ II/ III/ JIS3250 H C3604 or C3602/CW 614N/CW 603N ASTM B 124 C37700/ BS 2874 CZ 122/ IS 3488 Forging Brass / CW 608N IS 320 HT1 or Ht2 / BS 2874 CZ114 or Cz115 / JIS 3250H C6782 or C6783,BS1001-Type I&II, IS 8737 - II IS 4170 CuZn40 / BS 2874 Cz109 / JIS 3250 H C2800/ ASTM B171 C 36500/ IS 4413 CuZn37 / BS 2872 CZ108,CZ 131 IS 10757 Nickel Silver / BS 2874 Ns 101 / ASTM 79830 / Nm3 / Nm6 / C79830
Bronze Ingots / Billets/ Mother tubes/ Pilger Tubes/ Finished Tubes/ Rods (Solid and Hollows) - Hex/ Rectangles/ Square/ Profile	Tin Bronze Aluminum Bronze  Aluminum Silicon Bronze Leaded Commercial Bronze Phosphros Bronze Manganese Bronze Nickel Alu. Bronze	ASTM B30 C92600, C92600, PB102, BS1400 (Pb1), BS 1400 GI  ASTM B 111 C60800 / ASME SB 111 C 60800 / EN 12451 CuAl5As / CW200G/C61400/ C95400/61800 C62300/ C62400/ C62500/ C95200/ C95900 / CuAl11Ni5Fe5, BS1400-AB1 & AB2,BS2874 CA104 & Ca103 ASTM B 150 C 64200 / SAE J 463 C 64200/C63600 / C65620 / C65100 / C65500 / C65610 ASTM B 140 C31400 ASTM B103 C 51000 / SAE J 463 C 51000 / BS 2874 PB 102 / CW 451K C67300 / C67500 / C66800 / C67400 / C67600 / C86200 / C67000, BS 1400/ HTB - 3 C63000 / C63020 / C63200 / C95510 / C95500 / C95520/ CuAl10Ni5Fe4 / CW307G / C95800 / C96900  IS 10569: 1983 - Grade I,II & III

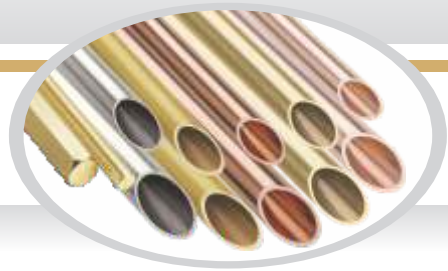


METALCO

# Seamless Tubes & Solids

BRASS ALLOYS							
CATEGORY/STANDARD	ASTM	BS	EN	JIS	DIN	ISO	
Leaded Brass (General Reference Density 8.5 gm/cm3)							
High Leaded Brass	C34500	CZ131 / CZ119	CW601N/CuZn35Pb2	C3560	2.0331	CuZn34Pb2	
Forging Brass	C37700	CZ120	CW608N, CW617N	C3771 BE	2.038	1634-CuZn38Pb2	
Threaded Rolling Brass	C35300	CZ119	CW606N	H3260(92)C3501 W	CuZn44Pb2	1639-CuZn43Pb2	
Free Cutting Muntz Metal	C37000	CZ124	CW607N	H3100(92)C3713	2.0372		
Free Machining Brass	C36000	CZ124	CW603N	C3601	2.0375	CuZn36Pb3	
Architectural Bronze	C38500	CZ121	CW614N	C3603	CuZn39Pb3	1637-CuZn39Pb3	
Architectural Bronze	C38000	CZ122	CW618N	H3100 C3561	CuZn39Pb2	1634-CuZn39Sn1	
Naval Brass(General Reference Density 8.44 gm/cm3)							
Naval Brass	C46200	CZ112		H3100(92)C4621 P			
Naval Brass	C46400	CZ114	CW719R	H3100(92)C4640 BE	2.053	1634-CuZn38Sn1	
Naval Brass	C48200		CW714R		CuZn37Pb1Sn1	426-1 CuZn37pb1Sn1	
Naval Brass	C48500	CZ134	CW711R		2.0371	CuZn39Pb2Sn	
Nickel Silver Brass (General Reference Density 8.6 gm/cm3)							
Nickel Silver Brass	C77400						
Nickel Silver Brass	C77600						
Nickel Silver Brass	C79800		CW400J		2.077	1637-CuNi10Zn42Pb2	
Nickel Silver	C79860		CW407J		2.075	CuNi12Zn37Mn6Pb2	
Yellow Brass (General Reference Density 8.45 gm/cm3)							
Cartridge Brass Yellow Brass	C26000	CZ106	CW505L	H3250(92)C2600 BE	2.0265	CuZn30	
Yellow Brass	C27000	CZ107	CW507L	H3250(92) C2700 BE	2.0335	CuZn36	
Yellow Brass	C27200	CZ108	CW507L	H3100(92)C2720	2.0321,CuZn37;CuZn36	1637-CuZn37	
Yellow Brass	C27400	CZ108	CW508L	H3100(92)C2720	CuZn37	1634 -CuZn37	
Yellow Brass	C27450	CZ109	CW509L	-	2.036	CuZn37	
Yellow Brass	C27451	-	-	-	-	-	
Yellow Brass	C28500		CW510L			CuZn42	
High Tensile Brass (General Reference Density 8.45 gm/cm3)							
High Tensile Brass	-	BS1400 HTB1	CC765S	-	2.034	CuZn35Mn2AlFe1-C	
High Tensile Brass	-	IS:304 HTB2	-	-	-	CuZn36Al4FeMn	
High Tensile Brass	-	BS1400 HTB3	CC762S	-	CuZn35Al5	CuZn25Al5Mn4Fe3-C	
High Tensile Brass	-	CZ115	CW722 R	-	-	-	
High Tensile Brass	-	CZ135	CW713 R	C6782	2.055	-	
High Tensile Brass	C67500	CZ114	CW721 R	-	-	CuZn39AlFeMn	
Other Brass (General Reference Density 8.45 gm/cm3)							
Aluminum Brass	C68700	CZ110	CW702R	H3300(92) C6870 T	2.046		
Admiralty Brass	C44300	CZ111	CW706R	H3100(92) C4430 P/R	2.047	CuZn28Sn1	
Manganese Brass	C66800	CZ110	-	-	-	-	
Manganese Brass	C66700						
Silicon Brass	-	-	CW708 R	-	2.049/CuZn31Si1	-	
Silicon Red Brass	C69400						
Silicon Red Brass	C69430						
DZR Brass (Dezincification Resistant Brass) / Low Leaded Brass (General Reference Density 8.44 gm/cm3)							
Lead Free Brass	C27450	CZ121				CuZn37	
Muntz Metal	C28000	CZ109	CW509L	C2801	CuZn40	1634-CuZn40	
Low Leaded Brass	C33000		CW705R			C330	
DZR Brass (Dezincification Resistant Brass)	C35330	CZ132	CW602N		2.0375	CuZn36Pb2As	
Dezincification Resistant Forging Brass	C48600	CZ111		C4430	2.0371	CuZn28Sn1	
Copper-Lead-Zinc Alloy	C36300		CW508L			CuZn37	
Leaded Muntz Metal	C36500	CZ123	CW610N			1634 - CuZn40Pb	





# Copper & Copper Alloys

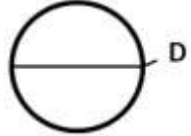

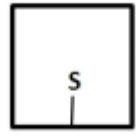
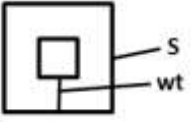

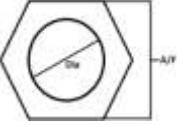

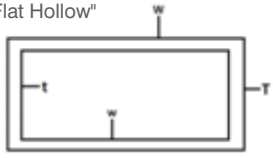
# Seamless Tubes & Solids

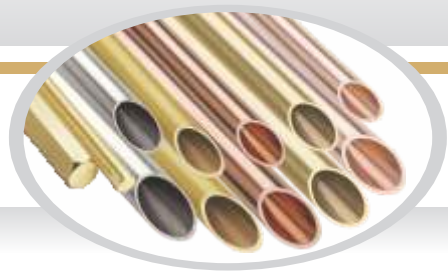


## BRASS ALLOYS

CATEGORY/STANDARD	ASTM	BS	EN	JIS	DIN	ISO
Aluminum Bronze (General Reference Density 7.5 gm/cm3)						
Aluminum Bronze	C61400	CA106	CW303G	H3100(92) C6140 P	2.0932	1634-CuAl8Fe3
Aluminum Bronze	C62500	Ca103				
Aluminum Bronze	C61800		CW305G	Z3341(93)-YCuAl	2.094	1640 -CuAl10Fe
Aluminum Bronze "9A"	C95200		CC331G		2.0941	1338-CuAl10Fe2
Aluminum Bronze	C62300	CA103	CW306G	H3100(92) C6161 BE/BD/BF		2.0966CuAl10Fe3
Aluminum Bronze "9C"	C95400	AB1-C		H5114		
Aluminum Bronze	C62400	Ca106				
Aluminum Bronze	C95900	CW304G		H5111-BC1	2.0962	4382-2 - CuSn8P
Silicon Aluminum Bronze (General Reference Density 8.5 gm/cm3)						
Silicon Aluminum Bronze	C63600					CuAl3Si
Silicon Bronze (AMS 4616)	C65620		CW009A			CuSi3Fe2Sn3
Silicon Aluminum Bronze	C64200	CA107	CW301G		CuAl7Si2	CuAl7Si2
Low Silicon Bronze "B"	C65100		CW115C		2.049	1187-CuSi1
High Silicon Bronze "A"	C65500	CS101	CW116C		2.1525	R1187-CuSi3Mn1
Manganese Bronze (General Reference Density 8.36 gm/cm3)						
Manganese Bronze	C66800					
Manganese Bronze	C67500	CZ114	CW721 R	-	-	CuZn39AlFeMn
Manganese Bronze B	C67000		CW400J		2.077	1637-CuNi10Zn42Pb2
Manganese Bronze	C67600					
Manganese Bronze	C67300	-	-	-	2.0525	-
Manganese Bronze	C86200					
Nickel Aluminum Bronze (General Reference Density 7.6 gm/cm3)						
Nickel Aluminum Bronze	C63000	CA104,CA105	CW307G	H3100(92) C6280 P	2.0966	1634-2-CuAl10Ni5Fe4
Alpha Nickel Aluminum Bronze	C95800	CA104	AB1	H2206(00) AlBCIn2	2.0976	CuAl10Fe5Ni5
Nickel Aluminum Bronze	C63020	CA104	CW307G	H3100 C6301	2.0978	1338- CuAl11Ni5Fe5
Nickel Tin Bronze Spinodal	C96900		CW302G			
Nickel Aluminum Bronze	C63200	CA104	CW307G	CAC303 (HBsC3)	2.0978	1637-CuAl10Fe5Ni5
Nickel Aluminum Bronze 9D	C95500	AB2-C	CC333G	H2206(00)-AlBCIn3	2.094	1338-CuAl10Fe5Ni5
NES 833 - Nickel Aluminum Bronze	C62730	CA 104	CW307G	C6301	2.0966	CuAl10Ni5Fe4
Leaded Commercial Bronze (General Reference Density 8.84 gm/cm3)						
Leaded Commercial Bronze	C31400					CuZn9Pb2
Nickel Leaded Commercial	C31600					
Phosphorus Bronze (General Reference Density 8.85 gm/cm3)						
Phosphorus Bronze	C51000	PB102	CW451K	C5102 / 3270	CuSn4	1634-CuSn5
Phosphorus Bronze	C53400		CW458K	H3270(92) C5341 B	CuSn5Pb1	CuSn5Pb1
Phosphorus Bronze	C51080			H3110(92) C5102 P/R		
Phosphorus Bronze	C51800		CW457K	H3270(92) C5102 B	CuSn4Te1P	
Phosphorus Bronze	C51900	PB103	CW452K	H3110(92) C5191 P/R	2.1025	CuSn6
Phosphorus Bronze	C51980	C11			2.102	CuSn6
Phosphorus Bronze	C52100	PB104	CW453K	H3110(92) C5212 P/R	2.101/2.103	CuSn8
Phosphorus Bronze	C52180		CW460K	Z3441(93) YCuSn B		CuSn8P
Phosphorus Bronze	C52900					
Phosphorus Bronze	C52400	PB1			2.105	427 - CuSn10
Phosphorus Bronze	C52480					
Phosphorus Bronze	C90710	PB1	CC481K			
Phosphorus Bronze	C90810	PB2	CuSn12 / CC483K		CuSn12	

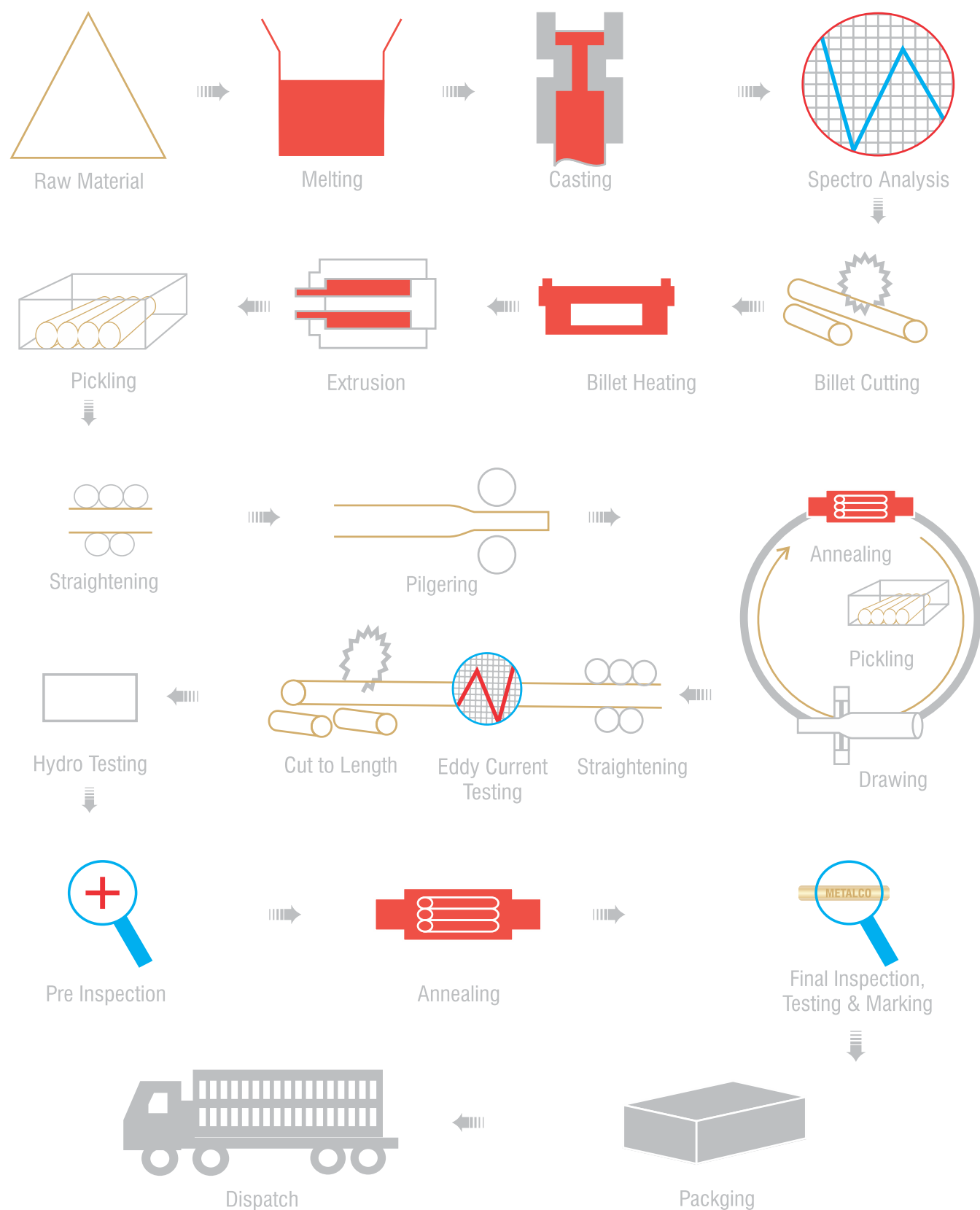
## COPPER ALLOYS

CATEGORY/STANDARD	ASTM	BS	EN	JIS	DIN	ISO
Chromium Zirconium Copper (General Reference Density 8.89 gm/cm3)						
Zirconium Copper	C15000		CW120C	Z3234(99)-CuZr	2.158	CuZr
Copper Chromium Nickel Silicon	C18000	DTD498	CW111C		2.0855	CuNi2Si
Copper Chromium Zirconium	C18150	CC102	CW106C		2.1293	CuCr1Zr
Chromium Copper	C18200	CC101	CW105C		2.1291	1640-CuCr1
Copper Nickel (General Reference Density 8.94 gm/cm3)						
CuNi2.2	C70200					
CuNi11	C70800					
Copper Nickel 95/5	C70400	CN101		C2532-GCN10		
Copper Nickel	C71500	CN107	CW354H	H3300(92)-C7164 T	2.0882	1634-CuNi30Mn1Fe
CuNi6	C70500	Cn102				
Copper Nickel 90/10	C70600	CN102	CW352H	Z3341(93)-YCuNi-1	2.0872	1634-CuNi10Fe1Mn
Other Copper (General Reference Density 8.94 gm/cm3)						
Electrolytic Tough Pitch (ETP)	C11000	C101	CW004A	H3250(92)-C1100 BE	2.006	R1337-CuETP
Phosphorus Deoxidized	C12000	C106	CW009A	H3300(92)-C1201 T	2.0076	Cu-DLP
Tellurium Copper	C14500	C109	CW118C		2.1546	1637-CuTe
Low Leaded Nickel Copper	C19140					CuNiPbP
Leaded Nickel Copper	C19160					CuNi1Pb1P
UNIT	METER	FOOT	INCH	CM	MM	
1 Meter =	1	3.28	39.37	100	1000	
1 Foot =	0.304878	1	12	30.48	304.8	
1 Inch =	0.254	0.08333	1	2.54	25.4	
1 Cm =	0.01	0.0328	0.3937	1	10	
1 mm =	0.001	0.00328	0.03937	0.1	1	
UNIT	Kgs.	Pound/ Lbs.	Grams	Ounce		
1 Kg =	1	2.2046	1000	35.274		
1 Pound / LBS =	0.4536	1	453.6	16		
1 Gram =	0.001	0.0022046	1	0.03527		
1 Ounce =	0.0283	0.0625	28.35	1		
Weight Per Meter (Solid Bars)	Formula		Weight/Meter (Hollows)	Formula		
Round	 (Dia x Dia x 0.785 x density) / 1000		Round Hollow	 (OD-wt)wt x density x 0.00314 Note: OD = outer diameter wt = Wall Thickness => (OD - ID) / 2		
Square	 (S x S x density) / 1000 Note: S = size of square		Square Hollow	 4(S-wt)wt x density / 1000 Note: S = Size of Square, wt = Wall Thickness		
Hexagon	 (AF x AF x 0.866 x Density) / 1000 Note: AF = Across Flats		Hexagonal Hollow	 [(AF x AF x 0.866) - (Dia x Dia x 0.785)] x Density/1000 Note: AF = Across Flat Size of Hexagon Dia = Diameter of Round Hollow inside		
Flat	 (t x w x density) / 1000 Note: t = thickness and w = width		"Flat Hollow"	 i) TW - tw x density / 1000 ii) If wall thickness is provided: [TW - (T-2wt)(W-2wt)] x density / 1000 Note: TW is Outer Thickness x Width and tw is INNER Thickness x Width wt is wall thickness		



# Copper & Copper Alloys

## Process flow chart



# Seamless Tubes & Solids



## Our Plant

Coreless Type Induction Melting Furnace



Horizontal Oil Hydraulic Extrusion Press



PLC Controlled Draw Benches



Cold Pilger Mill



Eddy Current Testing Machine



Hydraulic Pressure Testing Machine



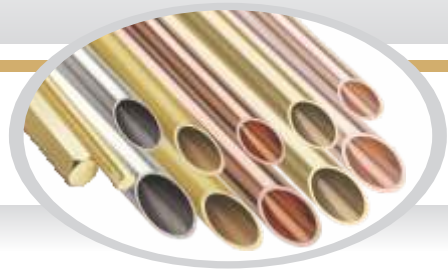
Superior Quality Packing



Roller Hearth Bright Annealing Furnace







# Copper & Copper Alloys

## Our Quality Control

Optical Emission Spectrometer



Chemical Laboratory



Universal Testing Machine



Hardness Testing Machine



### PROCESS EQUIPMENTS

- Coreless Type Induction Melting Furnace
- Channel Type Induction Melting Furnace
- Gas Fired Billet Heater
- 1250/160 M.T. Horizontal Oil Hydraulic Extrusion Press
- Mannesmann Make Cold Pilger Mill
- Roller Hearth Bright Annealing Furnaces
- PLC Controlled Draw Benches
- Straightening Machine

### QUALITY CONTROL EQUIPMENTS

- Optical Emission Spectrometer.
- Universal Testing Machine
- Rockwell / Brinell Hardness Tester
- Brinell / Vickers Hardness Tester Machine
- Conductivity Meter
- Metallurgical Microscope
- Eddy Current Testing Machine
- Hydraulic Pressure Testing Machine
- Chemical Laboratory

### UTILITY

- Diesel Generating Sets
- High Pressure Air Compressors
- Stretch Wrapping Machine
- RO plant for industrial water
- Cooling Towers
- EOT Cranes.

# Seamless Tubes & Solids



## Industrial Application



Refinery



Power Plants



Heat Exchangers



Defence



Petrochemicals



Automobiles



Fittings, Flanges & Elbows



Ship Building



Cable Gland



Faucets & Sanitary Fittings



Ball Bearing Cages



Lugs



Copper Tubes for Isolators



Synchronizing Rings



HTB Busings



Gears

## Industries We Serve

- Sugar Mills
- Synchronizing Rings Manufacturer
- Railways Engine Components
- Fittings, Flanges & Elow Manufacturer
- Electrical Motors Manufacturers
- Automobiles Parts Manufacturers
- Scientific Equipments Manufacturers
- Petro Chemical Industries & Refinery
- Ball Bearing Industries Manufacturers
- Air Conditioning Plants Manufacturers
- Electronic and Electric Components & Equipments
- Telecommunications Components Manufacturers
- Faucets & Sanitary Fittings
- Thermal and Nuclear Power Plants
- Transformer & Switch Gears
- Surgical Equipments Manufacturers
- Watches & Time Piece Manufacturers
- Air Crafts Components manufacturers
- Agricultural Equipments Manufacturers
- Electrical & Water Meters Manufacturers
- L.P.G. & Industrial Valves Manufacturers
- Sanitary Hardware Fitting Manufacturers
- Ship Building / Naval Dock Components
- Condenser & Heat Exchanger Manufacturers
- Heat Exchangers Manufacturers
- Defence
- Fertilizers
- Cement