

## **Copper Wire**

We offer copper rod and a great variety of copper wire of the greatest quality made from the best Peruvian cathode. Our cutting-edge equipment allows us to produce wire from 0.152 to 25 mm with all specifications according to global standards. Our copper wire is known for being free oxygen and having a high electric and thermal conductivity, besides its great hot and cold workability, and corrosion resistance.

Given its high conductivity it's mainly used in the electric industry in the making of cables and conductors. It's also used in the manufacture of components for the automobile and aeronautics industry.

ASTM	COMPOSITION	COMPOSITION		CHES)
	Cu	O2 max	Min	Max
C 101	99.99	0.0005	0.152 / 0.006	25 / 0.984
C 102	99.95	0.001	0.152 / 0.006	25 / 0.984







## **Bars and Shapes**

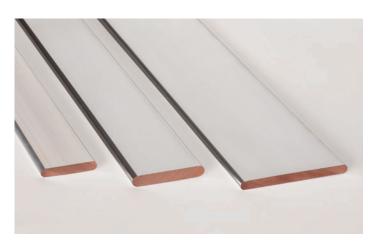
We utilize high purity raw material and cutting edge infrastructure that allowed us to increase our range of these products in sizes and shapes (square, round, hexagonal and special shapes) while maintaining high standards.

These products are known for their great electric and thermal conductivity, high corrosion resistance and machinability that perfectly adapts to the needs of our clients.

Our copper bars have a great variety of uses such as electric conductors, grounding rods, in the making of electronic components and also in the mining and construction industries.

ROUND BARS DIAMETER											
mm	3.18	6.00	12.70	19.05	25.40	31.75	38.10	50.80	76.20	88.90	101.60
inches	0.1250	0.2362	0.5000	0.7500	1.0000	1.2500	1.5000	2.0000	3.0000	3.5000	4.0000







#### **Bus Bar and Flat Wire**

We are a leading company in the manufacture of bus bar and flat wire of high purity copper with a broad range of sizes. Tecnofil supplies products with excellent electric and thermal conductivity, great workability and machinability.

Copper bus bars and flat wires are used in the electric industry in the making of boards, engines, transformers, substations and also in the mining industry.

Tecnofil also offers the silver and tin plating capability enhancing both conductivity and corrosion resistance.

BUS BA	R AND FL	AT WIRE	SIZES (G	AUGE X	WIDTH)										
	mm	12.70	25.40	38.10	50.80	63.50	76.20	88.90	101.60	114.30	127.00	152.40	177.80	203.20	215.90
mm	inches	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	6.00	7.00	8.00	8.50
2.36	0.093														
3.18	0.125														
6.35	0.250														
9.53	0.375														
12.70	0.500														
15.88	0.625														
19.05	0.750														
22.23	0.875														
25.40	1.000														
28.58	1.125														
31.75	1.250														
34.93	1.375														
38.10	1.500														
41.28	1.625														
44.45	1.750														
47.63	1.875														
50.80	2.000														
53.98	2.125														
57.15	2.250														
60.33	2.375														
63.50	2.500														

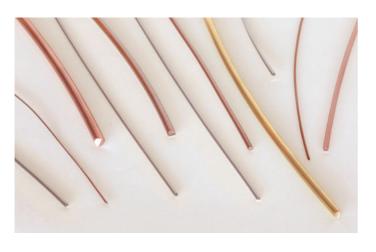


# **Strips**

We also developed a special rolling center to produce copper strips that meet the most demanding quality requirements of our clients.

Our strips are primarily used for electric applications as in the making of electric components, flat and flexible conductors and screen cable.

COPPE	R STRIPS S	IZES (GAU	GE X WIDT	H)									
	mm	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	127.0	152.4
mm	inches	0.375	0.750	1.181	1.575	1.969	2.362	2.756	3.150	3.543	3.937	5.000	6.000
0.06	0.0024												
0.10	0.0039												
0.20	0.0079												
0.30	0.0118												
0.40	0.0157												
0.50	0.0197												
0.60	0.0236												
0.70	0.0276												
0.80	0.0315												
0.90	0.0354												
1.00	0.0394												
1.50	0.0591												
2.00	0.0787												
2.36	0.0930												
3.18	0.1250												
4.76	0.1875												
6.35	0.2500												





## **Copper Alloys**

Tecnofil produces a wide range of copper-based alloys such as brass, silicon bronze, phosphorous bronze, nickel silver and many others according to the needs of our clients.

Copper-based alloys have greater resistance to corrosion and deterioration, great machinability, the ability to withstand air and water oxidation more efficiently, and at the same time maintain their physical properties.

These alloys are commonly used in electrical conductors, cold heading applications, rivets, springs, fuse clips, switch parts, and various other uses for many different industries.

ASTM	CU	ZN	SN	Р	MG
C 210	95.00	5.00	-	-	-
C 220	90.00	10.00	-	-	-
C 226	87.00	13.00	-	-	-
C 230	85.00	15.00	-	-	-
C 240	80.00	20.00	-	-	-
C 260	70.00	30.00	-	-	-
C 270	65.00	35.00	-	-	-
C 272	64.00	36.00	-	-	-
C274	63.00	37.00	-	-	-
C 280	60.00	40.00	-	-	-
C 411	90.00	9.50	0.50	-	-
C 425	88.50	9.25	2.25	-	-
C 501	99.32	-	0.65	0.03	-
C 505	98.46	=	1.35	0.19	-
C 507	98.25	-	1.75	-	-
C 509	96.68	-	3.15	0.17	-
C 510	94.81	=	5.00	0.19	-
C 511	95.61	-	4.20	0.19	-
C 519	93.81	-	6.00	0.19	-
C 521	91.81	-	8.00	0.19	-
C 18661	99.60	-	-	-	0.40

ASTM	CU				ZN
C 649	97.60	1.00	-	1.40	-
C 651	98.60	1.40	-	-	-
C 653	97.70	2.30	-	-	-
C 655	95.80	3.30	-	0.90	-
C 656	96.60	3.40	-	-	-
C 702	97.50	-	2.50	-	-
C 705	93.20	-	6.80	-	-
C 707	90.00	-	10.00	-	-
C 725	88.20	-	9.50	2.30	-
C 745	65.00	-	10.00	-	25.00
C 752	65.00	-	18.00	-	17.00
C 757	65.00	-	12.00	-	23.00
C 760	61.50	-	8.00	-	30.50

ASTM	CU	FE	Р	SN	MN	SI
C 197	98.89	0.75	0.25	-	-	-
C 1921	99.86	0.10	0.03	-	-	-
C 189	98.78	-	-	0.75	0.2	0.275
C 18835	99.65	-	-	0.35	-	-



### **EDM Wire**

Tecnofil produces high performance EDM wire with our best quality brass. Our objective is to offer the most reliable cutting performance in the industry. Our wire is used for EDM (Electrical Discharge Machining), also known as spark eroding, which is a cutting process to manufacture steel parts through electric discharges for the metalworking industry.

We offer EDM wire from 0.152 to 0.35 mm of diameter in 5-20 Kg plastic bobbins.

DIAMETER SIZE (INCHES)	FROM 0.152 TO 0.35 MM / FROM 0.006" TO 0.0	FROM 0.152 TO 0.35 MM / FROM 0.006" TO 0.0138"					
Diameter tolerance	+0.000 / -0.002 mm						
Tensile strength	Hard temper 900-1150 N/mm2						
	Soft temper	450-550 N/mm2					
Material specifications	CDA 270	CDA 274					
Material composition	65% Cu / 35% Zn	63% Cu / 37% Zn					



KIND OF PRODUCT	AMERICAN		EUROPEAN		JAPANESE	
	Alloy	Standard	Alloy	Standard	Alloy	Standard
Copper wire	c11000, C10100, C10200	ASTM B1, ASTM B2, ASTM B3	Cu-ETP, Cu-FRHC, Cu-OF	DIN EN 13601	C1020, C1100, C1201, C1200	JIS H 3260
Copper rod	c10200	ASTM B49	Cu-OF	BS EN 1976	-	According to client's requirements
Brass wire	C21000, C22000, C22600, C23000, C24000, C25000, C26000, C27000, C27400, C28000	ASTM B134	CuZn10, CuZn15, CuZn20, CuZn30, CuZn36, CuZn37, CuZn40, CuZn42	DIN EN 12166	C2100, C2200, C2300, C2400, C2600, C2700, C2720, C2800	JIS H 3260
Phosphorous bronze wire	C51000, C52100	ASTM B159	CuSn4, CuSn6, CuSn8	DIN EN 12166	C5071, C5111, C5102, C5191, C5212	JIS H 3270
Copper nickel wire	C74500, C75200, C75700	ASTM B206	CuNi12Zn24, CuNi18Zn20	DIN EN 12166	C7451, C7521, C7541, C7701	JIS H 3270
Copper silicon wire	C65100, C65500	ASTM B99	CuSi1, CuSi3Mn1	DIN EN 12166	-	According to client's requirements
Special alloys	C18661, C18835, C18900, C19700, C42500, C46200, C46400, C50700, C50900, C65600, C66900, C66950, C70200, C70500, C70700, C72500, C76000, C87300	According to client's requirements	-	According to client's requirements	C4621,C4640	JIS H3100
Copper bus bar	C10100, C10200, C10300, C10400, C10500, C10700, C10800, C11000, C11500, C11600	ASTM B187	Cu-ETP, Cu-FRHC, Cu-OF	DIN EN 13601	C1020, C1100	JIS H 3140
Silicon bronze bus bar	C65100, C65500	ASTM B98	CuSi1, CuSi3Mn1	DIN EN 13347/14640	-	According to client's requirements
Copper square and hexagonal bar	C11000, C10100, C10200	ASTM B187	Cu-ETP, Cu-FRHC, Cu-OF	DIN EN 13601	C1020, C1100	JIS H 3140
Copper round bar	C11000, C10100, C10200, C10700	ASTM B187	Cu-ETP, Cu-FRHC, Cu-OF	DIN EN 13601	C1020, C1100	JIS H 3250
Silicon bronze round bar	C65100, C65500	ASTM B98	CuSi1, CuSi3Mn1	BS EN 12163	-	According to client's requirements
Brass round bar	C22000, C23000, C26000	ASTM B927	CuZn10, CuZn15, CuZn20, CuZn30, CuZn36, CuZn37, CuZn40, CuZn42	BS EN 12163	C2600	JIS H 3250
Phosphorous bronze round bar	C51000	ASTM B139	CuSn4, CuSn6, CuSn8	DIN EN 12167	C5102	JIS H 3270
Copper nickel round bar	C70200, C70700, C72500	ASTM B122		According to client's requirements	-	According to client's requirements
Nickel silver round bar	C74500, C76000	ASTM B122	CuNi12Zn24, CuNi18Zn20	DIN EN 12167	C7451, C7521, C7541, C7701	JIS H 3270
Nickel silver flat wire	C75200, C75700, C74500, C76000	According to client's requirements	CuNi10Zn27,CuNi12Zn24, CuNi18Zn20	BS EN 1652	C7541, C7521, C7541	JIS H3110
Copper nickel flat wire	C70200, C70700, C72500	ASTM B122	-	According to client's requirements	C7060	JIS H3100
Phosphorous bronze flat wire	C52100, C51000	ASTM B159	CuSn5, CuSn8	BS EN 1652	C5102, C5212	JIS H3110
Copper strips	C10200, C10500, C10700, C11000, C11500	ASTM B152	Cu-ETP, Cu-FRHC, Cu-OF	BS EN 13599- 2014	C1020,C1100	JIS H3100
Brass strips	C26000	ASTM B36	CuZn30	BS EN 1652	C2600	JIS H3100
Copper trolley wire	C10100, C10200	ASTM B47	Cu-OF	BS EN 50149	-	According to client's requirements
Copper nails	C10200, C11000	ASTM F1667	Cu-ETP, Cu-FRHC, Cu-OF	BS EN 1202-2	-	According to client's requirements