Bahonar Copper Industries Co.

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Bahonar Copper Ind. Co.

Bahonar Copper Industries Co.

A Leading Link in the Copper and Zinc Value Chain

Introduction

Shahid Bahonar Copper Industries Company was established in 1983 on a 100-hectare site in the southwest of Kerman. Located in close proximity to the largest and richest copper mines in the Middle East, the company plays a significant role in completing the copper value chain.

With a diverse range of semi-finished copper and copper alloy products, the company operates seven manufacturing plants, comprising:

- Melting and Casting
- Rolling
- Extrusion
- Copper Tube
- Copper Busbar and Wire Rod
- Coin Blank
- Pressing

The company is the **largest and most modern manufacturing complex** for semi-finished copper and copper-based alloy products in the Middle East.

The company's products are manufactured in accordance with international standards. In addition to meeting the needs of the domestic market, its products have been exported to various countries around the world, including Germany, France, the United Kingdom, Spain, China, Taiwan, Vietnam, Thailand, Kuwait, Oman, Türkiye, Armenia, Syria, Iraq, the United Arab Emirates, Australia, and Malaysia.

Bahonar Copper Industries Co.
www.csp.ir

Vision

A productive and efficient company with a complete copper value chain, aiming to secure a significant share of the market by 2033.

Mission

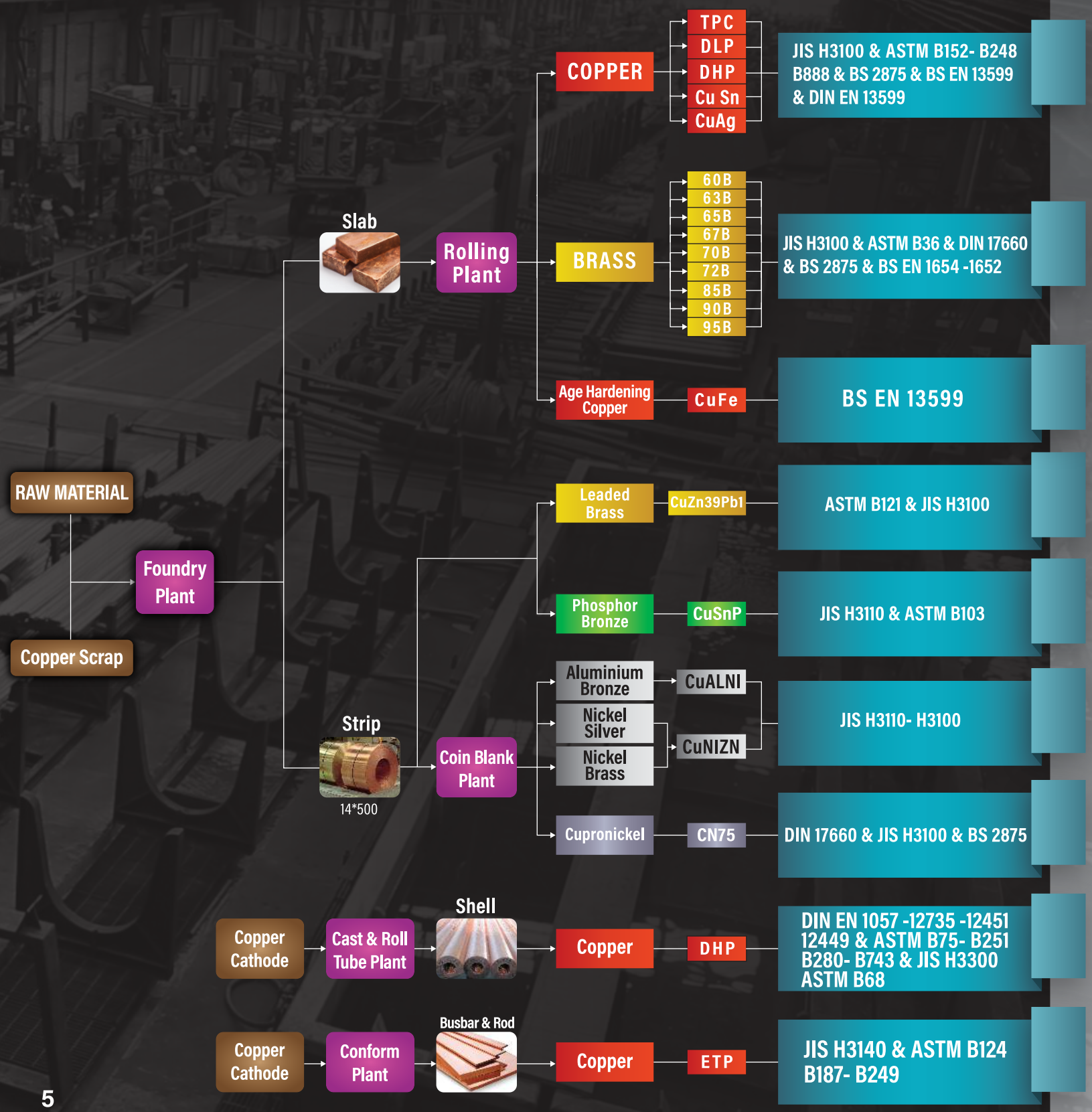
To produce mineral materials and strive to increase the share of high-value-added products in the production portfolio by leveraging knowledge-based processes to meet future market needs.

Core Values

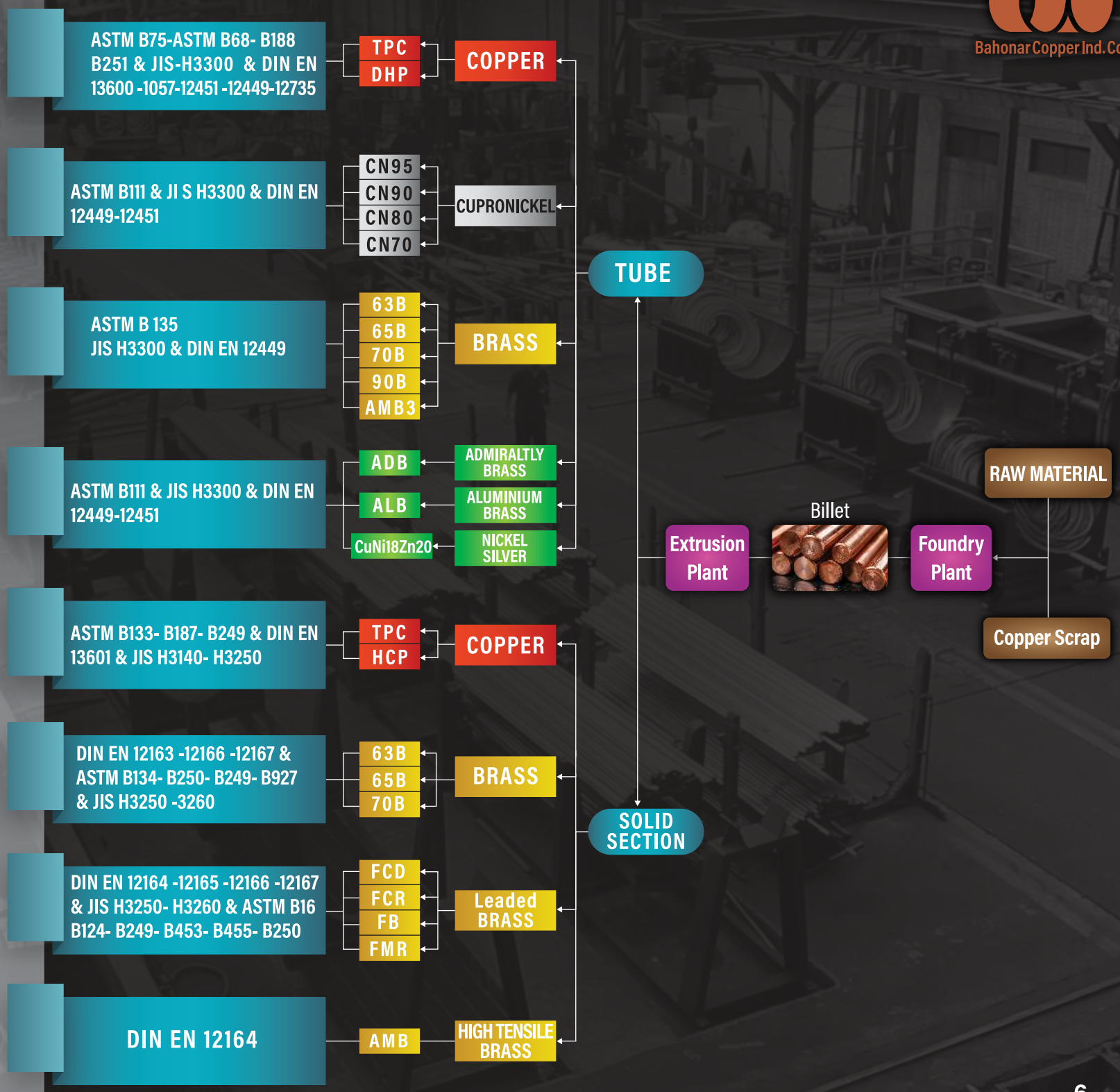
Shahid Bahonar Copper Industries Company, like every dynamic and active enterprise operating within the framework of the Islamic Republic of Iran, is committed not only to the religious, social, political, legal, and regulatory values governing the country, but also to the following organizational values:

- Customer Orientation and Protection of Stakeholders' Rights
- Creating Export-Oriented Value Added
- Respect for Employees and Ensuring Job Security and Satisfaction
- Excellence, Continuous Improvement, and Innovation through Organizational Participation and Localization
- Transparency in Information Disclosure and Accountability
- Study- and Analysis-Based Decision-Making
- Safe Operations, Environmental Protection, and Optimized Energy Consumption
- Commitment to Social Responsibility

Bahonar Copper Ind. Co.


RAW MATERIAL
Copper Scrap
Foundry Plant
Slab
Rolling Plant
Strip
14*500
Coin Blank Plant
COPPER
TPC
DLP
DHP
Cu Sn
CuAg
JIS H3100 & ASTM B152- B248 B888 & BS 2875 & BS EN 13599 & DIN EN 13599
BRASS
60B
63B
65B
67B
70B
72B
85B
90B
95B
JIS H3100 & ASTM B36 & DIN 17660 & BS 2875 & BS EN 1654 -1652
Age Hardening Copper
CuFe
BS EN 13599
Leaded Brass
CuZn39Pb1
ASTM B121 & JIS H3100
Phosphor Bronze
CuSnP
JIS H3110 & ASTM B103
Aluminium Bronze
CuALNI
Nickel Silver
Nickel Brass
CuNIZN
JIS H3110- H3100
Cupronickel
CN75
DIN 17660 & JIS H3100 & BS 2875
Copper Cathode
Cast & Roll Tube Plant
Shell
Copper
DHP
DIN EN 1057 -12735 -12451 12449 & ASTM B75- B251 B280- B743 & JIS H3300 ASTM B68
Copper Cathode
Conform Plant
Busbar & Rod
Copper
ETP
JIS H3140 & ASTM B124 B187- B249

Bahonar Copper Ind. Co.



Bahonar Copper Industries Co.

Foundry

The plant's machinery is based on **Krupp technology from Germany**, while its technical know-how was acquired from **Outokumpu**. The plant was designed and constructed with four melting and casting lines over an area of 13,500 square meters, with an annual production capacity of 64,000 tons. Its products are classified into three main groups: copper and copper alloy coils, slabs, and billets, including brass, leaded brass, cupronickel, phosphor bronze, aluminum brass, aluminum bronze, Admiralty Brass, Ecobrass, and other related alloys manufactured according to customer requirements. These products serve as the primary raw materials for the company's rolling, extrusion, and foil plants. Casting is carried out using a vertical semi-continuous process for copper and brass billets and slabs, and a horizontal continuous process for coils and leaded billets.

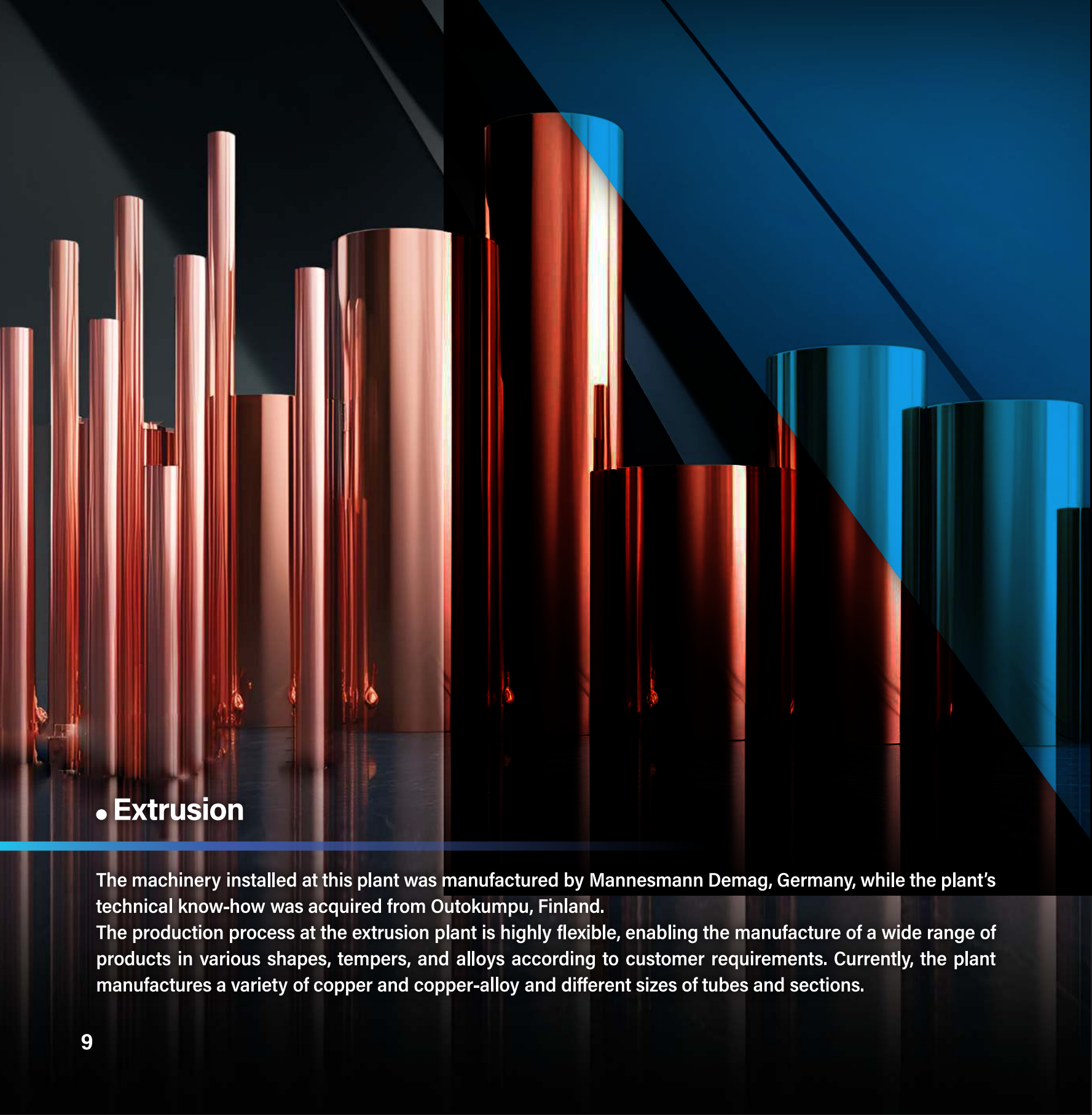
Rolling

Kobe Steel (KOBELCO) technology, technical know-how, and machinery from Japan have been implemented at this plant. Its product range includes various types of copper, brass, and other copper alloy sheets, strips, and coils, manufactured according to customer requirements. These products are generally used in the following industries:

- **Heating and Cooling**
- **Electrical Industries**
- **Automotive Industry**
- **Handicrafts and Decorative Industries**
- **Building and Construction-Related Industries**
- **Transformer Manufacturing Industry**

Shahid Bahonar Copper Industries Company manufactures a wide range of specialized and customized alloys and products based on customer requirements. Based on the company's history of fulfilling customer orders, the products manufactured at this plant include the following product groups:

- **Copper and Copper Alloy Sheets and Strips**
- **TPC, DHP, DLP, CuSn, CuAg0.1P, CuFe0.1P, CuFe2P**
- **Cupronickel: CN75**
- **Aluminum Bronze: CuNi2AI6, CuAl7Fe2, CuAL10Ni5Fe3**
- **Phosphor Bronze: CuSn5, CuSn6**
- **Nickel Silver: CuNi2Zn18, CuNi12Zn24, CuNi20**
- **Brass: 60B, 63B, 65B, 67B, 70B, 72B,85B, 90B, 95B**
- **Leaded Brass: CuZn39Pb1**



• Extrusion

The machinery installed at this plant was manufactured by Mannesmann Demag, Germany, while the plant's technical know-how was acquired from Outokumpu, Finland.
The production process at the extrusion plant is highly flexible, enabling the manufacture of a wide range of products in various shapes, tempers, and alloys according to customer requirements. Currently, the plant manufactures a variety of copper and copper-alloy and different sizes of tubes and sections.

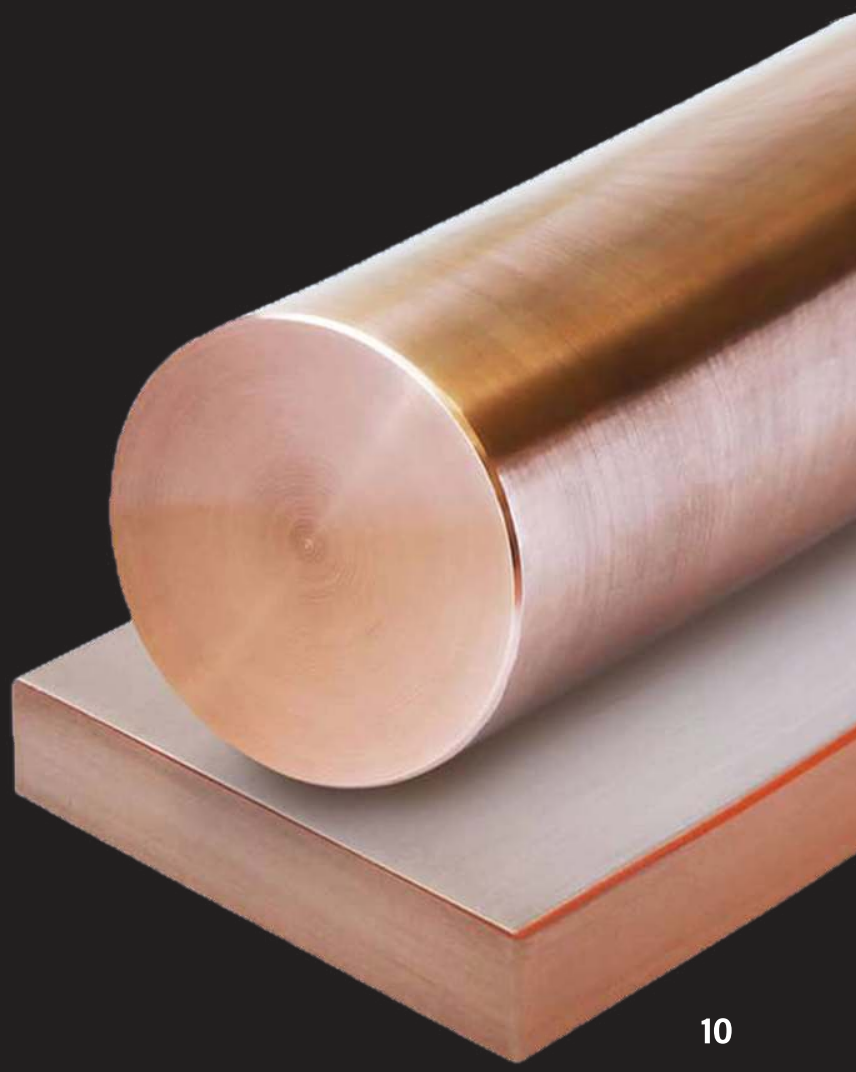
Bahonar Copper Ind. Co.

Extrusion plant products are mainly used in the following industries:

- **Refinery and petrochemical**
- **Refrigeration and heating**
- **power plant**
- **Electrical**
- **Construction-related industries**
- **Water and gas valves**
- **Shipbuilding**
- **Crafts and decorations**

Based on the orders received from customers, the following groups are among the products produced by this plant :

- **Copper sections** ..... **TPC/ HCP-ETP**
  (Rod, Wire and Bus Bar)
- **Alloy sections** ..... **FB- FB2-FCD- FCR- FMR**
  AMB- AMB2- AMB4 -63B- 65B- 70B
  Eco Brass- UR30ST
- **Copper tube** ..... **TPC- DHP- DLP**
- **Brass tube** **63B- 65B- 70B- 90B**
- **Alloy tube** ..... **ADB- ALB2- CN70-CN80**
  CN90- CN95- CuNı18Zn20- AMB3



Copper Tube Plant

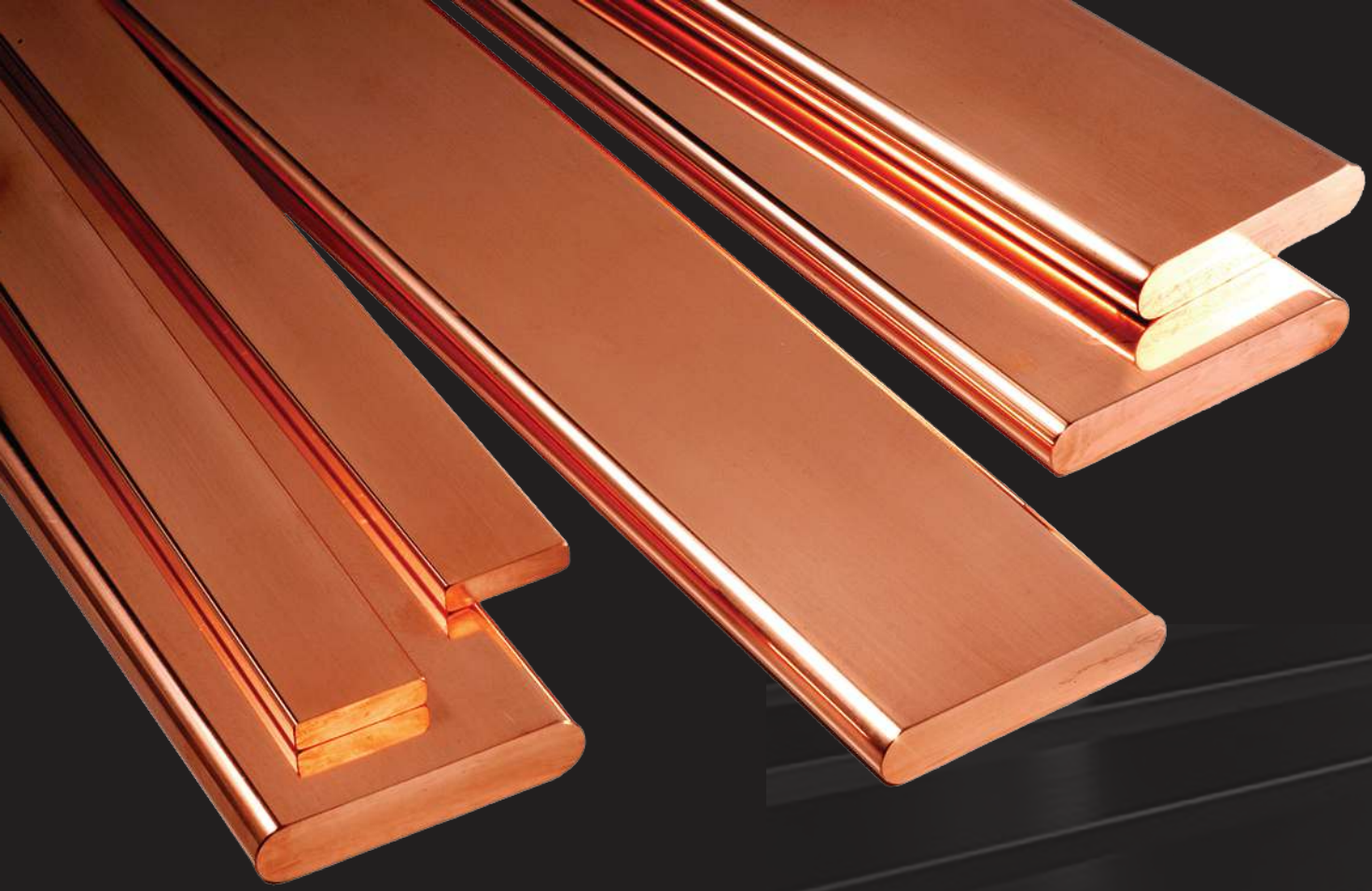
Using a horizontal continuous casting process followed by planetary rolling and cold drawing, this plant manufactures various types of copper tubes through the Cast & Roll process, utilizing **SMS-MEER** equipment and machinery from Germany. This production method results in copper tubes with a homogeneous structure and consistently high quality. The plant is capable of producing copper tubes in coil form **(LWC)** for use in refrigeration and thermal applications, particularly in the HVAC and ACR industries.

Key Capabilities of the Plant

- Manufacturing of both plain and grooved copper tubes.
- Production of a wide range of tube sizes with enhanced quality using the Direct Tube process.
- Non-destructive testing (NDT) of all products using Eddy Current testing.

Accordingly, the plant is capable of manufacturing a wide range of high-quality copper tubes that meet international standards for the following industries:

- Refrigeration and thermal applications (heat exchangers)
- Petrochemical, power generation, oil and gas, and refinery industries



Bahonar Copper Ind. Co.

Copper Busbar and Wire Plant

Using the **Upward Continuous Casting** process, this plant produces ETP copper wire rod with a very low oxygen content. The copper wire rod is then processed through Continuous Extrusion to manufacture **flat busbars, edge-rounded busbars, and copper wire**. These products are manufactured to a high standard of quality and are suitable for a wide range of electrical applications.

The most important advantages of replacing this method with other production methods:

- **High surface quality**
- **Possibility of controlling oxygen to the lowest possible level**

Coin Minting Plant

This plant was established for the production of various types of coins. It is equipped with state-of-the-art machinery and advanced equipment supplied from Germany, with an annual production capacity of **6,000 tonnes** of coin blanks in various sizes and dimensions.
The circulating coins minted by the Central Bank are produced exclusively at this plant.

The products of this factory are in the following alloy groups:

Copper-base alloys

Nickel Brass- Nickel Silver- Aluminum Bronze
Cupronickel (Copper- Nickel)

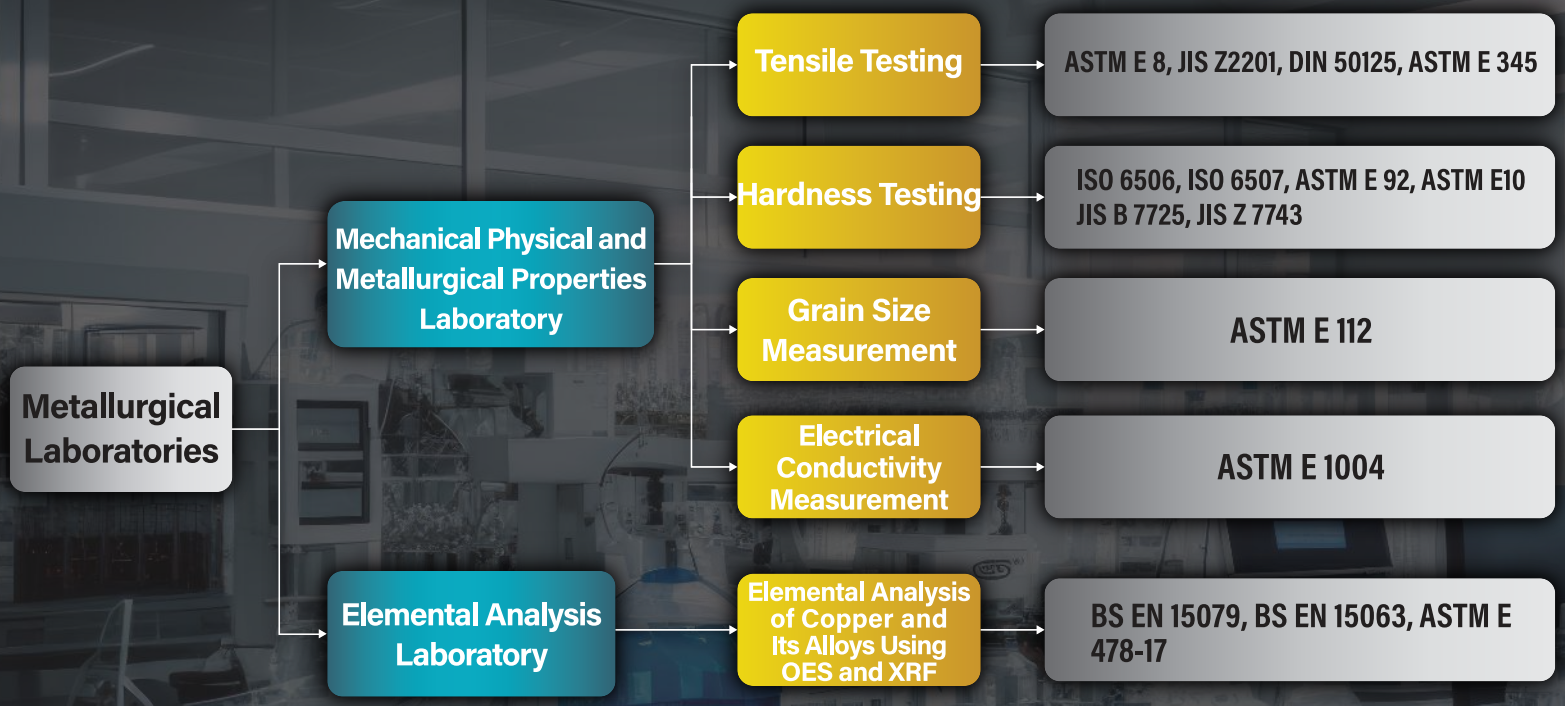
Steel-Based Alloys

Copper, brass, and nickel-plated low-carbon steel which are among the plant's development projects.

•Pressing Plant

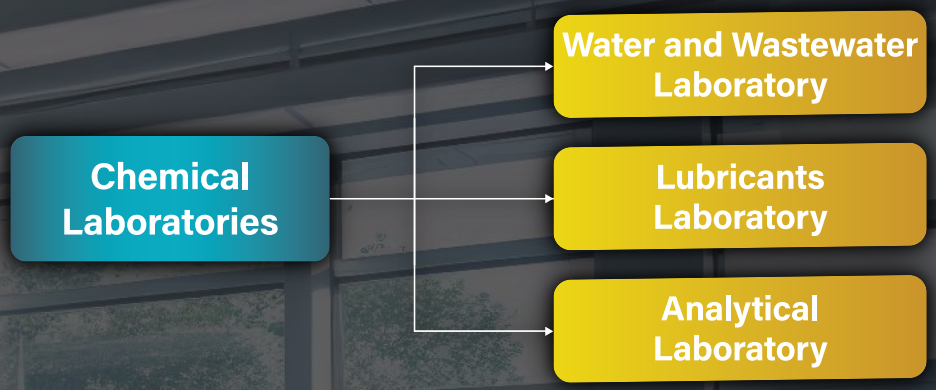
The factory manufactures a diverse range of **copper and brass discs** in various sizes, specifically developed for deep drawing applications and handicraft industries.

Laboratories



The Laboratory Unit of Shahid Bahonar Copper Industries, equipped with laboratory facilities for the analysis and evaluation of material properties, including elemental analysis instruments (XRF and OES), hardness testers, equipment for measuring material strength (tensile testing), electrical conductivity measurement equipment (Sigmatest), and metallographic equipment, performs and reports all relevant tests and parameters.

In addition, the chemical laboratories of the company, using reliable analytical instruments and applying classical and instrumental analytical methods based on various international and national standards, are capable of measuring the following parameters:



Water and Wastewater Laboratory

This laboratory is capable of analyzing copper, zinc, iron, silica, and other elements with ppm-level accuracy, as well as parameters such as various types of hardness, alkalinity, dissolved solids, electrical conductivity, chloride, chlorine, turbidity, nitrite, phosphate, and sulfite in water and wastewater samples.

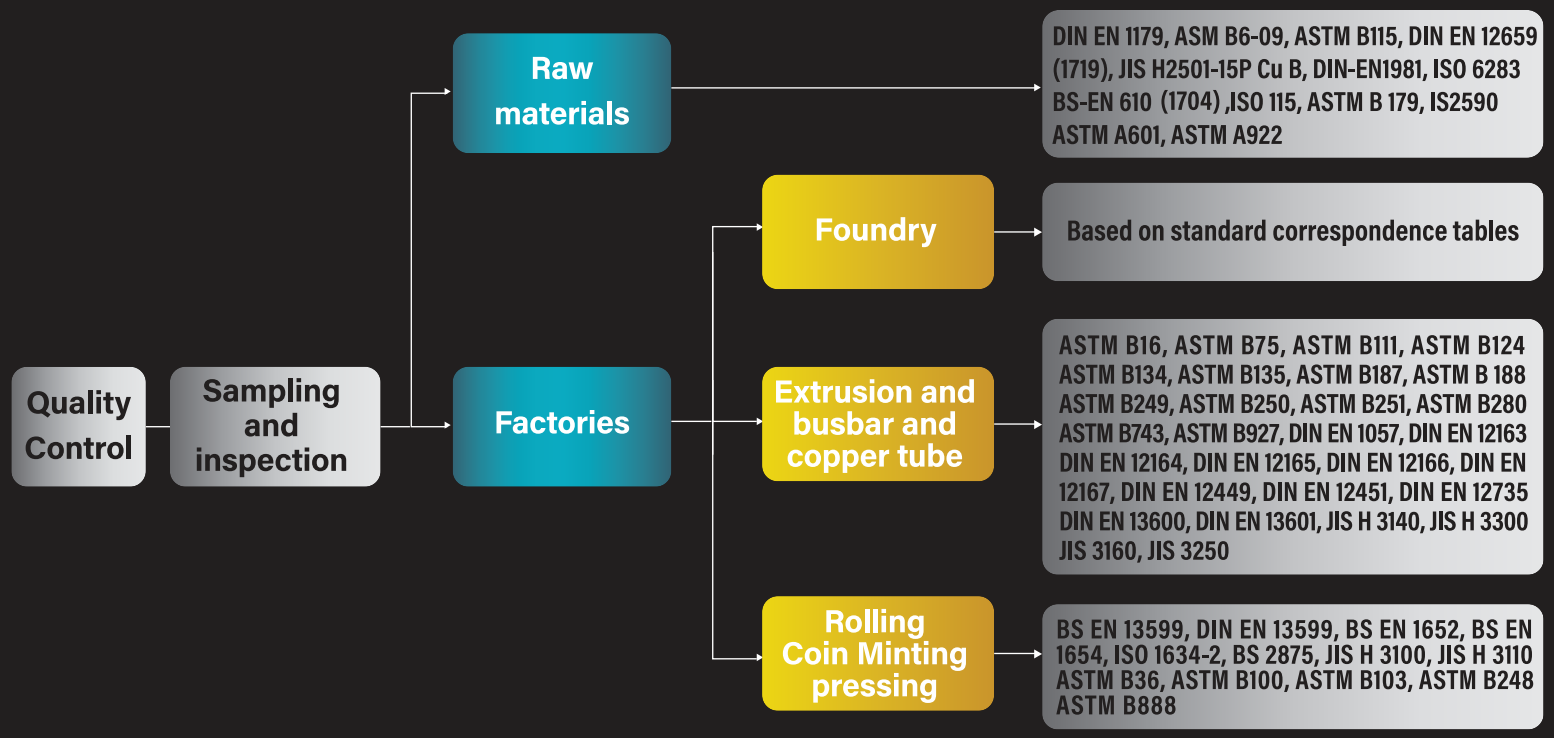
Lubricants Laboratory

This laboratory is capable of measuring the physical and chemical properties of lubricants, including viscosity, density, acidity, water and sediment content (by centrifuge method), contamination (according to NAS 1638), pour point, flash point, and viscosity index in oils; pH, concentration, conductivity, and bacterial content in emulsions; refractive index, permeability, and dropping point in greases.

Analytical Laboratory

This laboratory is capable of analyzing impurities present in raw materials (with ppm-level accuracy), including zinc, lead, and other metal ingots, using flame atomic absorption spectrometry; measuring oxygen and hydrogen content (with ppm-level accuracy) in copper and copper alloys using the combustion method (OH-p analyzer); determining acidity in concentrated sulfuric acid; determining acidity and copper and zinc content in pickling acid solutions for copper alloys; determining free and total alkalinity in degreasing powders and solutions; determining tin content and free acid in tin-plating solutions; determining moisture content in coal; determining the volumetric percentage of benzotriazole in copper corrosion inhibitor solutions; and determining the water and oil content in metal chips.

Quality Control



The **Quality Control Unit** is established in all factories of this complex and, by employing standardized and validated methods, conducts product inspections through appropriate sampling procedures to ensure the quality and conformity of product specifications. For all products manufactured by the complex, relevant property tests are performed, and the products are approved in accordance with applicable recognized standards and customer requirements. The primary objective of these activities is to enhance product quality and ensure the satisfaction of domestic and international customers.

Products

Strip, Sheet, Coil

Chemical composition

(%wt) Chemical composition				Standard compliance					Trade Name	Alloy
Zn	Sn	P	Cu	DIN	BS	JIS	EN	ASTM (UNS)		
–	–	Max 0.004	Min 99.90	CW004A	C101	C1100	E-Cu58 E-Cu57 Cu-ETP	C11000	Electrolytic Tough Pitch Copper ETP	TPC
–	–	0.005 - 0.015	Min 99.90	CW023A	–	C1201	SW-Cu Cu-DLP	C12000	Phosphorous Deoxidized,Low Residual P DLP	DLP
–	–	0.015 - 0.04	Min 99.90	CW024A	C106	C1220	SW-Cu Cu-DHP	C12200	Phosphorous Deoxidized,High Residual P DHP	DHP

Pb	Fe	Sn	Zn	Ag	P	Cu	DIN	BS	JIS	EN	ASTM (UNS)	Trade Name	Alloy
Max 0.05		0.10-0.20			0.005-0.020	Min 99.75	CW451K		C1441	CuSn0.15	C14410	Low- Alloyed Phosphore Bronze	CuSn
				0.085-0.12	0.001-0.007	Min 99.95	CW016A			CuAg0.1P	C10700		CuAg0.1P
	0.05-0.15				0.02-0.04	Rem.				CuFe0.1P	C19210		CuFe0.1P
Max 0.03	2.1-2.6		0.05-0.20		0.015-0.15	Rem.	CW107C			CuFe2P (2.1310)	C19400		CuFe2P

(%wt) Chemical composition				Standard compliance					Trade Name	Alloy
Zn	Fe	Pb	Cu	DIN	BS	JIS	EN	ASTM (UNS)		
Rem	Max 0.05	Max 0.05	94-96	CW500L	CZ125	C2100	CuZn5	C21000	Gilding Brass 95 %	95B
Rem	Max 0.05	Max 0.05	89-91	CW501L	CZ101	C2200	CuZn10	C22000	Commercial Bronze,90 %	90B
Rem	Max 0.05	Max 0.05	84-86	CW502L	CZ102	C2300	CuZn15	C23000	Red Brass 85 %	85B
Rem	Max 0.05	Max 0.05	71-73	—	CZ105	—	CuZn28	C25600	Deep Drawing Brass	72B
Rem	Max 0.05	Max 0.07	68.5-71.5	CW505L	CZ106	C2600	CuZn30	C26000	Cartridge Brass 70 %	70B
Rem	Max 0.05	Max 0.09	64-68.5	CW506L	—	C2680	CuZn33	C26800	Yellow Brass 66 %	67B
Rem	Max 0.07	Max 0.09	63-65.8	CW507L	CZ107	C2700	CuZn36	C27000	Yellow Brass 65 %	65B
Rem	Max 0.07	Max 0.09	59-61	CW509L	—	C2801	CuZn40	C28000	Muntz Metal 60 %	60B
Rem	Max 0.07	Max 0.07	62-64	CW508L	CZ108	C2720	CuZn37	C27200	Yellow Brass 63 %	63B

(%wt) Chemical composition								Standard compliance					Trade Name	Alloy
Al	Mn	Ni	Fe	Zn	Sn	Pb	Cu	DIN	BS	JIS	EN	ASTM (UNS)		
–	Max 1.0	23.5-25.5	Max 0.20	Max 1.0	–	Max 0.05	Rem.	CW350H			CuNi25	C71300	Copper-Nickel	CN75
–	Max 0.3	1.7-2.3	Max 0.2	Rem.	–	Max 0.02	79.5-80.5	–	–	–	–	C73100 Customized	Nickel Brass	CuNi2 Zn18
–	Max 0.50	11.0-13.0	Max 0.25	Rem.	–	Max 0.05	63.5-66.5	CW40 3J	NS 104	C7570	CuNi12Zn24	C75700	Nickel Silver	CuNi12 Zn24
–	Max 1.0	19-23	Max 1.0	Max 1.0	–	Max 0.05	Rem.			MH19		C71000	Nickel Silver 20 %	CuNi20
5.5-6.5	–	1.5-2.5	Max 0.20	–	Max 0.05	Max 0.05	Rem.					C61550	Aluminium Bronze	CuNi2Al6
6.0-8.0	Max 1.0		1.5-3.5	Max 0.2		Max 0.01	Rem.					C61400	Aluminium Bronze	CuAl7Fe2
9.0-11.0	Max 1.5	4.0-5.5	2.0-4.0	Max 0.30	Max 0.2	–	Rem.			C6300	CuAl10Ni5	C63000	Aluminium Bronze	CuAl10Ni5Fe3
–	–	–	Max 0.15	Rem.	–	0.6-1.2	58-62					C37100	Leaded Brass	CuZn39 Pb1

Pb	Fe	Sn	Zn	Ag	P	Cu	DIN	BS	JIS	EN	ASTM (UNS)	Trade Name	Alloy
Max 0.05	Max 0.1	4.2-5.8	Max 0.30		0.03-0.35	93-95	CW11730	Pb102	C5102		C51000	Phosphor Bronze 5 % A	CuSn5
Max 0.05	Max 0.1	5.0-7.0	Max 0.3		0.03-0.35	Rem.	CW452K	Pb103	C5191	CuSn6	C51900	Phosphor Bronze 6 %	CuSn6

Bahonar Copper Ind. Co.

Physical & electrical properties

Electrical Conductivity (IACS%)	Thickness (mm)	Temper		Alloy
100	Above 0.5	Soft	O	TPC
99	0.3-0.5			
98	Under 0.3			
98	Above 2	Hard 1/4	HA	
97	Under 2	Hard 1/2	HB	
97	Above 2	Hard	HD	
96	Under 2			

Mechanical properties

Hardness (HV)	Minimum Elongation (%)	Tensile Strength (N/mm2)	Temper		Alloy	Alloy Group
Max 65	33	200-260	Soft	O	TPC DLP DHP	Copper
65-90	25	215-280	Hard 1/4	HA		
70-100	15	245-320	Hard 1/2	HB		
Min 90	-	Min 280	Hard	HD		
Min 150	-	Min 345	Very Hard	HE	CuSn	
45-80	35	Min 205	Soft	O	95 B 90 B 85 B	Brass
75-110	25	225-335	Hard 1/4	HA		
100-120	20	285-365	Hard 1/2	HB		
Min 110	-	Min 335	Hard	HD		
55-90	40	270-380	Soft	O	72 B 70 B 67 B 65 B 63 B	
Max 120	30	Max 410	Hard 1/4	HA		
95-135	19	350-450	Hard 1/2	HB		
120-170	6	410-540	Hard	HD		
Min 145	-	Min 480	Very Hard	HE		

HC temper is available for copper alloys in accordance with **ASTM B888** and for brass alloys in accordance with **ASTM B36.**
The properties of Alloy **95B** comply with the requirements of **JIS H3100.**
Mechanical properties of other alloys are available according to customer requirements.

Size

Strip and coil

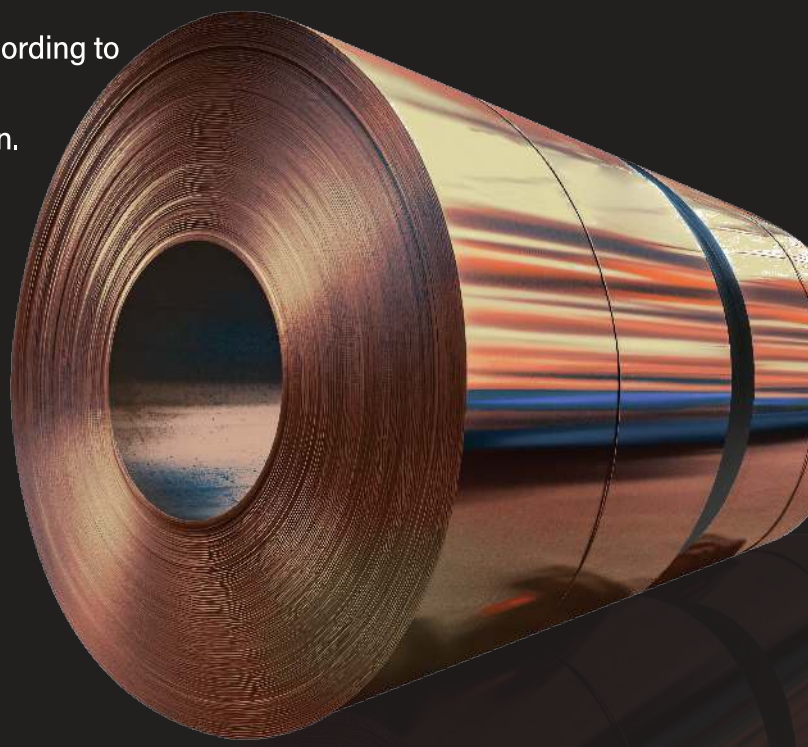
Alloys that can be produced or manufactured	(mm) Width[1]	(mm) Thickness
TPC, CuSn	10-200	$0.04 \leq t < 0.1$
63B, 65B, 70B, TPC, CuSn	10-200	0.1
63B, 65B, 67B, 68B, 70B, DHP, TPC	15-200	$0.1 < t \leq 0.15$
63B, 65B, 67B, 68 B, 70B, DHP, TPC	15-610	$0.15 \leq t \leq 0.3$
63B, 65B, 67B, 68B, 70B, 90B, DHP, DLP, TPC	15-660	$0.3 < t \leq 2$
63B, 65B, 67B, 68B, 70B, 90B, DHP, DLP, TPC	20-660	$2 < t \leq 6$
63B, 65B, 67B, 68B, 70B, 90B, DHP, DLP, TPC	660	$8 \leq t \leq 12$

Depending on the thickness, the inner diameter of the coils will be 300 ,400 ,500 mm.
The $8 \leq t \leq 12$ thick coil is oxide and the inner diameter is 550-500 mm.

Sheet

Alloys that can be produced or manufactured	(mm) Length	(mm) Width	(mm) Thickness
63B, 65B, 67B , 68B, 70B, 90B, DHP, DLP, TPC	500-2000	600-610-660[1]	$0.3 \leq t \leq 1$
63B, 65B, 67B , 68B, 70B, 90B, DHP, DLP, TPC	700-2000		$1 < t \leq 6$
63B, 65B, 67B , 68B, 70B, 90B, DHP, DLP, TPC	500-4000	660	$8 \leq t \leq 18$
63B, 65B, 67B , 68B, 70B, 90B, DHP, DLP, TPC	1000-7000		$18 < t \leq 127$

(1) Other widths can be produced upon agreement with and according to the customer's requirements.
Thicknesses of 8 mm and above may exhibit surface oxidation.
The 660 mm width may be subject to edge cracking.
Thickness, length, and width tolerances are manufactured in accordance with the applicable JIS standards.



Tube

Bahonar Copper Ind. Co.

Chemical composition

(%wt) Chemical composition				Standard compliance					Trade Name	Alloy	Alloy Group
Zn	Sn	P	Cu	EN	BS	JIS	DIN	ASTM (UNS)			
–	–	Max 0.004	Min 99.90	CW004A	C101	C1100	E-Cu58 E-Cu57 Cu-ETP	C11000	Electrolytic Pitch Tough Copper (ETP)	TPC	Copper
–	–	0.015-0.04	Min 99.90	CW024A	C106	C1220	SF-Cu Cu-DHP	C12200	Phosphorous Deoxidized,High Residual P (DHP)	DHP	

(%wt) Chemical composition				Standard compliance					Trade Name	Alloy	Alloy Group
Zn	Fe	Pb	Cu	EN	BS	JIS	DIN	ASTM			
Rem	Max 0.05	Max 0.05	89-91	CW501L	CZ101	C2200	CuZn10	C22000	Commercial Bronze,90 %	90B	Brass
Rem	Max 0.05	Max 0.07	68.5-71.5	CW505L	CZ106	C2600	CuZn30	C26000	Cartridge Brass 70 %	70B	
Rem	Max 0.07	Max 0.09	63-65.5	CW507L	CZ107	C2700	CuZn36	C27000	Yellow Brass 65 %	65B	
Rem	Max 0.07	Max 0.07	62-64	CW508L	CZ108	C2720	CuZn37	C27200	Yellow Brass 63 %	63B	

(%wt) Chemical composition					Standard compliance					Trade Name	Alloy	Alloy Group
Fe	Zn	Ni	Pb	Cu	EN	BS	JIS	DIN	ASTM			
1.3-1.7	Max 1.0	4.8-6.2	Max 0.05	Rem		CN101	C7040	CuNi5Fe1Mn	C70400	Copper-Nickel 5 %	CN95	Cupronickel
1-1.8	Max 1.0	9-11	Max 0.05	Rem	CW352H	CN102	C7060	CuNi10Fe1Mn	C70600	Copper-Nickel 10 %	CN90	
0.4-1.0	Max 1.0	29.0-33.0	Max 0.05	Rem	-	-	C7150	CuNi30Mn1Fe	C71500	Copper-Nickel 30 %	CN70	
Max 0.3	Rem	17-19	Max 0.03	60-63	CW409J	NS106	-	CuNi18Zn20	C76400	Nickel- Silver 18 %	CuNi18 Zn20	Nickel Silver

(%wt) Chemical composition						Standard compliance					Trade Name	Alloy	Alloy Group
Fe	Al	Sn	Pb	Cu	As	EN	BS	JIS	DIN	ASTM			
Max 0.06	–	0.8-1.2	Max 0.07	70.0-73.0	0.02-0.06		CZ111	C4430	CuZn28Sn1	C44300	Arsenical-Admiralty Brass	ADB	Alloy
Max 0.06	1.8-2.5		Max 0.07	76-79	0.02-0.06		CZ110	C6870	CuZn20A12	C68700	Aluminium Brass Arsenical	ALB2	

(%wt) Chemical composition						Standard compliance	Trade Name	Alloy	Alloy Group
Fe	Si	Mn	Al	Ni	Cu	Mitsubishi			
Max 0.6	0.5-1.3	2.2-3.8	1.7-3.7	0.2-0.6	59-65	MBA-2	CuZn30Al3 Mn3SiNiCr	AMB3	Other Alloys

Other types of copper-based alloys can be produced upon customer request.

Mechanical properties

Percentage Elongation	Hardness (HV)	Tensile Strength (N/mm2)	Temper	Alloy
Min 40	Max 60	205-260	OS	TPC DHP
	Max 70	220-270	OL	
Min 3	Min 90	Min 300	HD	
Min 45	Max 90	Max 390	OS	63B 65B 70B ADB
	Max 110	Max 430	OL	
Min 10	Min 150	Min 450	HD	
Min 40	Max 110	Min 375	OL	ALB
Min 30	75-110	Min 310		CN 90 CN 95
Min 35	85-120	Min 370		CN 70

Size

Brass and alloy Tube

Length (m)	Thickness (mm)	External diameter (mm)	Alloy	Shape
3-12	0.5-6	6-85	63B 65B 70B	Straight Lengths
According to customer request			CN70-CN90-CN95 ADB-ALB2	

The remaining sizes can be produced upon customer request.

Copper Tube (DHP-TPC)

Straight Lengths
Pancake
Coils

Length	(mm) Thickness	(mm) External diameter	Temper	Shape	Alloy
3-12	3-20	50-147	OE	Straight Lengths	DHP TPC
3-12	0.4-10	4.7-92	OS	Straight Lengths	
15-50	0.4-1.5	4.7-19.05	OL	Pancake Coils	
(Bunched Coil)	Min 0.5	2	OE	Capillary Tubes	

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Level Wound Coil (LWC)

O.D \ T	mm	0.30	0.33	0.35	0.40	0.45	0.50	0.55	0.60	0.63	0.65	0.70	0.75	0.80	0.85	0.90	1.00	1.20
mm	inch	0.012	0.013	0.014	0.016	0.018	0.020	0.022	0.024	0.025	0.026	0.028	0.030	0.031	0.033	0.035	0.039	0.047
3.00																		
4.00																		
4.76	3/16”																	
4.80																		
6.00																		
6.35	1/4”																	
7.94	5/16”																	
8.00																		
9.52	3/8”																	
10.00																		
12.00																		
12.7	1/2”																	
14.00																		
15.87	5/8”																	
16.00																		
18.00																		
19.05	3/4”																	
20.00																		
22.22	7/8”																	

The remaining sizes are according to customer coordination and request.

Sections (Rod, Wire, Busbar &...)

Chemical Composition

(%wt) Chemical composition					Standard compliance					Trade Name	Alloy	Alloy Group
Zn	Fe	Pb	P	Cu	DIN	BS	JIS	EN	ASTM (UNS)			
-		-	Max 0.004	Min 99.90	CW004A	C101	C1100	E-Cu58 E-Cu57 Cu-ETP	C11000	Electrolytic Tough Pitch Copper ETP	TPC	Copper
											ETP	
			0.001-0.005	Min 99.95	CW021A			Cu-HCP	C10300		HCP	
Rem		-	-	68.5-70.5	CW505L	CZ106	C2600	CuZn30	C26000	Cartridge Brass	70B	Brass
Rem		-	-	64-65.5	CW507L	CZ107	C2700	CuZn36	C27000	Yellow Brass	65B	
Rem		-	-	62-64	CW508L	CZ108	C2720	CuZn37	C27200		63B	
Rem	Max 0.35	2.5-3.2	-	57.5-59	CW614N	CZ121	C3603	CuZn39Pb3	C38500	Architectural Bronze	FCD	Leaded Brass
Rem	Max 0.35	2.5-3.3		60-61.5		CZ124	C3601	CuZn36Pb3	C36000	Free Cutting Brass	FCR	
Rem	Max 0.30	2 - 2.5	Max 0.30	58-60	CW612N	CZ120	C3771	CuZn39Pb2	C37700	Forging Brass	FB	
Rem	Max 0.35	1.5-2.5		55-59		-	-	CuZn40Pb2	C38000		FB2	
Rem	Max 0.1	1-2		62-64	CW600N	-	-	CuZn35Pb1	C34000		FMR	

(%wt) Chemical composition									Standard compliance				Trade Name	Alloy	Alloy Group
Cr	Si	Mn	Sn	Al	Fe	Pb	Ni	Cu	EN	BS	DIN	ASTM			
-	0.5-1.5	2.0-3.5	Max 0.3	0.5-2.0	Max 0.35	Max 0.50	Max 0.25	57-60	CW713R	CZ135	CuZn37Mn3Al2PbSi	C67400	High Tensile Brass (Manganese Bronze)	AMB	Other Alloys
-	0.25-0.7	1.5-2.5	Max 0.35	1.0-2.0	0.15-0.55	0.25-0.8	Max 0.25	57-58.5	-	-	-	C67420		AMB2	
-		0.8-1.8	0.2-1	0.3-1.3	0.2-1.2	0.8-1.6	Max 0.30	57-59	CW721R	CZ114	CuZn39AlFeMn	-		AMB4	

Mechanical and physical properties

Busbar

Electrical conductivity (% IACS)	Percentage Elongation	Hardness (HV)	Tensile strength (N/mm²)	Temper	Alloy
Min 100	Min 35	Max 70	200	0	TPC ETP
Min 98	Min 15	70 - 100	250 - 320	HB	
Min 97	Min 10	Min 80	Min 280	HD	

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Wire

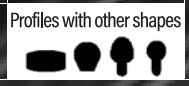
Electrical conductivity (% IACS)	Hardness (HV)	Tensile strength (N/mm²)	Temper	Alloy
Min 100	Max 70	205-270	0	TPC
Min 98	70-90	255-365	HB	
Min 97	Min 90	Min 345	HD	
-	Max 90	Max 390	OS	65B
	Max 110	Max 430	HB	
	Min 150	Min 450	HD	

Leaded sections

Electrical conductivity (% IACS)	Hardness (HB)	Minimum tensile strength (N/mm²)	Temper	Alloy
15-25	Max 110	275-330	OE(E)	FB FCD FCR FMR
7-20	90-110	345-400	HB	
Min 6	Min 110	Min 430	HD	

●Size

Sections

Packaging form	(mm) Diameter	Temper	Shape	Alloy
Coil	$10 \le D \le 20$	OE(E)		Copper Brass
Straight Lengths	$22 \le D \le 105$			
Coil	$2 \le D \le 10$	HB HD		
Straight Lengths	$3.5 \le D \le 55$			
Straight Lengths	$22 \le D \le 105$	OE(E)		
	$3.5 \le D \le 55$* Rod	HB HD		
	$4 \le D \le 42$ Square			
	$6 \le D \le 50$ Hexagonal			
	According to customer request		Profiles with other shapes 	

*Brass wire with a diameter of 2-10 can be produced in coil form.

Flat and Edge-Rounded Busbars

Tin plating of busbars is available for lengths of up to 4 meters.

20.0	18.0	16.0	15.0	14.0	13.0	12.0	11.0	10.0	9.00	8.0	7.10	6.70	6.30	6.00	5.60	5.30	5.00	4.75	4.50	4.25	4.00	3.75	3.75	3.55	3.35	3.15	3.00	ضخامت / عرض
■	■										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	16
■	■																					■	■	■	■	■	■	17
■	■																							■	■	■	■	19
■	■																											20
																												22
																												23.05
																												25
																												25.4
																												30
																												31.75
																												32
																												35
																												38.1
																												40
																												45
																												50
																												50.8
																												55
																												60
																												60.4
																												6
																												65
																												70
																												75
																												80
																												85
																												90
																												100
																												101.6
																												110
																												120
																												125
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	130
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	140
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	150
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	160
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	170

Other Products

Bahonar Copper Ind. Co.

Foundry Plant Products

(mm) Size			Product	Alloy
Length	Diameter	Width * Thickness		
500-7000	–	127*660 127*500	Slab	Copper and Copper Alloys
300-7000	250 190	–	Billet	
–	–	14*500	Coil	

Cast Ingots

(%wt) Chemical composition									(UNS)	Alloy
Zn	B	Bi	Al	Ni	Sn	Pb	Fe	Cu		
Rem.	0.0008 - 0.0014	0.4 - 0.6	0.5 - 0.7	0.01-0.06	0.03 - 0.1	Max 0.1	0.05 - 0.1	59 - 61	C 89580	Eco Brass - Bi0.5
2.0 - 6.0	–	1.7 - 2.7	Max 0.005	Max 1.0	4.0 - 6.0	Max 0.09	Max 0.3	86 - 91	C 89833	Eco Brass - Bi2
Rem.	–	–	0.3 -0.8	–	0.6 - 0.9	Max 0.09	–	64 - 69	C 45470	UR30ST
Rem.	–	–	0.7 - 1.3	Max 0.3	Max 0.3	Max 0.8	Max 0.5	Min 69.5	–	70BM – MS71
Rem.	–	–	0.5 - 0.7	Max 0.3	Max 0.2	0.8 - 1.1	0.03 - 0.2	58.5 - 61	–	ALB3

Coin Minting Plant Products

diagonal (mm)	Thickness	Produced alloys	Hardness
18-32	Based on customer demand	Cupronickel, Aluminum Bronze, Nickel Silver, Nickel Brass	Based on customer demand

Pressing Plant Products

(mm) Size	Alloy	Product
Diameter: 60 to 300 Thickness: 0.5 to 2.5	Copper	Disc
	Brass	

The product can be manufactured in accordance with the customer's specified requirements and properties.

Localization and Specialized Parts

To meet the requirements for consumable components used in production lines and manufactured from copper and its alloys, as well as components produced to customer specifications, the following parts, along with other customized components, can be designed and manufactured upon request:

Product Sample	Size range(mm)	Piece
	8<OD<240	Sliding bearings (Bushings)
	20<OD<140	Brass Worm Wheels
	8<OD<24	Hose Fittings (Clamp-Type and Threaded)
	20<OD<240	Brass Nuts for Power Transmission Applications
	20<OD<240	Internal and External Gears
	50<L<2000mm W<650	Brass Liners
	W<650	Water-Cooled Molds
	In accordance with Busbar manufacturing sizes	Various Busbars and Electrical Connections

Bahonar Copper Ind. Co.

Shahid Bahonar Copper Industries Co., as a prominent link in the copper value chain, has established an outstanding track record in reducing the industry's dependence on foreign sources:

- Manufacturing Products in Compliance with International Standards (ASTM, BS, JIS, DIN, EN)
- Annual Production Capacity of 65,000 Tons
- Production of Products Using New Copper-Based Alloys
- Member of the Tehran Stock Exchange Since 1995
- Exemplary Export Unit for Several Consecutive Years
- Shahid Bahonar Copper Industries Co. Recognized as a Leading National Green Industry and Recipient of the Green Industry Plaque Since 2003
- Recipient of a One-Star Silver Rank and a Four-Star B Rank Certificate in the Ranking Process of the Iran Chamber of Commerce
- Recipient of a Two-Star Certificate in the 7th Excellence and Productivity Award from the Center for Excellence and Progress
- Recipient of Two-Star and Three-Star Productivity Pioneer Certificates in the Productivity Awards Evaluation by the Iranian Mines and Mining Industries Development and Renovation Organization
- Recognized as the Leading Green Industry among Selected Green Industries during 2003–1997
- Recipient of a Certificate of Commitment to Excellence in the National Organizational Excellence Award
- Holder of the Quality Management System Standard Certificate from Internationally Recognized Certification Bodies Since 1996 (ISO 9000:1994) and currently certified to ISO 9001:2015
- Holder of the Occupational Health and Safety Management System Standard Certificate from Internationally Recognized Certification Bodies Since 2010 (OHSAS 18001:2007) and currently certified to ISO 45001:2018
- Holder of the Environmental Management System Standard Certificate from Internationally Recognized Certification Bodies Since 1997 (ISO 14001:1996) and currently certified to ISO 14001:2015
- Holder of the Social Responsibility Standard Certificate Since 2018 (ISO 26000:2010)
- Selected as an Exemplary Industrial Unit in 2025

MTIC INTERCERT

CERTIFICATE

CERTIFICATE Nr. 16-Q-1002626-TIC

WE HEREBY CERTIFY THAT THE QUALITY MANAGEMENT SYSTEM OPERATED BY

Shahid Bahonar Copper Industries Company

Km 12 Kerman-Baghin Road, Kerman, Iran

IS IN COMPLIANCE WITH THE REQUIREMENTS OF STANDARD

DIN EN ISO 9001:2015

THIS CERTIFICATE IS VALID FOR THE FOLLOWING ACTIVITIES

Production of Copper and Copper Alloys Semi-Finished Products in the form of Plates, Strips, Tubes, Rods and Sections

AUDIT REPORT Nr. RC-0223-QEO-MTIC-MS-1002626-16

First issue date 28.02.2023 Revision date 28.02.2023 Expiry date 27.02.2026

Bonn 28.02.2023 Eng. K. Lindenblatt

InterCert Certification Body

InterCert GmbH – Group of MTIC – • Am Burner Bogen 2 • 53227 Bonn GERMANY

www.mtic-group.org

MTIC INTERCERT

CERTIFICATE

CERTIFICATE Nr. 16-E-1002626-TIC

WE HEREBY CERTIFY THAT THE ENVIRONMENT MANAGEMENT SYSTEM OPERATED BY

Shahid Bahonar Copper Industries Company

Km 12 Kerman-Baghin Road, Kerman, Iran

IS IN COMPLIANCE WITH THE REQUIREMENTS OF STANDARD

DIN EN ISO 14001:2015

THIS CERTIFICATE IS VALID FOR THE FOLLOWING ACTIVITIES

Production of Copper and Copper Alloys Semi-Finished Products in the form of Plates, Strips, Tubes, Rods and Sections

AUDIT REPORT Nr. RC-0223-QEO-MTIC-MS-1002626-16

First issue date 28.02.2023 Revision date 28.02.2023 Expiry date 27.02.2026

Bonn 28.02.2023 Eng. K. Lindenblatt

InterCert Certification Body

InterCert GmbH – Group of MTIC – • Am Burner Bogen 2 • 53227 Bonn GERMANY

www.mtic-group.org

MTIC INTERCERT

CERTIFICATE

CERTIFICATE Nr. 16-O-1002626-TIC

WE HEREBY CERTIFY THAT THE OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM OPERATED BY

Shahid Bahonar Copper Industries Company

Km 12 Kerman-Baghin Road, Kerman, Iran

IS IN COMPLIANCE WITH THE REQUIREMENTS OF STANDARD

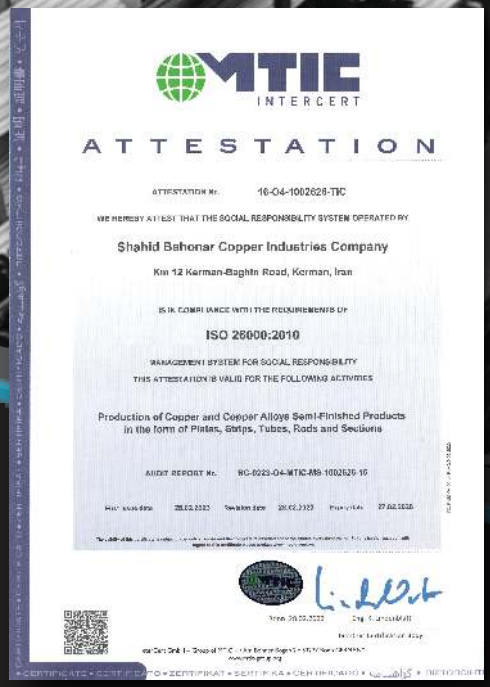
DIN ISO 45001:2018

THIS CERTIFICATE IS VALID FOR THE FOLLOWING ACTIVITIES

Production of Copper and Copper Alloys Semi-Finished Products in the form of Plates, Strips, Tubes, Rods and Sections

AUDIT REPORT Nr. RC-0223-QEO-MTIC-MS-1002626-16

First issue date 28.02.2023 Revision date 28.02.2023 Expiry date 27.02.2026



MTIC INTERCERT

ATTESTATION

ATTESTATION Nr. 16-O4-1002626-TIC

WE HEREBY ATTEST THAT THE SOCIAL RESPONSIBILITY SYSTEM OPERATED BY

Shahid Bahonar Copper Industries Company

Km 12 Kerman-Baghin Road, Kerman, Iran

IS IN COMPLIANCE WITH THE REQUIREMENTS OF

ISO 26000:2010

MANAGEMENT SYSTEM FOR SOCIAL RESPONSIBILITY

THIS ATTESTATION IS VALID FOR THE FOLLOWING ACTIVITIES

Production of Copper and Copper Alloys Semi-Finished Products in the form of Plates, Strips, Tubes, Rods and Sections

AUDIT REPORT Nr. RC-0223-O4-MTIC-MS-1002626-16

Bahonar Copper Ind. Co.

PUBLIC RELATIONS

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Fax: 034-31227900
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Tel: 021-82166000
Fax: 021-88476364
Email:
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Export Sales: export@csp.ir
Marketing: marketing@csp.ir
Website: www.csp.ir

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