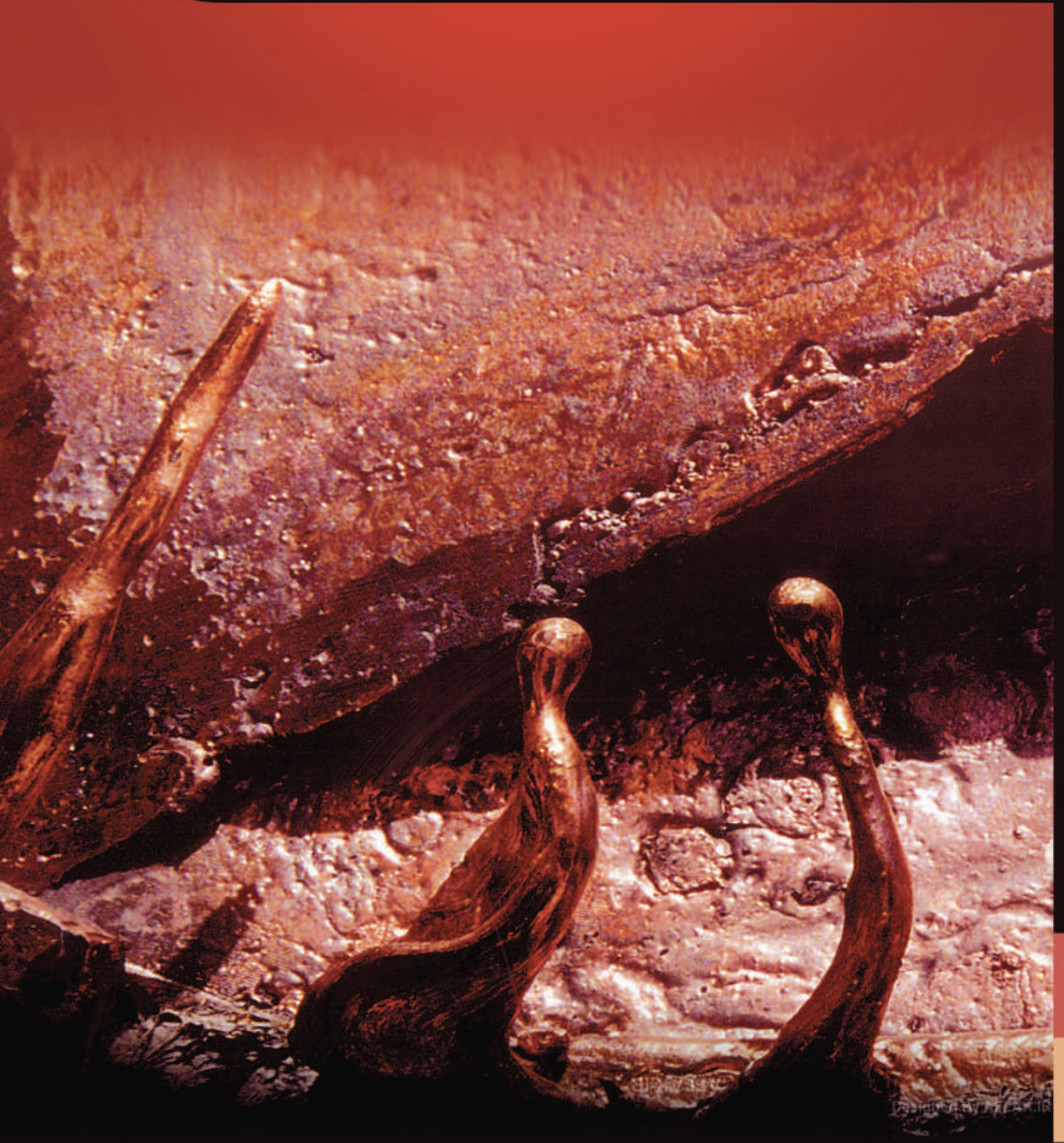




CSP

Bahonar
Copper Industries Co.



www.csp.ir

© 2009 Bahonar Copper Industries Co.

Naming the eastern land, "The Cradle of Civilization" is not in vain. Invention, extraction and smelting of various metals in ancient Iran, of which the remnants of primitive furnaces are of clear reasons, verify the ancient Iranian knowledge in metal industries, especially copper. According to the results of excavating metallic works belonging to fourth and fifth millennium B.C, the two handiworks extracted from the first and second layers of Silk hill Kashan-Iran, are known as one of the oldest copper-made things extracted from mines. Likewise, according to explorations in Tal-E-Eblis in Kerman central ranges and also Carbon 14 analyzation of some copper-made things, there has been a civilization in 4083 B.C.

Nowadays, copper and copper alloys remain one of the major groups of commercial metals, ranking third behind only iron/steel and aluminum in production and consumption. For its desired properties such as electrical and thermal conductivity, corrosion resistancy, workability, soldering and riveting and its color, copper is used in various industries widely.

INTRODUCTION

Shahid Bahonar Copper Industries Co. is located in 12th km. Kerman, in the vicinity of the greatest copper mine in The Middle East, covering an area of about 200 hectare contains four factories of Foundry Shop, Rolling Shop, Extrusion Shop and Coin Shop and produces a vast variety of sheets, strips, foils, sections, tubes and coins of different alloys and dimensions.

CSP (Copper and copper alloys Semi-manufactured Products) has an excellent reputation among Iranian industries.

- It has been nominated as the best exporting company for several years (first time in 1995.)
- In 1996 obtained ISO 9000 and in 2004 achieved ISO 9000-2000 certification.
- Its annual production exceeded to 30,000 tons in 1996 and in 2003 reached 42,000 tons.
- In 1996 obtained the first ISO 14001 certification in Iran.
- In 2009 obtained OHSAS 18001 certificate.
- In the beginning of 2001 the Coin Shop was launched.
- Through accomplishing development programs, its annual production will exceed to 77,000 tons in 2010.
- Hollow Section production
- Tube factory inauguration with 15000 tons a year capacity producing by Cast & Roll method.
- Development project of foundry shop and extending the production capacity up to 70000 tons a year by running Forth Melting Line.
- Development project of chips melting for improving the recycling of third melting line scraps.



FOUNDRY SHOP

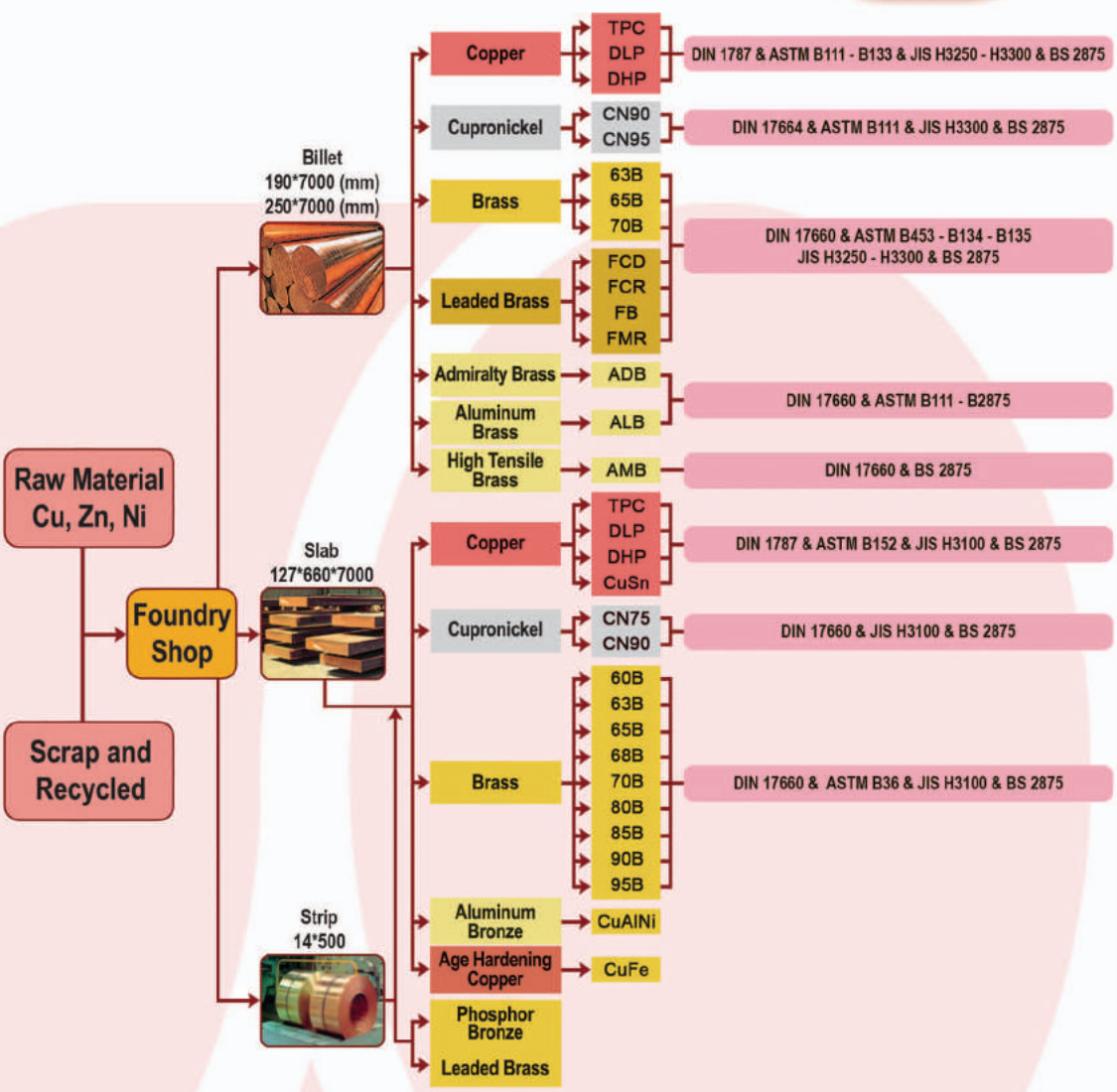
The foundry shop is built upon an area of 13,500 sq. meters and its machinery is from Germany consisting of four melting and casting lines.



Copper, brass, bronze and cupronickel billet and slabs are the products of this factory which in fact supply the raw material of Rolling and Extrusion Shops.

The line 4 of this factory has the ability to continually cast strips with 14 by 500 mm. In this way it can afford for all the alloys which are problematic when produced by hot rolling or their cooling range is extended, such as leaded sheets and strips, phosphorus bronze and navy brasses.

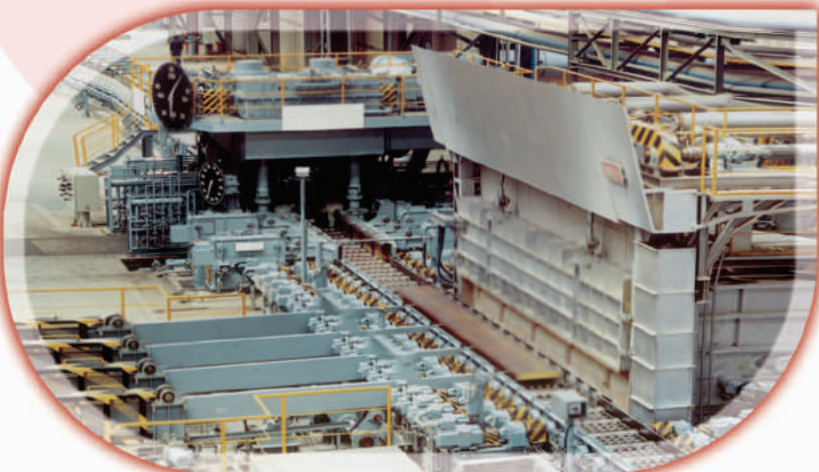
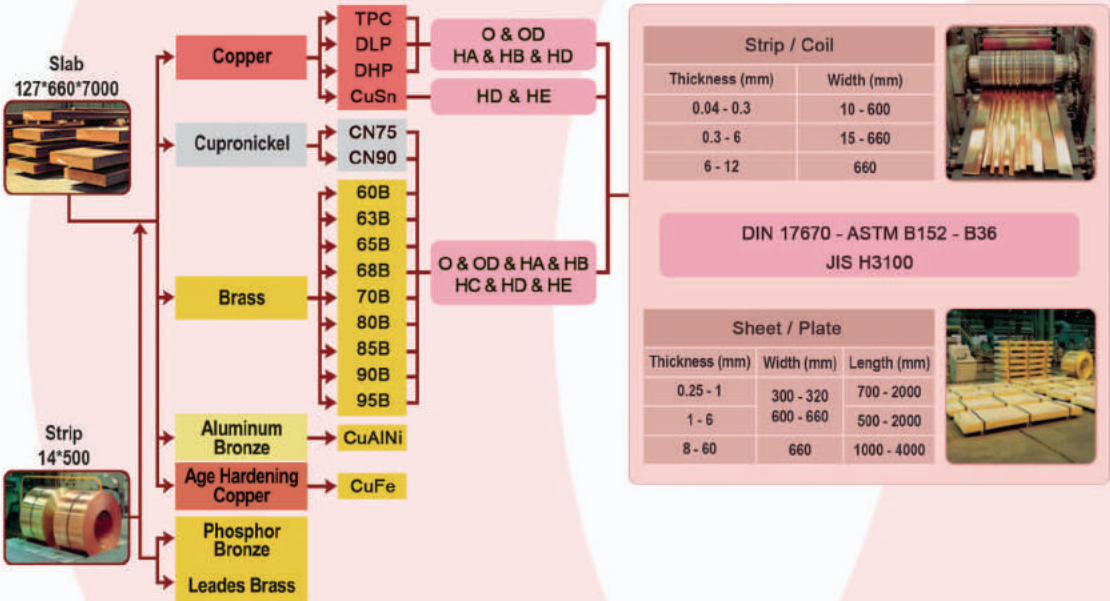




ROLLING SHOP

With an area of 32,000 sq. meters of building and machinery, the rolling shop benefits the various rolling machines, annealing furnaces, pickling lines and slitting and cut to length machines. Kobe Steel, Japan, has supplied the machinery and technology. The annual production of this factory is about 35,050 tons. Different sizes of strips and sheets are used in:

- Cooling industries
- Deep drawing industries
- Electrical industries
- Automobile industries
- Handicrafts and decorative industries





Copper Strip & Sheet

• TPC

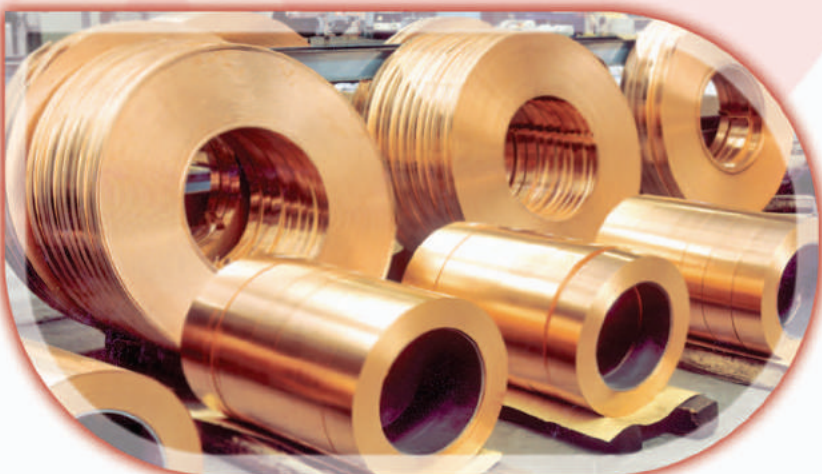
- Excellent electrical and thermal conductivity
- Good workability, drawability and corrosion and weathering resistancy
- Applicable to electrical usages, distillers, buildings, chemical industries, gasket, appliances, etc

• DLP-DHP

- Good workability, drawability, weldability, corrosion and weathering resistancy
- Good thermal conductivity
- Applicable to bath, boilers, kettle, gasket, building, chemical industries, etc

• CuSn

- With 0.1-0.18 percent of tin has a good consistency up to 300°C
- Applicable to automobile radiators



ROLLING SHOP

Brass Strip & Sheet

• 60B-63B-65B-70B

- Excellent workability and drawability
- Suitable for plating
- Good for being punched and bent
- Glittering surface
- Applicable to automobile radiators and deep drawing works

• 80B-85B-90B-95B

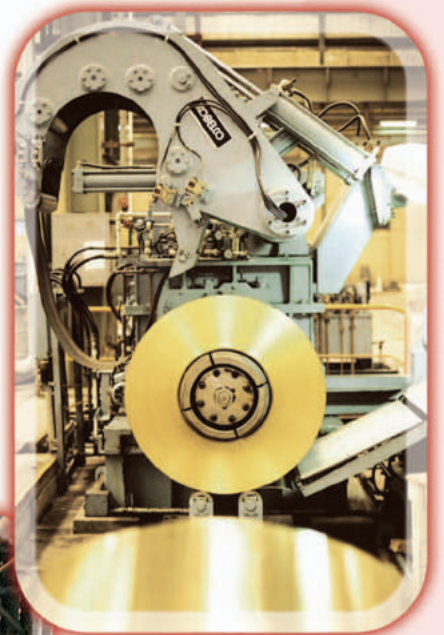
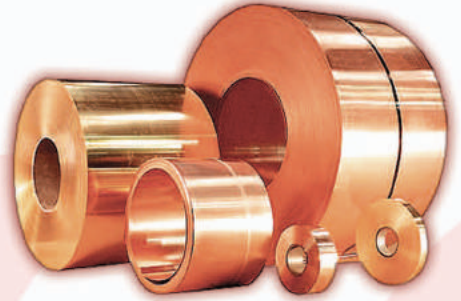
- Excellent workability and drawability
- Good corrosion resistancy
- Applicable to building and military purposes

• CN75-CN90

- Durability in high temperatures
- Good corrosion resistancy (specially in sea water)
- Applicable to communication industry, sea industry and coining

• CuAlNi

- Good corrosion and oxidization resistancy
- Applicable to heat and cold industries and coining





- **CuFe**

- Good corrosion resistancy in different weathers
- Functions better than copper against scratch and cracks due to tension
- Applicable to electrical parts, print and fitting industry

- **Phosphorus Bronze**

- Good corosion and friction resistancy
- High resilience and springiness quality
- Mostly applicable to electrical parts and fitting industry

- **Leaded Brass**

- Good corosion resistancy
- High elongation quality
- Applicable to parts that require drilling and grinding, construction and electrical industries





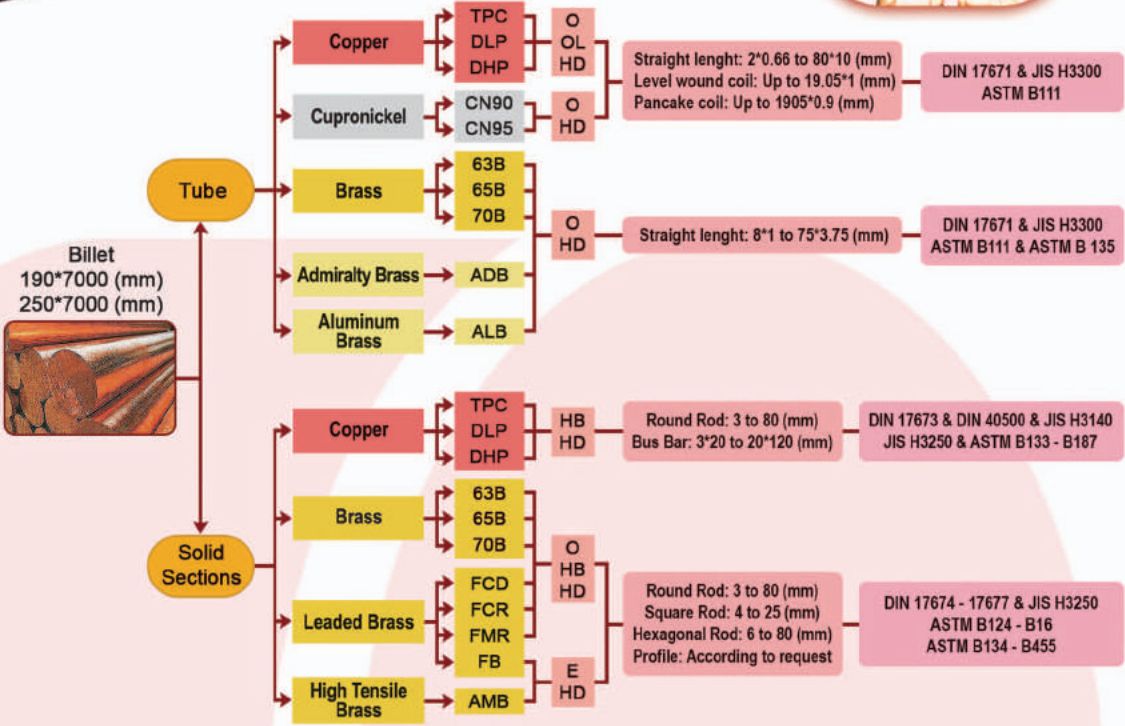


EXTRUSION SHOP

The machinery of extrusion shop is bought from Germany and uses the technology of Outokumpu Finland. Different sizes of tubes and sections with different alloys of copper and copper alloys are the products of this factory. It consists of two 2,500 ton extrusion presses machines, pickling and annealing lines, spinners and drawers. The products of extrusion shop are used in:

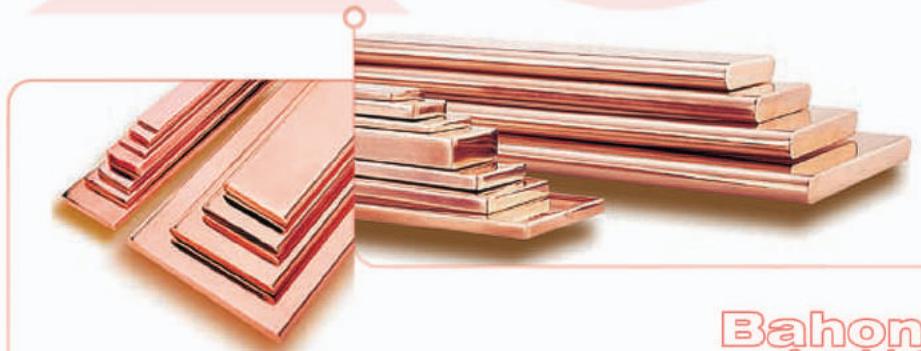
- Oil and gas industries
- Cooling and heating industries
- Electrical industries
- Ship making industries





Busbar

- **TPC**
 - Excellent electrical and thermal conductivity
 - Good workability, drawability and corrosion and weathering resistancy
 - Applicable to distribution panels



EXTRUSION SHOP

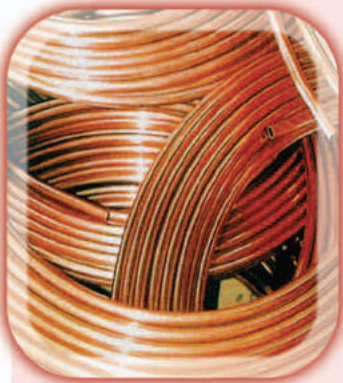
Tubes

• TPC

- Excellent electrical and thermal conductivity
- Good workability, drawability and corrosion resistancy
- Applicable to electrical industries specially cable shoe pipes

• DLP-DHP

- Good workability, drawability, weldability, corrosion and weathering resistancy
- Good thermal conductivity
- Applicable to gas and heat exchanger industries.



• CN90

- Good corrosion and resistancy especially against see water
- Applicable to ship industries (heat exchanger tubes.)

• 63B-65B-70B

- Good drawability bending properties
- Applicable in ship industries, sanitary tubes, automobile parts

• ADB

- Good resistancy against see water
- Applicable to heat exchangers and gas piping

• ALB

- Good thermal conductivity
- Applicable to distillers and oil cooling systems
- More corrosion resistancy against sea water compared with ADB





Sections

• FCD-FCR

- Excellent machinability and punchability
- Applicable to watch and clock parts, gears, etc.

• AMB

- Good resistancy against pressure and erosion industries (heat exchanger tubes.)

• FB

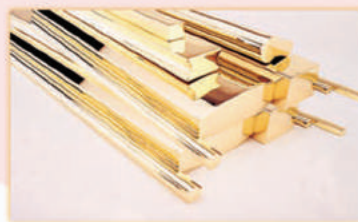
- Good for forging
- Applicable to sanitary utensils, window panes, valves and automobile parts

• FMR

- Good for machining and riveting
- Applicable to valves and bolts

• TPC

- Excellent electrical and thermal conductivity
- Good bendability, drawability and corrosion resistancy
- Applicable to electrical industries



LABORATORIES

Quantometry Labs

In this laboratory the chemical analysis of raw material and finished products are tested by ARL company instruments such as X-Ray (XRF) and diffusion spectrometer (OES). Chemical analysis for most copper based alloys like Brass, Bronze and Cupronickel are also done. The equipments of this lab and their capabilities are:



1.X-Ray spectrometer (XRF-ARL)

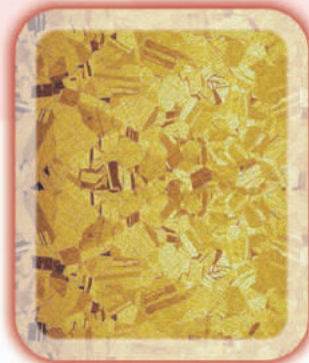
This equipment can analyze elements such as Zinc, Lead, Manganese, Phosphor, Iron, Nickel, Silicon, Aluminum, Tin, Sulfur and Arsenic at the same time by monochromater system in less than 3 minutes and with acceptable precision. If modified, this equipment can measure other elements with atomic number over 11.

2.Optical Emission Spark (OES-ARL)

This device has a low detection limit for the elements with copper base and has a very good precision factor for analyzing trace elements. It can measure 17 elements in copper base and is used in different analytical programs. Brass, Bronze, pure Copper, DLP, DHP and Cupronickel alloys are measured by this device.

3.Optical Emission Spark (OES-Quantron)

This device can analyze more elements than previous equipments while covering their advantages. The elements this device can detect are Mercury, Bismuth, Beryllium, Cobalt, Carbon, Chrome, Silicon, Aluminum, Iron, Nickel, Cadmium, Oxygen, Lead, Phosphor, Zinc, Tin, Sulfur, Trillium, Zirconium, magnesium, Antimovan , Selenium and Arsenic. It can also measure special alloys as Copper--Chrome, Copper-Chrome-Zirconium, Gun metal, Copper-Cobalt-beryllium, Cupronickel and Bronzes.





Metallurgical and Mechanical Labs

In these laboratories different tests of mechanical properties such as Drawing, Hardness (Vickers, Berinell and Rockwell) Micro Hardness (Vickers and Nope) and formability index are carried out by Instron, Wilson-Wolpert, Struers, Erichsen and Leitz equipments. Electrical conductivity and IACS percent are measured by nondestructive methods.

The microstructures of the products can be surveyed by samples prepared by mechanical, electro polishing and also hot mounting methods. The metallographical parameters such as Grain Size and Phase Percent are also accessed in metallography lab.

Chemical Labs

Water

In this laboratory water is analyzed according to classic methods with ISO and ASTM standards, Iran national standards, scientific references and civil documentaries. The appliances are mostly German made such as Spectrophotometer (p.p.m precision) set for analyzing 150 elements in water, conductivity meter, ph meter, TDS meter and BOD meter.

Oil

Physical and chemical specifications of oils are measured in this lab with equipments which are generally made of Herzog and Sartorius Germany. These devices are viscometer, Centrifuge, refract meter, PH meter and Pensky Martens. The physical and chemical specifications of oils are:

1. Viscosity in two sets of temperature (40 and 100 centigrade), acidity, sediment, pollution and oil density
2. P11, density and bacteria emulation
3. Penetration of greases

Chemical Analysis

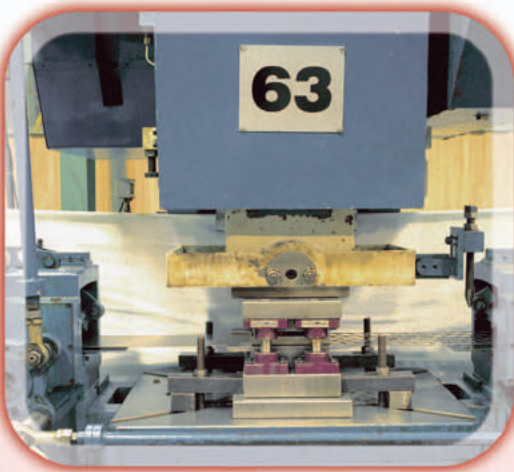
By using On-Mat, gas analyzer and spectrophotometer equipments, this laboratory is capable of measuring level of Oxygen, Nitrogen and Hydrogen in materials and products, complete gas analyzing of the chimney smokes, titration and analyzing different solutions. This lab also has got the competency certificate from Standard institution.



COIN



Copper has been used to make coins for a long time. Copper coins are durable and easy to make. Different compositions in copper alloys make different colors so that coins of different values can be identified. Coins can be circulated longer than paper money. With the development of coin phones, buses without the ticket seller and self-service vendor machines, coins are used more frequently than ever. Thousands tons of copper are used to make coins every year in the world. Taking the London Royal Mint for instance, It makes 0.7 billion copper coins per year, which requires 7,000 tons of copper.



The Coin factory has been established on a 2400 square meters ground with initial production of 1,000 tons a year which in development project this capacity will increase in value up to 12,000 tons. The Coin factory equipment and machinery are advanced and are capable of manufacturing any size and dimensions of blank coin.

This product is outstanding in quality, color, dimensions, surface smoothness, hardness and ... which is examined by quality control unit in all stages of production and various tests are done to achieve the required quality so that the coins be comparable with foreign samples in various aspects of equality and be able to absorb part of the large market area of the region.



Mission

As an economical corporation, Shahid Bahonar Copper Industries Co. is the greatest supplier of country's need for copper and copper alloys products and tries to extend her share in the world market.

Our mission is to satisfy the customers by producing and on time delivering of high quality and reliable products with suitable prices.

We shall be the pioneer in introducing new value-added products to the market and developing technology. All our activities must be in accordance with our dues to the share holders' permanent interest, environment protection and securing a clear future for the employees.

Policy Statement

As the greatest producer of copper and copper alloys semi-manufactured products in Iran and a leading company in establishing management systems of:

ISO 9001:2008
ISO 14001:2004
OHSAS 18001:2007

Shahid Bahonar Copper Industries Co. is announcing its policy statement as below:

1. Efforts in heightening customer satisfaction by appointing to quality, suitable prices, timely delivery and also respecting other beneficiary parties
2. Market developing and strengthening sales and marketing
3. Commitment to prevention of environment pollution and employees injury
4. Commitment to continual improvement and extending effectiveness of the processes
5. Following all the legal rules and obligations
6. Promoting safety level and occupational health
7. Optimal use of energy, materials and resources and reduce waste
8. Development of human resources with strict attention to education and research and making the required context for employees creativity

The precise implementation and review of the above management systems are top management's responsibility and continuous assessment of the efficacy and reporting of the system performance are management representative's responsibility. All staff and people under the control are expected to ultimately cooperate in the distinct implementation of all related requirements.



Bahonar Copper Industries Co.

No. 19, Palizvani (7) Alley, Gandhi St., Tehran, Iran

Phone: (+98 21) 82166701-9

Fax: (+98 21) 82166979

Email: export@csp.ir , marketing@csp.ir

www.csp.ir

© 2009 Bahonar Copper Industries Co.



CSP

