



Kobe Steel, the Challenge of the Next 100 Years

A Company Creating New Value

■ An Integrated Metals and Machinery Manufacturer Supporting Industry

Kobe Steel, which was founded in the historic international trading city of Kobe, has progressed in parallel with the modernization of Japan and has played an important role in Japan's social and industrial development.

We began operations as a manufacturer of cast and forged steel and subsequently expanded our iron and steel facilities. We then expanded into other businesses such as copper, aluminum, titanium, and machinery. With the construction of our first blast furnace in 1959, we completed an integrated steelmaking system that helped support Japan during the nation's high-growth period.

Thanks to our advanced wire rod manufacturing technology, we have developed the industry's top welding materials and the world's strongest steel sheet. The Moka Plant, which is the manufacturing hub for aluminum, has grown to be one of the most advanced aluminum rolling mills in the world.

Many of our products have acquired large market shares in the automobile market, including specialty steel wire rod, high strength steel sheet, and aluminum materials that are being adopted by manufacturers around the world, thus contributing to safety and weight-reduction in automobiles.

Today, the Kobe Steel Group has grown into a group engaged in a wide range of fields, including iron and steel, welding, wholesale power supply, aluminum, copper, machinery, construction machinery, real estate, electronic materials, and other business areas.

From here on, we will strive to create high value-added products, reduce costs, and reduce product delivery times. We will form a distinctive corporate group that is trusted by society, and recognized for its worth, by undertaking initiatives that are responsive to global markets and acknowledge society's increasing focus on the recycling of resources, thus positioning ourselves in the relentless pursuit of better technology.

Steelmaking as the Technical Foundation

Kobe Steel's steelmaking business started out making products like anchors and wheels for trolleys. As we improved our casting technology, we produced large cast and forged steel products for the shipbuilding, power generation, and oil industries by utilizing material design technology for greater strength, fatigue resistance, and corrosion resistance, thus establishing our solid position in the world market.

After establishing an integrated steelmaking system in 1959, we established a high-efficiency, high-quality steelmaking process — from the smelting of pig iron to continuous casting — by applying our unique iron and steel production technologies. We improved these technologies to apply them to reduced iron production and waste incineration processes.

Steel Products

The history of steel products started with wire rods, and due to their excellent materials design technology and secondary processing technologies, such products are turned into valve springs, suspension coil springs, and steel cord which are utilized in important safety components in automobiles.

In the welding business, we are leaders in the industry not only in welding materials, but also in welding technology and automation technology, including robots.

In the 1960s, when we started steel plate production, we combined our welding knowledge with our steel plate design and manufacturing technology to produce large heat input weldable TMCP steel plates, a product which is essential in shipbuilding, building construction, and other basic industries.

Non-Ferrous Metal Products

Aluminum production started at the Chofu Plant in Yamaguchi Prefecture, with manufacture of cast and forged products at our Nagoya Plant and sheet at the Moka Plant in Tochigi Prefecture. The Moka Plant has the largest width rolling mill in East Asia and is a large production center for can stock for food and drink containers, and substrates for magnetic disks.

In the manufacture of copper products, we have earned the trust of our customers through our unique technologies, from pure copper and brass products, to leadframes for semiconductors, copper alloy plate products for automobile terminals, and connectors.

Kobe Steel was the first company in Japan to succeed in putting titanium metal to practical use, and leads the world in this field. Our coil rolling technology allows the mass production of titanium and the use of titanium in heat exchangers for nuclear power plants and desalination plants, and roofing materials.

Machinery and Engineering


The diverse group of products in the field of machinery and engineering came about as the result of three main trends. The first includes construction machinery, cement plants, air separation units, compressors, crushers, and others, which resulted from technology transfer and growth. The second includes direct reduced iron plants, waste incinerators for cities, and sewerage plants, which grew from the fusion with materials processing technologies. In particular, the MIDREX[®] Direct Reduction Process (for producing reduced iron using natural gas as a reductant), has a good reputation throughout the world, having a two-thirds share of the world's direct reduction processes. Also, we have the FASTMELT[®] Process, which uses coal (steam coal) as the reductant, and commercialization of the next generation steelmaking process, "ITmk3[®]", has been attracting attention. Examples of the third include high-pressure containers, corrosion-resistant equipment, LNG vaporizers, and soundproofing materials, which grew from the fusion of special materials, such as titanium and aluminum, with machinery technology.




It is 100 years since our foundation in 1905. The Kobe Steel Group has always risen to the challenge of developing highly original technologies, and has produced many unique and market-leading products that are held in high esteem around the world in a wide range of fields such as materials, machinery, and steelmaking technology. Heading into the next 100 years, the Kobe Steel Group aims to create new value by developing creative products and technologies throughout the world that other companies cannot emulate.

● 1900 ● 1920 ● 1940 ● 1950 ● 1960 ● 1970 ● 1980 ● 1990 ● 2000

Steel produced using open-hearth furnaces
 Development of wire rod production technology
 Development of large-scale steel casting and forging production technology




First blast furnace installed at Nadahama
 Launch of integrated steel production at Kakogawa Works
 Development of pulvenzed coal injection technology
 No. 4 slab caster starts up at Kakogawa Works
 Development of sintering technology
 Development of desulfurization and denitration technologies
 Development of surface treatment technology
 Development of technology for reduction of impurities
 Development of pelletizing technology



Start of production of steel bar and sections
 Launch of rolled steel operations
 Domestic production of high-quality welding electrodes
 Start of piano wire rod production (first in Japan)
 Launch of specialty steel production
 Launch of production of carbon chrome steel wire rod (first in Japan)
 Successful production of 60mm diameter wire rod (largest diameter in the world)

Achieved 55% share of wire rod production in Japan
 Commercialization of 980 MPa high-strength steel sheet



Production of copper and brass tubes and rods starts at Moji Plant
 Aluminum production starts at Chofu Plant
 Start of production of titanium metal
 Start of production of magnesium alloy castings for aerospace use at Nagoya Plant

Start of production of copper alloys for leadframes
 Aluminum hot rolling mill completed at Moka Plant
 Development of high-strength aluminum alloy for cold forging
 Full-fledged operation begins at Daian Plant
 Delivery of Japan's first all-titanium condenser for thermal / nuclear power generation



Start of air compressor production
 Development/manufacture of air separation equipment (first in Japan)
 Completion of integrated cement plant (Japan's first)

Development/manufacture of screw compressors (first in Japan)
 Delivery of large plastic mixer (world's first)
 Completion of Venezuelan DR plant
 Completion DR integrated steelworks in Qatar

Export of fertilizer plant (first for Japan)
 Order received for fluidized bed sludge incineration plant
 Delivery of LNG vaporizer
 Order received for municipal solid waste treatment plant

Fusion of Technologies

By fusing our proprietary technologies, we create high-quality, cost-competitive, distinctive products and services.