New Challenges for the Kobe Steel Group

The Kobe Steel Group has created unique and market-leading technologies and products. These technologies and products have been the result of the fusion of technologies and innovative ideas. They have gained a very high reputation both within Japan and abroad.

Top Technology and Products in Japan and the World

Welding consumables

Japan's top market share

As a world-ranking manufacturer of welding consumables, Kobe Steel has the No. 1 share in Japan and Southeast Asia.

High strength steel sheet

World strongest

Kobe Steel's high strength steel sheet has enabled car manufacturers to reduce the weight of cars and offer sufficient protection to drivers under crash conditions. The Company has commercialized in rapid succession an extensive lineup of high strength steel sheet.

Wire rod for valve springs for automobiles

In half the cars in the world

Development of wire rod for high strength engine valve springs capable of withstanding several thousand cycles of expansion and contraction per minute and a total of 1 billion cycles. Half of the cars in the world run on Kobe Steel's valve springs.

World No. 1

Disk blanks

Magnetic disks used in hard disk drives. Kobe Steel has manufacturing centers in Japan and Malaysia, providing over 50% of the aluminum blanks for the world's magnetic disks.

70% of the share in Japan

Aluminum can stock

Aluminum cans used for canned drinks are easily recycled. Kobe Steel has a 35% share of the Japanese market for aluminum can stock. In particular, two-thirds of the bottle cans are made of Kobe Steel can stock.

Top level in the world

Compressors

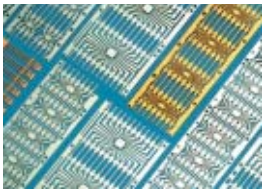
We have pushed out the boundaries of compressor performance with our standard and non-standard models featuring the world's highest pressurization. With a strong track record of shipments at home and overseas, we are way ahead of the competition in innovation and technology.

Largest IPP in Japan

Wholesale power supply business

The Shinko Kobe Power Station has been built within Kobe Works. This environmentally friendly city-scale power plant has a capacity of 1.4GW. It is the largest independent power producing (IPP) business in Japan.

Top level in East Asia



Copper sheet for electronic materials

Production of copper alloy sheet products, including leadframes for ICs. Kobe Steel has 25% of the East Asian market for leadframes, and 25% of the Japanese market for automotive terminals and connectors.

Pioneer within Japan

Titanium alloy for aircraft engines

Kobe Steel was the first in Japan to develop titanium alloys and is the only manufacturer to carry out everything from melting to the finished product. Titanium alloys are used in aircraft engines where stringent durability is required.

Only One, Number One

Iron Unit Business Gains World Attention

The Kobe Steel Group has achieved an impressive record in supplying production plants and technology for direct reduced iron (DRI)*, the demand for which is rapidly increasing as a result of a world shortage in ferrous raw materials. Continuing its thrust in innovation, Kobe Steel is growing its iron unit business, including advancing the ITmk3® Process, a next-generation ironmaking technology.

Pilot demonstration plant in Minnesota

Iron nuggets

Direct reduced iron plant in Venezuela

Gaining a Competitive Edge in the World Market

Alternative steelmaking methods are an attractive alternative to traditional blast furnace steelmaking, which requires a large amount of investment. Realizing the opportunities, Kobe Steel in 1983 acquired Midrex Technologies, Inc., developer of the MIDREX® Direct Reduction Process, which uses natural gas as a reductant to make DRI. Observing new trends in demand in recent years, Kobe Steel formed the Iron Unit Division in 2004, positioning it as a strategic business.

World production of DRI in 2004 rose to 54.6 million tons, of which two-thirds was produced by the MIDREX® Direct Reduction Process, owned by Kobe Steel. The Kobe Steel Group's iron unit business is centered on three pillars: plant supply, process licensing, and the manufacture and sale of DRI. In fiscal 2004 alone we succeeded in receiving orders for projects totaling about ¥60 billion in such countries as Qatar, Saudi Arabia, Malaysia, Russia and Oman.

In China, where the construction of new mini blast furnaces is being restricted, we have signed a letter of intent for establishing a joint venture with a Chinese government-owned steelmaker to utilize the FASTMELT®* Process.

Development of High Efficiency, Environmentally Friendly Next-Generation Ironmaking Technology

Kobe Steel is working to commercialize the ITmk3® Process, a third-generation ironmaking process, following blast furnace ironmaking as the first generation and direct reduction as the second generation.

ITmk3® does not use coke. With low-grade ore and steam coal, good-quality iron can be made in about 10 minutes, versus blast furnace ironmaking, which requires 8 hours. Furthermore, investment costs can be reduced and CO_2 emissions are 20% lower than the blast furnace method. ITmk3® is an economical and environmentally friendly technology.

From May 2003, we operated a pilot demonstration plant for over a year with other partners and in cooperation with the Minnesota state government to test the ITmk3® Process at a larger scale of operation. Excellent results were achieved in continuous operation, process efficiency and product quality. Currently discussions with the partners are ongoing regarding the building of a commercial plant. As a leader in the iron unit business with considerable achievements, the competitive position of Kobe Steel is unshakable.

* Direct reduced iron: Iron ore from which oxygen has been removed, with an iron content of 80% or more. DRI is often used as a supplement or raw material in electric steelmaking. Demand has increased rapidly as an alternative for high quality scrap.

* FASTMET® Process: Jointly developed by Kobe Steel and Midrex Technologies Inc., this process uses readily available steam coal as the reductant to turn iron ore fines into DRI. Unlike blast furnaces, a coke furnace is not necessary. This makes the process an attractive alternative to mini blast furnaces.

* FASTMELT® Process: Uses coal (steam coal) as the reductant and iron ore fines as the raw material. Coke and sintered iron ore (or pellets) are not required. Following reduction, the DRI is melted in a melter, and the molten iron is separated from the slag (impurities).