



[SPECIAL FEATURE 1]

JFE Pride: World-Class Steelmaking Know-How

The JFE Group continuously strives to identify trends and respond with products capable of satisfying contemporary needs. This effort is made possible by high technological capability and superior human resources. Capitalizing on these strengths, the JFE Group is determined to maintain sustainable growth in concert with efforts to support society and protect the environment.



Only 1, Number 1

Social Contribution: High-end Steel That Supports JFE

Under the corporate vision of "contributing to society with the world's most innovative technology," the JFE Group gathers technological excellences, develops and manufactures products and technologies which contribute to the environment and society, and provides these fruits to the general public.

JFE excels at producing high-end steel, which has high strength, high corrosion resistance and high formability. This multi-function steel is recognized as essential raw material to support manufacturing of automobiles, home electric appliances, vessels and other products with low environmental loads. For example, high tensile strength steel sheets (HITEN, NANO HITEN) and HISTORY steel tubes, both of which contribute to weight reduction and collision safety of automobiles, and coated steel sheets, which contain no environmental load substances and contribute to weight reduction of automobiles, are indispensable to countermeasures against global warming and reduction of environmental load substances.

Under the Second Medium-Term Business Plan, JFE has constructed and is continuously promoting a strategy to expand production of the world's top-quality high-end steel. Specifically, we have set the target of increasing crude steel production by 3 million tons from 27 million tons in the year ended March 2006 to 30 million tons in the year ending March 2009 with all the increment generated by high-end steel production (from 20 million tons to 23 million tons).

Moreover, we have defined products capitalizing on the unique proprietary technology in the industry as "Only One" products and those capitalizing on the most innovative technology in the industry as "Number One" products, with strategies to expand these products. JFE intends to increase production of Only One/Number One products from 5 million tons in the year ended March 2006 to 7 million tons in the year ending March 2009.



Currently, the world's demands for iron and steel products have been on a continuous rise. These demands are polarized between commodity-grade products and high-end steel products for automobiles, home electric appliances and vessels, etc. The former can be produced where "a set of facilities and basic operation technologies" are available, while the latter requires "consistent and refined quality control technologies." With these backgrounds, the needs for high-end steel are increasing rapidly.

We confidently believe that JFE's technical capabilities are at the cutting edge of the world. JFE is pursuing a high-end steel strategy which aims to create and further refine technologies ahead of competing makers. We firmly believe this strategy enables JFE to permanently ensure technological superiority, maintain sustainable corporate growth, and contribute to sustaining the global environment in good shape.

Only One/Number One Products as an Embodiment of JFE's Excellent Technological Capabilities

Based on its distinguished process technology to produce refined steel sheet as thin as 0.1 mm thickness, JFE holds a great number of Only One/Number One products and technologies capitalizing on excellent technological capabilities rooted in rich experiences and unique proprietary technologies second to none.



Steel Production Process

1 Raw Material Processing



Raw materials are burned into sinter and coke. Steel is made from iron ore, limestone and coal. Most of the iron ore is mixed with coke and limestone and burned into sinter before being charged into a blast furnace. Meanwhile, coal is put into a coke oven where it is steamed and burned into coke, which works as a reducing agent.

2 Iron making (Blast Furnace)



Pig iron is produced in a blast furnace. Sinter and coke are charged into a blast furnace. In order to melt the iron ore, a hot blast as high as 1,200°C is blown from the bottom of the furnace and pig iron is tapped from the furnace.

3 Steelmaking (Converter)



Hard and brittle "pig iron" is converted into solid and supple "steel". As pig iron is hard and brittle, it needs to be converted into solid and easily formable steel. During this process, oxygen is injected into a converter and impurities such as carbon are removed so as to convert pig iron into steel.



Technology

Technological Capabilities to Create High-Quality Products

JFE's high-end steel is produced by integrated technologies into which highly advanced technical know-how is assembled. These technologies are created by innovative "human" power which JFE boasts to the world in various aspects including "R&D," "production technology," and "facility maintenance."

Various advanced science technology and unique R&D taken ahead of customer needs are essential to create new products and technologies. As a corporate group with steel and engineering at its core, JFE is taking up challenges inherent to unique R&D under the world's most innovative research system which combines about 700 highly skilled experts.

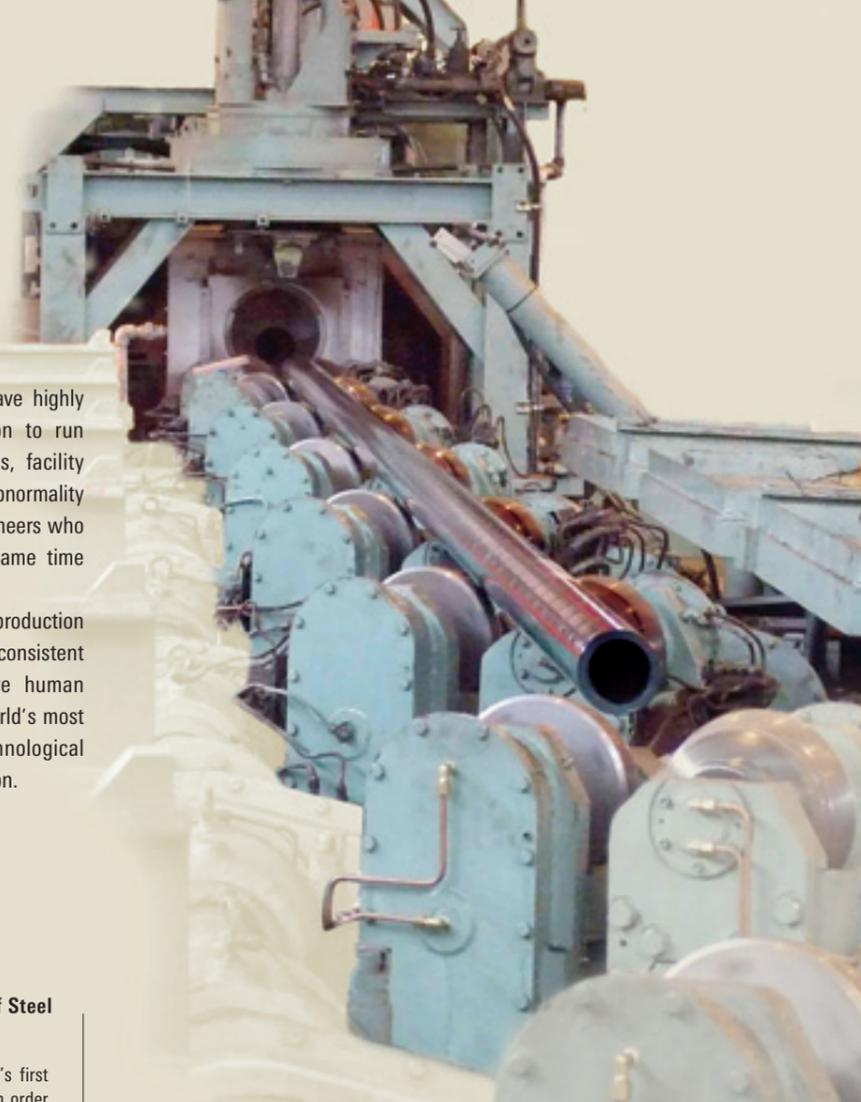
In recent years, customer needs for steel products have become more advanced and further diversified. Moreover, in light of acceleration of new product development, it is important to dig out and boost potential demands for steel materials. Through promotion of EVI (Early Vendor Involvement) activities, JFE has been carrying forward development of new technologies and new products which customers, society and the global environment are expecting.

In 2005, as the base of EVI activities, the Customers' Solution Laboratory (CSL) was established for customers in the automobile fields, while the Technical Solution Center for Steel Construction Materials (THiNK SMART) was set up for customers in civil engineering and construction fields as well as experts involved in university/corporate research institutes. In this way, JFE is strengthening the EVI activities.

Advanced production technology is also essential to deliver new products and new technologies based on R&D to our customers. Above all, high-end steel requires a great number of highly advanced science technologies, including component adjustments as precise as one millionth (ppm) or less, and crystal texture control on nano-order by thermal adjustments by 0.1°C in each stage from heating, cooling,

rolling to coating. In production sites, it is essential to have highly capable operation engineers who pay sensitive attention to run production facilities equipped with all these technologies, facility maintenance engineers who monitor facilities to prevent abnormality from happening in any facility, and energy environment engineers who provide huge steelworks with stable energy and at the same time reduce CO₂ emissions to the utmost.

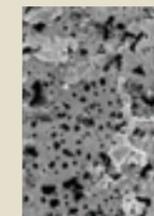
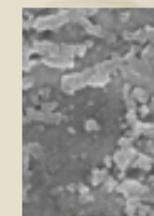
JFE has the world's most innovative engineers in its production sites as well, which ensures continuous production and consistent quality of high-end steel. "The world's most innovative human resources" are gathered to contribute to society with the world's most innovative technology, further sharpening their technological capabilities in order to maintain the world's forerunner position.



Center Pillar of Automobiles
The center pillar is a part which is located between the front and rear doors. It supports the roof and protects passengers from injury in case of a side crash.

Customers' Solution Laboratory to Create the Future of Steel Materials for Automobiles Jointly with Customers

In August 2005, CSL was established as the Japanese industry's first communication facility with customers in the automobile fields, in order to enhance customer satisfaction. Areas showing the latest research accomplishments, areas conducting investigations of automobile bodies and material compositions, experimental laboratories, and meeting rooms are all assembled in this facility. United activities with automobile companies and parts manufacturers not only promote our joint research vigorously but also lead to acceleration of R&D.



4 Steelmaking (Secondary Refining)



Impurities are removed to the limit. In order to manufacture extremely high-quality products, impurities are further removed and highly precise component control is implemented so as to realize the utmost purity.

5 Continuous Casting



Molten steel is cooled, solidified and cut into slabs/billets. Molten steel is poured into continuous casters and cooled down. The cooled and solidified steel is slowly taken out from the bottom of casters, and cut in a certain length into semi-finished steel products such as slabs and billets.

6 Hot Rolling



Slab is put through mills and rolled into thin steel sheets. After being heated in reheating furnace, slab is put through roughing and finishing mills where it is thinly lengthened out at once and rolled into hot-rolled coil.

7 Cold Rolling



Thinner and more refined steel sheets are produced. Steel sheets produced through the hot-rolling process are further thinly and evenly lengthened out by being put through mills at room temperature. As a result, steel sheets with high accuracy become available.



Human Resources

Fostering of Human Resources and Generation Shift in the Workforce

Considering "human resources" as an important element of an excellent company, JFE has been striving to improve sustainable capabilities which should last into the future. With "A Challenging Spirit, Flexibility, and Sincerity" being set forth in the Group's Corporate Values, JFE believes that each employee should always endeavor to "challenge" and carry forward his/her task in a "flexible" and "sincere" manner and that will lead to JFE's further prosperity.

In order to maintain a highly motivated workforce, JFE offers a wide range of educational courses on specialized technical knowledge (steel technology, management technology, finance and accounting, etc.) as well as new employee training programs, OJT sessions at assigned places and executive training programs. Moreover, we annually dispatch several personnel to foreign business schools, law schools or research institutions for overseas education. In this way, the JFE Group has been carrying out various training programs.

Employees' voluntary improvement activities at production sites also comprise a major driving force for enhancement of technological capabilities. Production staff members are engaged in voluntary improvement activities known as "J1 Activities," which aim to make the JFE Group the number one. More specifically, a small group has been organized in each workplace of production sites so as to prove individual creativity and solve key issues of its own workplace. The J1 Activities have set forth safety/environment, quality, productivity improvement, and cost reduction as major themes, having continuously brought about successful results for more than 40 years. Currently, about 1,500 groups are engaged in these activities, which greatly contribute to better communication and smooth generation shift in each workplace.

In Japan, the Year 2007 Problem, which is anticipated from the massive retirement of baby boomers, has become headline news recently.

In order to cope with the Year 2007 Problem, JFE has been endeavoring to foster human resources and pass on skills from generation to generation in an organized and planned manner. Since succession of skills characteristic of Japanese society requires quantification and database compilation of skills so as to grasp those skills at each level of workplaces, groups and individuals, a "comprehensive human resources fostering system" has been working at JFE Steel since its introduction in October 2006. Applicable scope of this system is accordingly enlarged.

JFE will continuously manufacture the world's most innovative products with the world's most innovative "technologies" based on the world's most innovative "human" power. We are determined to continue making contributions to customers, society and the global environment, as well as aiming at sustainable corporate growth.



Video shooting of special operation work



The 8th J1 Activities JFE Steel Family Convention

The 8th meeting for announcing results of J1 Activities (JFE Steel Family Convention) was held in Fukuyama in November 2006. A total of 27 representative groups (including 5 groups from abroad) were divided into 2 conference rooms where they earnestly reported their accomplishments.



8 Continuous Annealing



Steel sheets are annealed. Steel sheets hardened through the cold-rolling process are continuously heated, cooled and made into higher-strength steel sheets with excellent workability.

9 Coating



Steel sheets are galvanized for corrosion proof. Coating of molten zinc is applied to the surface of cold-rolled steel sheets. This galvanizing process produces coated steel sheets which are hardly rusted and easily painted and printed.

10 Shipment



Finally, high-end steel sheets are produced. Products become available after having gone through consistently strict quality control at each stage of a great number of production processes.



Products are delivered to customers. Finished products are delivered in high-quality state from steelworks to customers by sea, trailers or other transportation.