Column

Putting Traditional Hitachi Skills to Work in Emerging Economies

Hitachi Malleable Cast Iron Pipe Fittings and Conveyor Chains

Most of the piping products supplied by the Hitachi Metals group are used in locations where they are seldom seen: such as a part of machinery or under the ground or in the ceiling space of buildings. And yet this unassuming collection of products continues to pop up in unexpected areas, even in emerging economies. This article introduces malleable cast iron pipe fittings which feature the gourd mark and the conveyor chain used in the production of sugar.

Fig. 1—Malleable Cast Iron Pipe Fittings (Center) with Gourd Mark (Left) and Conveyor Chain for Sugar Production (Right).

MALLEABLE CAST IRON PIPE FITTINGS USED IN MIDDLE EAST

MALLEABLE (black heart) cast iron pipe fittings have been one of the products of Hitachi Metals, Ltd. since 1910 where they made their first appearance at Tobata Foundry Co. as the company was then known. The gourd brand mark was used to represent "greater toughness, smoothness, and more beautiful curves" and became well-known overseas.

The main use for malleable cast iron pipe fittings is to connect between steel pipes in applications such as fire fighting equipment in buildings, steam distribution systems in factories, and household gas piping. A surprisingly familiar product, you can expect to find products with this mark in office buildings, factories, or homes.

There is a long history of exporting these pipe fittings and Japan Pipe Fittings Association has records of domestic and export shipments going back to 1934. In the post-war period, we became the top producer of the product and at one time they were exported to more than a 100 different countries and regions. Even now, sales continue in

Fig. 2—Pre-war Scene of Malleable Cast Iron Pipe Fittings Being Loaded on a Boat.

Fig. 3—Map of Saudi Arabia and Yemen.

more than a dozen countries or regions where the product is a trusted brand.

Kingdom of Saudi Arabia

Hitachi Metals has been trading with Saudi Arabia since the middle 1950s and the country has been an important export market for piping components.

One key sales route has been plumbing wholesalers who supply wash basins, bathtubs, toilets and similar products and also perform the associated plumbing installation work. These businesses operate product showrooms in urban areas and store the materials for plumbing work in suburban warehouses. Another sales route is project wholesalers who deal with pipes, valves, and other components that supply the water and steam mainly used in factories.

Hitachi Metals has several distributors in the main cities, including Dammam in the east, Riyadh in the center, and Jeddah on the southwest coast. Together these cover all of Saudi Arabia. As an example, in Islam's holy city of Mecca, its products are used extensively in the dormitories and other buildings that serve pilgrims.

Republic of Yemen

Another important export market in the Middle East is Yemen, a country that seems even more remote to Japanese people than Saudi Arabia. Yemen is believed to be the site of the Kingdom of Sheba mentioned in the Old Testament and famous as the site of the maritime staging post sung about in the popular song "The Queen of Sheba." In the old days, the country was a distribution hub similar to Dubai. The Mocha brand of coffee beans got its name because it was shipped through the port of Mocha in Yemen.

Fig. 4—Water Supply Department of Yemen.

Malleable iron pipe fittings have been authorized from the Water Supply Department of the Republic of Yemen and sales have continued over a long period, albeit intermittently with orders being received as large construction projects take place. Although Yemen is a country many Japanese would struggle to locate on a map, we can be proud that it is a place where our products have remained in continuous use.

The Middle East is a region where our predecessors had gone before us to open up the market and earned a high reputation, and we intend to protect the trust that people have in Hitachi products and continue to satisfy customer expectations.

Fig. 5—Installation of Water Pipes in Yemen.

CONVEYOR CHAINS IN REPUBLIC OF INDONESIA

Hitachi Metals Techno, Ltd., part of the Hitachi Metals group, has built up considerable experience, particularly in the field of engineering chains whose specifications are different for each customer. Like malleable cast iron pipe fittings, engineering chains are a product with a very long history dating back to their first appearance as malleable chain back in 1910 at the Tobata Foundry Co., the predecessor of Hitachi Metals, where they were produced with the gourd brand mark. Mention the word "chain" to most people, though, and they will find it difficult to

guess what the product is used for. Conveyor chain is an essential component in conveyors which are used for materials transport in a range of different industries, and the performance of the conveyor chain influences the function of the conveyor. The value of conveyor chain is demonstrated in the sugar industry in Indonesia.

Indonesia's Sugar Industry

The history of sugar production in Indonesia goes back to plantations established as long ago as the early 17th century during the era of Dutch rule. The main destinations for the sugar produced at that time were Japan, China, and Europe, with annual exports reaching 4,400 t at their height during the 18th century. By the end of the 18th century, sugar had become the main export product for the world market.

Current sugar production in Indonesia is 2,550,000 t (in 2007) compared to domestic consumption of 4,660,000 t. With domestic production unable to satisfy demand, the balance is imported, mainly from Thailand. In response, the government has introduced measures in recent years aimed at increasing the proportion of sugar supplied locally and entered trade negotiations with the Association of Southeast Asian Nations (ASEAN) to protect its domestic sugar industry by proposing to keep sugar on the list of "highly sensitive products."

Product Characteristics Required by Sugar Industry

The relationship between Hitachi and the Indonesian sugar industry dates back to the mid-1980s. Having recognized the strong track record and reputation that Hitachi had developed in Cuba and elsewhere, the industry adopted its products in place of European-made chain.

Sugar processing plants in Indonesia can be broadly divided into the state-owned operations in Java and the private sugar production operations based primarily around the Lampung region of Sumatra. As sugar cane must be delivered to the factory within 48 hours of harvesting, sugar processing plants are located close to where the sugar cane is grown. The processing plants work by transporting and crushing the sugar cane to squeeze out the juice, but the fibers in the cane are tough and subject the conveyors and other parts to severe wear and tear. As the conveyors operate continuously 24 hours a day during the approximately eight-month season from May until December, the chain and other critical components cannot be allowed to deteriorate or break.

Hitachi Conveyor Chain

Ever since Hitachi-made chain was first adopted, technicians from Hitachi together with our local partners have visited the production sites each year during the off-season maintenance period. This provides an opportunity to listen to the requests from the factory staff and propose improvements to any problem areas as they go about checking the level of wear on the chains which are removed from the machinery for inspection. The cumulative effect of these visits, we believe, is to help improve the productivity of the sugar processing plant and

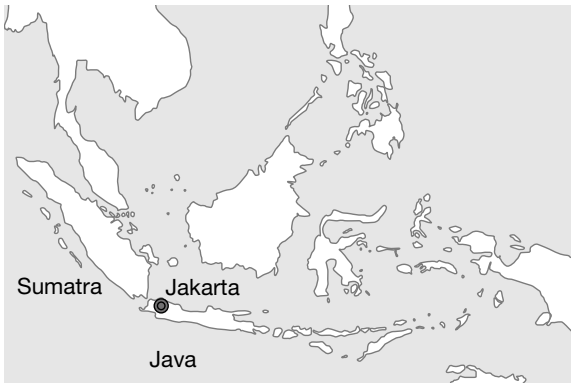

Fig.6—Map of Indonesia.


Fig.7—Sugar Processing Plant.

our standing with the customer.

Although, in technical terms, this standing comes from the high regard that the end users have for the excellent toughness, durability, and anti-corrosion characteristics of the product, in terms of practical business, the high level of assistance from our local partners and the cumulative effect of ongoing technical support also contribute significantly to the relationship of trust with the customer.

Consumption of sugar is growing by about 3% to 4% annually in Indonesia, and as the sugar industry is directly associated with the food supply, the government has put protective policies in place. Also, interest is growing in establishing an ethanol industry as a way of reducing fuel imports and boosting employment and it is expected that this will further boost demand for sugar in the future. As the size of the sugar industry grows, we are also anticipating an expansion in the scope for use of highly reliable Hitachi chain.

Fig.8—Sugar Cane Being Fed into Processing Machinery.

CONCLUSIONS

In engaging in business in locations such as Saudi Arabia, Yemen, and Indonesia, we have experienced various different types of culture shock brought about by differences of geography, culture, and religion. From a business perspective, we feel the necessity of understanding that there is a fundamental difference between products that feature the latest in technology and high-quality products that will be in strong demand in emerging economies.

In terms of their technology, malleable iron pipe fittings and conveyor chain are not leading edge products that are the first of their type in the world. Despite this, because they support production in industries that supply necessities such as water and food in harsh environments, these products exhibit strong brand power.

In the future, we intend to continue contributing our technical strengths to the advancement of emerging economies and the rich lifestyles of their people through the development of products that deal with the realities and requirements of these countries.

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