

The global magazine for corrosion resistant alloy users, suppliers and fabricators

WORLD STAINLESS STEEL

cover story

Viraj: One vision, many worlds



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*Mr. Neeraj Kochhar:
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Viraj Profiles Ltd: investing in excellence

Viraj Profiles Ltd. is one of the largest manufacturers and exporters of stainless steel engineering products in India, manufacturing over 50,000 items across various product verticals. This variety enables the company to operate as a one-stop solution provider for stainless steel engineering products. With over 92 approvals and certifications across various global norms, the company has a keen focus on quality and supplies to some of the world's most demanding applications. Stainless Steel World spoke to Chairman & Managing Director Mr. Neeraj Kochhar about the strategies the company employs to keep providing quality innovative products to the international and local markets.

By Joanne McIntyre

Reflecting back to when Viraj Profiles was founded near Mumbai in 1991, Mr. Kochhar recalls; "Initially the company started manufacturing utensil-grade steel for the domestic market but it always kept its eye on the international market which was growing significantly. To make an international presence a possibility, in 1995 Viraj started increasing its production capacity, diversifying into new grades and product ranges and enhancing its production processes." Since then, Viraj Profiles has transformed itself into the world's second largest stainless steel long products manufacturer with a capacity of 528,000 tonnes per annum, over 9,000 employees and an annual turnover close to USD 1.5 billion. Today the company marks its strong presence amongst global competitors, with its products being exported to more than 1300 Customers in over 90 countries. The company recently completed 20 years of its exports and Mr. Kochhar does not forget to pass on the credit for this success to his esteemed clientele and partners and the employees who made this possible with their diligent effort and left no stone unturned in establishing Viraj as the global leader in SS Long products. The

organization's highest quality products are well known amongst companies operating in steel, defense, construction & structural buildings, power, petrochemical and marine industries. The company has the unique ability to do complete backward and forward integration across the product lines starting from sourcing scrap, making billets and using these to manufacture other products like wires, fasteners, bright bars, profiles and flanges etc. Viraj Profiles manufactures a wide range of products using austenitic, ferritic, martensitic and duplex stainless steel grades. Products include wire rods, wires, fasteners, flanges & fittings, bright bars and sections & profiles. Explains Mr. Kochhar, "In Wire and Wire Rod section we manufacture different types of wires like welding wire, cold heading wire, fine wire, electro polish wire, spring wire, rope wire, redraw wire, tie wire, nail wire, conveyor belt wire in size ranging from 0.07 to 13.5 mm. We also manufacture wire rods in the size ranging from 5.5 to 39.5 mm. we also produce flanges in size ranging from 0.5" to 40". In addition to this we also manufacture cold drawn bars, peeled and polished bars, rolled bars, forged bars in various shapes such as

round, hexagon, square and in various size ranging from dia 3 mm to 600 mm."

Investments in technology

As part of its ongoing technology upgrades, Viraj Profiles commissioned a Level-2 Automatic Section Rolling Mill in its Tarapur plant. The completely automated plant is the first of its kind in the world with online pickling and labeling facilities. Automatic packaging and storage facilities enable rapid product dispatch, and the annual capacity of the plant is 180,000 tons per annum. "The fully automated processes not only increased production capacity but also ensures accuracy in the measurements and dimensions of each product," explains Mr. Kochhar. "This plant has several features which make it a benchmark in the industry. The furnace is walking beam type with special emphasis on operational efficiency and fuel saving. The automatic combustion control guarantees a uniform heating of the billets while also providing limited stack emissions. The plant is equipped with FeHR cassette rack system which is also known as a honeycomb warehousing system, enabling quick storage and retrieval of bars, all at the touch of a button."

Other recent additions include a new ring rolling machine, a 2000 ton forging press and an additional 10 ton pneumatic hammer, Mr. Kochhar explained. "In addition, 15 new CNC machines and



The Section Rolling Mill in Tarapur has an annual capacity of the plant is 180,000 tons per annum.



Viraj is continuously developing its range of wire products.



The SRM plant's FeHR cassette rack system - also known as a honeycomb warehousing system - enables rapid storage and retrieval of bars at the touch of a button.

a large diameter Hyundai CNC-VMC for machining flanges have also been added. These investments allow us to cater to the increasing demand for high quality stainless steel flanges. Finally, a continuous hardening and tempering furnace for coils and bars has been commissioned."

Logistical independence

Viraj is almost self-reliant in terms of transport and logistics. The recent commissioning of a container freight station and inland container depot help ensure products are delivered on time. Having its own container depot enables the company to complete the customs clearance process near the point of production, saving time at gateway ports.

Special steels for demanding applications

Viraj is in the process of setting up facilities for manufacturing special steels and super alloys for critical applications in aerospace, defense and power projects. "To achieve this we are upgrading with special melting and re-melting furnaces such as Vacuum Induction Melting (VIM), Electro slag re-melting (ESR) and Vacuum Arc re-melting," continues Mr. Kochhar. In the power sector the special grades will be used for steam turbine blades, pressurized heavy water reactors (PHWR), and fuel handling machines for PHWR. The alloys will also be used to make flow formed tubes for special projects at the Defense Research Development Laboratory, which is a Missile system laboratory working on the design, development and flight evaluation of various types of missile systems for the Indian armed forces. The aerospace sector is another important market for special steels, with stringent quality requirements

necessitating production using special melting and re-melting processes.

"We produce more than 30 grades of stainless steels as per ASTM DIN/EN and other international standards in various shapes and sizes," explains Mr. Kochhar. "Viraj has quality system ISO 9001: 2008 in place and we have more than 92 certificates of approvals for supplying stainless steel flanges to our various global customers. With the addition of the new melting facilities we will be able to manufacture and supply alloy steels, stainless steels and super alloys to critical sectors complying with the stringent quality requirements."

New product development

As part of its long term business strategy Viraj Profiles has moved into the production of super duplex stainless steels. These grades are especially in demands for the oil and gas industry, marine applications and architecture and construction where high load bearing capacity is desired. In addition to its range of austenitic, martensitic and ferritic

grades, the company has developed martensitic grades with hardening and tempering. New developments have taken place in its range of wire products, for example soap-coated fine spring wires in size ranges of 0.35 mm - 0.65 mm have been developed.

Viraj Profiles has also developed special coating wires which are used for springs and nails. This process leaves a very light lubricant film on the wire; as a result guides are not jammed, tool life is increased and epoxy coating on nails is improved during processing at the customers' end. New developments also include in-line drawing with spooling of 1 MT euro coils with precision winding; and approvals from CE, VDTUV and ABS for welding grades TIG and MIG wires.

Focus on Indian market

There is no doubt that the Indian market has grown significantly in past couple of years. The potential for growth is huge and local stainless steel consumption has multiplied in the past two years. Some of the main sectors driving this trend are infrastructure and architectural applications such as the modernization of airports, metro railways, modernized bus shelters, stainless steel wall claddings, household applications, furniture, street infrastructure, process industries etc. The per capita consumption of 1.9 kg is still much lower than the global average of around 6 kg and is certain to increase greatly.

Mr. Kochhar explained that Government institutions have started to realize the importance of using stainless steels and recognize the long term benefits. On a broader scale, as the emphasis on protecting the environment grows and companies become more aware

Caring for the environment

Viraj is going eco-friendly by focusing on energy efficiency in its factories and production processes. The use of recycled scrap supports waste management, conserves natural resources and reduces its carbon footprint. Other initiatives include:

- New induction furnaces with ash collectors.
- Induction furnaces are utilized on a rotational basis to ensure they are maintained at optimum levels and minimize the energy consumption.
- Automatic temperature control system prevents overheating and reduces energy requirements per cycle.
- All dust generated in the shot blasting process is collected. Particles with heavy iron content remain at the bottom and are removed manually. These are then recycled into the induction furnace to save cost and reduce wastage.
- During the annealing and pickling processes water is recycled, passed through a scrubber and absorber system and treated with acid or base for neutralization.
- A new gas conversion plant both only helps to reduce the company's carbon footprint and achieves economy of scale. Gas conversion achieves combustion efficiency and extends the life of the furnace. The use of furnace oil - which emits gases harmful to the environment - is reduced by around 45%.



Viraj Profiles has developed special coating wires which are used for springs and nails.



A large diameter Hyundai CNC-VMC for machining flanges has been added to the Viraj workshop.

of their responsibilities, there is no better option than stainless steel which is 100% recyclable, long lasting and very cost effective considering its low maintenance and longevity.

Mr. Kochhar adds: "With the recent 'Make in India' campaign gaining momentum, we see lot of Indian and overseas companies expanding their operations here. This is set to increase

will build around 100 smart cities, with a strong emphasis on providing sound sanitation and waste management solutions, is likely to give a strong push to the stainless steel industry. This is one of the reasons why we have started focusing on the Indian market also now. Secondly, the rise in discerning customers is also fueling the growth of stainless steel in Indian market."

The human face of Viraj Profiles

Viraj Profiles has a workforce of over 9000 employees at various locations. Mrs. Kochhar, who also heads the HR Department in the company, says, "Everyone plays a vital role in making this a great place to work at. Continuous training and mentoring programmes make us one of the most preferred employers in our industry.

"Passion, ownership and transparency are the backbone of our work culture" – Mrs. Renu Kochhar

the demand for new construction and thus increase demand for this wonder metal. Encouragements from the Government such as the single window policy for seeking various permissions, approvals and licenses has also eased the process of setting up new businesses in the country and set a positive tone for new ventures. This will not only provide more employment opportunities but will also have a positive impact on the country growth. The recent announcement that the government

The Indian market has a huge appetite for stainless steel and Viraj Profiles is particularly focusing on coastal regions such as Mumbai, Chennai and Kerala which require special grades of stainless steel with higher levels of corrosion resistance. Its R & D team is developing new grades of stainless steel suitable for these areas. The company is also strongly focused on the automobile sector which is one of the fastest growing industries in the current economy.

The backbone of the company's human resource policy is the gathering of a multi-skilled and multi-cultural workforce comprising team players who have great pride of ownership and accountability towards translating the organisational vision into reality. We strive to be recognised as the finest organisation for training and development in the sector. We believe in empowering every individual, no matter at what level, which is why we value innovation, integrity and initiative."

Corporate social responsibility

Viraj Profiles has an extensive CSR policy and provides social, economic and environmental benefits to the communities and geographies in which it operates. Its CSR projects focus on key areas such as health, education, environment and women empowerment. This focus enabled Managing Director Mrs. Renu Kochhar to realize a lifelong dream when she founded the Viraj Shri Ram Centennial School. Providing education matching international standards at the company premises in Kurgaon, the school was recently awarded 'One of The Top Emerging Schools' in Mumbai from the Times of India newspaper.

"The prime motto of our school lies in providing wholesome education to its students and providing them with a platform where their hidden talents can be channeled and portrayed. VSRCS has succeeded in doing this because of its strong pillars: curriculum, faculty and methodology. We conform to the ideas of equal opportunities and believe whole heartedly in saying – use what talent you possess."



Mrs. Kochhar pictured at the Viraj Shri Ram Centennial School

Facts & Figures

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| Name: | Viraj Profiles Ltd |
| Founded: | 1991 |
| Headquarters: | Palghar, Maharashtra, India |
| Main products: | Stainless steel wires, wire rods, fasteners, flanges, bright bars, profiles |
| Employees: | 9,000 |
| Website: | www.viraj.com |
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