VIZAG PROFILES GROUP

STEEL EXCHANGE INDIA LTD

Strengthening Our Planet

Simhadri TMT

Superior Strength
Superior Quality

What we are...

Our mission is to supply high quality steel products and related services while utilizing innovative technologies within an environment of motivated employees, focused on continuous improvement, highest business standards, work ethics and corporate citizenship, leading to enhanced value for our customers and a sustained return on investment to our shareholders.

Our vision is to be an integral part of the growth in India's per capita steel consumption by achieving a steel production capacity of **1 MTPA** by expanding the existing product capacities as well as by diversifying into Specialty Steel Wire Products.

Our constant focus on innovation has led to us being recognized as one of the best steel product manufacturers in the country. 'SIMHADRI TMT' the brand under which the firm's rebars are marketed has a strong recall value among steel consumers. We also take pride in the fact that we are one of the few manufacturers of CRS grade rebars in the country who supply to the Armed Forces of India and projects of National Importance.

Forging a character of steel, with determination, devotion and dedication over the years, we at Steel Exchange India Limited have blended years of experience, production excellence and trained technical manpower to establish our hard working and ambitious enterprise scaling new heights every year.

Who we are...

Steel Exchange India Limited is the flagship company of the Vizag Profiles Group. Established in 1999, SEIL is a leading manufacturer of TMT Rebars under the brand 'SIMHADRI TMT'. The firm is primarily engaged in the manufacturing of steel products and allied activities at its Integrated Steel Plant located close to Visakhapatnam, Andhra Pradesh.

The promoters come from a background of trading in steel and allied products. In 1999 as part of diversification efforts, they ventured into the software sector by incorporating Pyxis Technology Solutions Limited (PTSL). PTSL focused on development of B2B specific online solutions. SEIL was incorporated as a 100% subsidiary of PTSL to start an online steel trading portal, steelexchangeindia.com.

In 2002, the promoters began the backward integration of their steel trading activities with the acquisition of Simhadri Steels Private Limited (SSPL), a sick rolling mill with an installed capacity of 45,000 tons per annum and turned it around. In 2003, the subsidiary and SSPL were merged with PTSL under the 'Scheme of Amalgamation' and the combined entity was renamed as Steel Exchange India Limited.

In 2005, the firm set up a gas based power plant and ingot manufacturing unit at Kothapeta in East Godavari District, Andhra Pradesh keeping in line with earlier plans for the backward integration. In 2008, the firm became a strategic investor in the revival and rehabilitation of GSAL (India) Limited, a sick company referred to the BIFR. After the acquisition, as part of the rehabilitation plan, SEIL set up a 60 MW Coal Power Plant, a 250,000 MTPA capacity SMS billet unit and a 225,000 MTPA capacity rolling mill in for the captive consumption of sponge iron. In the process SEIL established the largest private Integrated Steel Plant in the two Telugu States, Andhra Pradesh & Telangana, capable of manufacturing finished long products from iron ore.

Responding to the clarion call of the Prime Minister of India for an 'Atmanirbhar Bharat', SEIL is taking steps to diversify into the production of Specialty Steels by taking advantage of the Production Linked Incentives provided by the Government of India.

OUR STEEL PLANT

The Largest Private Integrated Steel Plant in the Telugu States of Andhra Pradesh & Telangana, located at L.Kota Mandal, Vizianagaram Dist. with state-of-the-art technology, our Steel Plant covers nearly 500 Acres with 3 Private Railway sidings located on the Bailadila – Kirandul Railway Line.

The Steel plant has several advantages i.e. proximity to Visakhapatnam Sea Port, Airport & city, availability of abundant water resources from the nearby reservoirs. The substantial advantage of our plant is environment friendly i.e. most of our plant is covered up with lavish greenery & huge plantations.

Our integrated steel plant has four major divisions – Sponge Iron Plant (DRI), Steel Melting Shop (SMS), Rolling Mill and Power Division.

CAPTIVE POWER PLANT 60 MW

The Power plant was setup to meet present and future electricity needs of all production units. 2x30 MW turbo generators with air cooled condensers, 210 T/hr circulating fluidized bed combustion (CFBC) boiler and 2x36 T/hr waste heat recovery boilers (WHRB) in flue gas circuit of DRI kilns were installed. Auxiliaries include coal & char handling; bed ash & fly ash handling, DM & aux. cooling water; service & instrument air; 132/11 KV substation & electrics; instrumentation & automation systems.

ESPs of WHRBs revamped. Particulate emission in flue gas of boiler chimneys is less than 50 ppm/ NM 3. Provision of air cooled condensers for turbines and dry ash collection minimized water consumption. Reject coal fines and char fully consumed in CFBC boiler as part fuel. Ash issued to brick manufacturers. Apart from meeting captive needs, it exports surplus power to grid, runs at good PLF and earns revenue.

SPONGE IRON PLANT: 2,20,000 TPA

The unit has 2x350 TPD kilns and supported by facilities for raw material, water, power and other utilities. Stand alone DRI plant was not economically viable and became sick. The plant was acquired from GSAL (India) Limited, revamped and successfully brought back to production.

Downstream units added to enable consumption of sponge iron in house. It took considerable time and effort for turning around the plant. Power system was revamped. 132/6.6 KV transformers and 6.6 KV switch gear abandoned. New 2x25 MVA, 132/ 11 KV transformers installed and HT distribution within plant changed over to 11 KV. Separate arrangement made for 6.6 KV power to sponge iron plant.

STEEL MELTING SHOP: 3,00,000 TPA

The unit was setup with 8x25 T, 11 MVA Induction Furnaces and a radial, 3 strand, 4/7 Met continuous caster producing 100 x 100 mm size billets. Belt conveyors & bins installed for transfer & storage of DRI to SMS. Purchased pig iron (10%) and steel end cuts (20%) along with in house produced sponge iron (70%) melted. Ferro alloys added to obtain desired steel composition suitable for rebars.

Other facilities include over head cranes, fume exhaust, oxygen storage, repairs (ladle, tundish and castor moulds), Water system (makeup plant, cooling tower, pumps and emergency tank), DG set for emergency power, electrics and instrumentation & automation systems.

ROLLING MILL: 2,50,000 TPA

Continuous and fully automated Bar Mill, producing TMT Rebars FE 500D, FE 550D & HSCRM to BIS standards in sizes 8, 10, 12, 16, 25, 28, 32 mm and length up to 12 mts. Mill is suitable for slit rolling of bars.

Other facilities include billet charging and discharging equipment, 20 stand continuous mill, roller tables, water quenching, flying shears, cooling bed, cold shear, piling and bundling systems. Auxiliaries include fuel oil storage, coal gasifier, water system (makeup plant, cooling towers and pumps) over head cranes, Weigh Bridge, laboratory, electrics and instrumentation & automation.

Roller table installed for billet transfer from caster and direct rolling, saving fuel cost in billet reheating.

QUALITY CONTROL DIVISION

Simhadri TMT Quality at every step - from the input of raw material to the final product deliverd on site. With a highly automated plant and continuous checks at every level, Simhadri TMT is able to produce the best quality rebars in the country. The quality team is equipped with modern testing facilities, which ensure that the products meet stringent norms and quality standards. Simhadri TMT is committed to providing complete satisfaction with respect to quality, delivery and services. Feedback from the customers acts as inputs for continuous improvement on products and services.

MANUFACTURING PROCESS

Prime quality billets made from fully killed steel produced by our own steel melting shop are rolled in 20 continuous stands with 3 lopers for tension free rolling of bars to give uniform dia during rolling. The ribs on finishing rolls are cut in a three axis CNC rib cutting machine to maintain uniformity and angle to give good pullout strength properties through out the length of the bars being rolled.

TMT TECHNOLOGY

We use TEMPCORE Quenching Technology, which has been developed in the early seventies by C.R.M., Belgium in order to manufacture high yield strength weldable concrete reinforcing bars from mild steel.

As soon as it leaves the final mill stand, the product is rapidly and energetically cooled through a short cooling installation, where it undergoes surface hardening (martensite layer). As soon as this quenching operation is stopped, the surface layer is Tempered by using the residual heat left in the CORE of the bar (self-tempering of the martensite layer); hence the name Tempcore. The third stage takes place while the product lies on the cooling bed where the bar is subjected to normal cooling down to ambient temperature (transformation of the residual austenite in the core.)

ULTIMATE TENSILE STRENGTH

Simhadri TMT has higher yield strength & ultimate tensile strength coupled with higher percentage of elongation which allows the building structure to gain more strength. Simhadri TMT Bars are extremely tough and stronger than most of the bars in the market and also maintains the same high strength even in the longer period of time. The reports for tensile strengths conducted by Material Testing House (India) ltd, Bhagavathi Ana Labs Ltd, Department of Mechanical Engineering A.U, and SGS International confirmed high yield strengths and the product is safe and satisfactory.

EXCELLENT BENDABILITY

Bendability plays a major role in Reinforcement; the outer layer (Martensite) of Simhadri TMT Bar is highly resistant to the stress and the core (Inner Circle) of the bar is soft which offers excellent bendability to the bars which bend easily without breaking and has the ability to be easily modified into any shape. Simhadri TMT undergoes several tests which results in superior reverse bending properties with strength and flexibility should be able to easily bend without any appearance of surface cracks along its bends.

SEISMIC RESISTANT

With State – of – Art Technology, Simhadri TMT steel bars are manufactured with high tensile and ductility properties and soft ferrite - pearlite core which enables the bar to bear dynamic and seismic loading. Simhadri TMT can with stand to earthquakes and other natural calamities as it is having higher elongation characteristics which ensure a better adjustment to tensile stress in seismic activity. Simhadri TMT bar is having superior properties such as high tensile strength ductility, bendability and weldability meeting highest quality standards at the international level thus emerged as the strongest steel bar in the market.

CORROSION RESISTANT

Simhadri TMT high quality steel bar embedded in concrete shows a high amount of resistance to corrosion. The cement paste in the concrete provides an alkaline environment that protects the steel from corrosion by forming a protective layer (ferric oxide film), with our TMT Technology, hardened outer casing forms one more protective layer which prevents further corrosion.

EXCELLENT WELDABILITY

The welding performance is an important indicator of TMT bar. After welding, the microstructure and properties of the weld and heat affected area will change and become weak point of the bar. The amount of carbon content in steel has been a major deciding factor and an excess of carbon content threatens, its property of weldability. Simhadri TMT steel bar with low carbon content has In-built ability to resist loss of strength at high temperature, can be butt welded & lap- welded.

ULTIMATE BONDING

Bonding of TMT bar plays a key role in reinforcement. The rib design of Simhadri TMT is unique and external ribs having high surface area running across entire length of TMT bars which gives superior bonding strength and enables to resist the stresses and increase the bond strength of concrete and bar and able to withstand all kinds of loads, Simhadri TMT bars bonds ultimately with concrete and helps concrete structure to stay strong.

Quality Tables

TMT BARS WEIGHT / METER SPECIFICATIONS (All Sizes in Wt/mt in Kgs)

IS 1786-2008 Specification				Simhadri TMT Bars Specification	
Size	Std.	Min	Max	Min	Max
8mm	0.395	0.367	0.423	0.383	0.399
10mm	0.617	0.574	0.660	0.598	0.623
12mm	0.888	0.844	0.932	0.861	0.897
16mm	1.578	1.499	1.657	1.531	1.594
20mm	2.466	2.392	2.540	2.417	2.491
25mm	3.854	3.738	3.970	3.777	3.893
28mm	4.835	4.690	4.980	4.738	4.883
32mm	6.316	6.127	6.505	6.190	6.379

MECHANICAL PROPERTIES OF TMT BARS (Y.S. and U.T.S are in N/mm^2)

IS 1786-2008 Specification			Simhadri TMT Bars Specification		
Properties	Fe-500D	Fe - 550D	Fe-500D	Fe - 550D	HSCRM Fe - 500D
Yield Stress	Min	Min	Min - Max	Min - Max	Min - Max
Ultimate Tensile Strength	500	550	520 - 560	570 - 610	520 - 580
	565	600	600 - 680	640 - 710	600 - 680
% Elongation	16	14.5	18 - 24	15 - 20	18 - 24
Rato (U.T.S / Y.S)	1.13	1.08	1.14 - 1.25	1.09 - 1.17	1.18 - 1.25

CHEMICAL PROPERTIES OF TMT BARS

IS 1786-2008 Specification (% Maximum)				Simhadri TMT Bars Specification (% Mininum - %Maximum)		
S. No	**Elements**	**Fe-500D**	**Fe-550D**	**Fe-500D**	**Fe-550D**	**HSCRM**
1	Carbon	0.25	0.25	0.16 - 0.25	0.16 - 0.25	0.18 - 0.22
2	Sulphur	0.040	0.040	0.020 - 0.040	0.020 - 0.040	0.025-0.045
3	Phosphorus	0.040	0.040	0.025 - 0.040	0.025 - 0.040	0.035-0.050
4	Sulphur & Phosphorus	0.075	0.075	0.045 - 0.075	0.045 - 0.075	0.060-0.095
5	Carbon Equivalent (C.I)	0.50	0.61	0.26 - 0.50	0.26 - 0.61	0.30 - 0.45
6	Nitrogen	0.012	0.012	0.006 - 0.012	0.006 - 0.012	0.006-0.010
7	Copper (Cu)	-	-	-	-	0.20 - 0.30
8	Chromium (Cr)	-	-	-	-	0.40 - 0.65
9	CRE (P+Cr+Cu)	-	-	-	-	0.75% (Min)

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RAW MATERIALS

The Company primarily sources iron ore lumps (ROM & DRCLO) from NMDC's Bacheli Complex in Odisha. Coal is procured domestically from Mahanadi Coalfields and Singareni Collieries as well as imported from South Africa and Indonesia.

E- COMMERCE

A Technically qualified marketing team is always ready to interact with customers and reassure them about the quality of products and handle their needs. Modern communication links help us to be in continuous contact with customers and respond to them instantly. SEIL is having several branch offices across South India with fully computerized marketing network. Steel Exchange India Ltd attains a high level synergy in meeting the ever changing needs of the customer.

HOUSING FOR STAFF

SEIL has a well planned colony built within its premises for its staff and workers.

POWER & MELTING DIVISION

The Plant is spread over 13.5 acres at Kothapeta, Ravulapalem near Rajahmundry in AP. The plant generates 12 MW of power from naturl gas powered by GAIL. The power plant is connected to the APSEB Grid and has agreement for power evacuation. The power is used captively for manufacture steel raw material in its 3 nos. of Induction furnaces.

LICENSE CERTIFICATIONS AND APPROVALS

- Trademark Certification
- Chennai Port Trust Approval
- MES Approval
- DRDO Approval
- DAE Approval
- NPCIL Approval
- APSHC
- AP GENCO
- NHAI Approval
- Tamilnadu Housing Board
- Tamilnadu Electricity Board
- Engineers India Ltd
- BIS Certification
- ISO 9001 : 2015 Certification
- ISO 14001 : 2015 Certification
- OHSAS 45001 : 2018 Certification
- IREPS
- Southern railways
- RC Imarat
- Rail Wheel Factory
- GEM (Government e Market Place)
- AARVEE Associates (Morth Projects)
- L&T Construction Approval
- HPCL
- Bharat Dynamics Ltd
- Bharat Heavy Electrical Ltd
- ISRO SHAR Centre
- ISRO VSSC Mumbai
- National Highways Consultant for Orissa Project
- National Highways Consultant for Kerala Project
- National Highways Machilipatnam

OTHER GROUP ACTIVITIES

VIZAG PROFILES PVT. LTD

This company deals with logistics, material handling and storage. This division is well equipped with material handling equipment like JCBs, Tractor Trailers, Transport Vehicles, Heavy Capacity Trailers, Mobile Cranes and 60 tonnes Capacity Weigh Bridge. It has got a fleet of transport vehicles to take care of the logistics. This Division handles around 5 lakh TPA. Vizag profiles is IBA approved Transporter.

VPL INTEGRAL CFS

VPL INTEGRAL CFS is a joint venture between M/s. Vizag Profile Group and M/s. Integral Trading & Logistics. A special purpose vehicle located as M/s. VPL INTEGRAL CFS Pvt. Ltd.,to operate and manage the Container Freight Station established in a area of 10 acres land, located near Gangavaram Port and adjacent to RINL, Visakhapatnam. Covered warehouse facility has a capacity 25,000 square feet as well as a designated area for examination and verification of Containers stuffed with General, Bulk and Project cargoes.

SAWP STEEL LIMITED

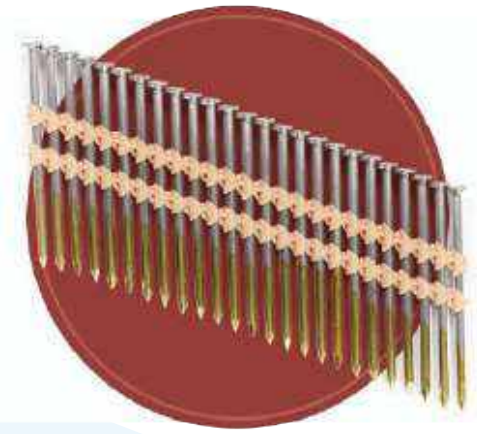
The company was started with the object of carrying business of manufacturing of binding wire and trading of iron and steel products. Wire drawing unit was established with installed capacity of 6000 TPA in the company owned premises located at Aganampudi, Gajuwaka, Visakhapatnam District.

The end use product is used widely in the construction industry. The company successfully penetrated the binding wire market in Andhra Pradesh and neighboring states with good market Share.

Subsequently the manufacturing Plant and operations shifted to newly purchased premises which is located at S.NO.88, R.G.Peta, L.Kota Mandal,Kotavalasa,Vizianagaram District,during 2015-16.

Company constructed new building in 2015 and started production with new plant & machinery having an installed capacity of 21000 TPA at RG Peta, Kothavalasa and also company broad based its product range i.e high carbon wire products.

Company started nails division in 2022.



VIZAG PROFILES PVT LTD.

Infra Division

Green City, an Integrated township developed by infra division consists of 96 duplex villas and 144 3BHK & 4 BHK Flats in 23 Acres in the 1st Phase. In the next phase of its development the group built a CBSE school "Green City International School" and Commenced construction of 2 BHK affordable apartments "Green City Homes", Over 400 Flats in 15 Blocks in 5 acres of site.

MODERN AMENITIES

- Duplex Houses
- Club House
- Gymnasium
- Tennis court
- Children's play ground
- Jogging tracks
- Temple
- Medical Centre
- Solar water heating system
- Swimming Pool
- Connectivity to internet through broadband, DTH, Telephone, Cable TV, etc.


VPL Green City Grand Entrance with 24x7 Security


Sri Vaibhava Venkateswara Swamy Temple


Green City Club


Medical Centre


Badminton Academy


Green City E.M School

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Corporate Office :
Block-A, Green City, Near Apparel Park,
Vadlapudi Post, Visakhapatnam - 530 049.
Ph: 0891-2587175,258757 Fax: 0891-2749215
Mobile : 7997464464, 9848122589

Registered Office:
D.No:1-65/K/60, Plot No: 60,
1st Floor, Abhi's Hiranya,
Kavuri Hills, Hyderabad-500081
Telephone: 040-23403725 / 23413267

Email: info@seil.co.in, mktg@seil.co.in
Web: www.seil.co.in