PROJECT REPORT ON

COMPARATIVE ANALYSIS OF VARIOUS STEEL PRODUCTS

SUBMITTED TO:

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Certificate

This is to certify that PRAKRITI RAJ of NIT, PATNA, Roll no.- 2103097, has successfully completed the project work on COMPARATIVE ANALYSIS OF VARIOUS STEEL PRODUCTS for Steel Authority of India under the guidance of Shri Pramod Manikpuri, Manager(MS-WH), SAIL CMO BSO, Patna.

SIGNATURE

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INTRODUCTION

This project aims to make a detailed analysis about the various products produced by Steel Authority of India Ltd. This project includes details about various products , their manufacturing process, merits , demerits and the market status of various products.

It includes the cost analysis, performance analysis, quality analysis and comparative evaluation of various steel products.

The project is based on various case studies and review from the users .

The Comparative Analysis of Steel Products project aims to provide a comprehensive evaluation of different steel materials, allowing stakeholders to make informed decisions based on quality, performance, and cost considerations.

The findings of this project will serve as a valuable resource for engineers, architects, manufacturers, and decision-makers in selecting the most suitable steel products for their projects or applications.

SAIL-
STEEL AUTHORITY OF INDIA

Steel Authority of India Limited (SAIL) is a central public sector undertaking based in New Delhi, India. SAIL operates and owns five integrated steel plants at Bhilai, Rourkela, Durgapur, Bokaro and Burnpur (Asansol) and three special steel plants at Salem, Durgapur and Bhadravathi. It also owns a Ferro Alloy plant at Chandrapur. As a part of its global ambition, the psu is undergoing a massive expansion and modernization programme involving upgrading and building new facilities with emphasis on state of the art green technology.

SAIL is in the process of modernising and expanding its production units, raw material resources and other facilities to maintain its dominant position in the Indian steel market. The aim is to increase the production capacity from the base level production of 14.6 MT per annum (2006–07) to 26.2 MT per annum of hot metal.

Various steel plants and units of SAIL are listed below:

SAIL Integrated Steel Plants

- Rourkela Steel Plant (RSP) in Odisha set up with German collaboration (The first integrated steel plant in the Public Sector in India, 1959)
- Bhilai Steel Plant (BSP) in Chhattisgarh set up with Soviet collaboration (1959)
- Durgapur Steel Plant (DSP) at Durgapur, West Bengal set up with British collaboration (1965)
- Bokaro Steel Plant (BSL) in Jharkhand (1965) set up with Soviet collaboration (The Plant is hailed as the country's first Swadeshi steel plant, built with maximum indigenous content in terms of equipment, material and know-how)
- IISCO Steel Plant (ISP) at Burnpur in Asansol, West Bengal (Plant equipped with Largest Blast Furnace of country, Modernized in 2015 with investment of 16000 crore which will yield total production of 2.9 Million Ton annually)

Special Steel Plants

- Alloy Steel Plant (ASP), Durgapur, West Bengal supplies to the Indian Ordnance Factories
- Salem Steel Plant (SSP), Maramangalathupatti, at Salem, Tamil Nadu
- Visvesvaraya Iron and Steel Limited (VISL), at Bhadravathi, Karnataka

Ferro Alloy Plant

Chandrapur Ferro Alloy Plant (CFP) in Maharashtra

Refractory Plants - SAIL Refractory Unit (SRU)

- SAIL Refractory Unit, Bhandaridah in Jharkhand
- SAIL Refractory Unit, Bhilai in Chhattisgarh
- SAIL Refractory Unit, IFICO, Ramgarh in Jharkhand
- SAIL Refractory Unit, Ranchi Road in Jharkhand

Central units

- Central Marketing Organisation
- Centre for Engineering and Technology
- Research and Development Centre for Iron and Steel
- SAIL Consultancy Organisation
- Environment Management Division
- Management Training Institute, Ranchi

SAIL PRODUCTS

LONG PRODUCTS:

Angles, channels, beams, special sections bars and re-bars, wire rods, crane rails, rounds, RCS

RAILWAY PRODUCTS:

Rails, wheels, axles and wheel sets

REROLLABLES:

Blooms, billets, slabs, rounds

FLAT PRODUCTS:

HR coils, sheets and plates, CR coils and sheets, GP sheets and coils, GC sheets , electrical sheets

SPECIAL STEELS:

Stainless steels, alloy steels

TUBULAR:

ERW pipes , SW pipes

TECHNICAL COMPARISON OF VARIOUS PRODUCTS:

• Carbon Steel:

Carbon steel is an alloy primarily composed of iron and carbon, with a maximum carbon content of 2.1% by weight.

It is commonly used in structural applications, machinery, pipelines, and automotive industry.

Carbon steel products offered by Sail may include plates, sheets, coils, and structural sections.

• Stainless Steel:

Stainless steel is an alloy of iron with a minimum of 10.5% chromium content by mass.

It is highly corrosion-resistant and possesses excellent mechanical properties.

Stainless steel products offered by Sail may include sheets, coils, bars, wires, and tubes.

Different grades of stainless steel are available, such as Austenitic, Ferritic, Martensitic, and Duplex stainless steels, each with unique properties suited for specific applications.

- Alloy Steel:

Alloy steel is a steel that contains additional alloying elements besides carbon, such as manganese, silicon, nickel, chromium, molybdenum, or vanadium.
Alloying elements enhance specific properties like strength, hardness, and corrosion resistance.
Sail may offer alloy steel products like plates, sheets, bars, rods, and tubes.
Common alloy steel grades include low-alloy steels, high-strength low-alloy (HSLA) steels, and tool steels.

- Rolled Products:

Sail produces a range of rolled products like hot-rolled coils, sheets, and plates.
Hot-rolled steel undergoes a rolling process at high temperatures, resulting in a relatively rough surface finish but improved mechanical properties.
Sail's rolled products are commonly used in construction, shipbuilding, boilers, and pressure vessels.

- Structural Steel:

Sail manufactures structural steel products like beams, channels, angles, and joists.
Structural steel is designed for load-bearing applications, providing strength and stability in construction and infrastructure projects.

TMT

These are

a. Earthquake and fire resistant
b. Corrosion proof
c. Excellent bonding with cement
d. Life of every construction

SAIL TMT Fe 500/500D	**Qualities**: Excellent bendability, good weldability and high fatigue resistance on dynamic loading. **Application**: Reinforced Concrete Construction (RCC) in buildings bridges and Other concrete structures
SAIL TMT HCR	**Qualities**: In addition to properties of SAIL TMT D, it possesses high corrosion resistance properties **Application**: RCC Construction exposed to coastal, marine or Underground environment
SAIL TMT EQR AND SEISMIC	**Qualities**: In addition to properties of SAIL TMT D, it has high UTS/YS ratio, higher elongation, uniform elongation, narrow range of YS, higher energy absorption capacity **Application**: RCC construction in earthquake prone zone, Highrise buildings, critical applications like tunnel, metro rails etc.
TMT HCR EQR	**Qualities**: Possesses combined properties of SAIL TMT HCR & SAIL TMT EQR **Application**: RCC construction in corrosion as well as earthquake prone zone
TMT ROCK/ ROOFBOLT	**Qualities**: High strength, better toughness and excellent bond properties with grouting materials due to its modified rib design **Application**: Underground mine and tunnel roof support, Slope stabilisation in hills and Soil nailing/ anchoring

GP/GC SHEETS

These are :

- Rust resistant due to uniform coating of Zinc
- Economical Superior quality
- Light weight but strong
- Leak proof & long lasting
- Available in different thicknesses

CLASS OF COATING	ZINC WT g/m2
CL II	450
CL III	350
CL IV	275
CL V	220
CL VI	200
CL VII	180
CL VIII	120
CL IX	100
CL X	80

MATERIAL	APPLICATION
GP	Panelling, door frames, shutters, AC ducts, coolers, storage bins, auto sector, ice box, drums etc.
GC	Roofing, industrial sheds etc.

Wire rods

SPECIFICATION	Steel Grades: Electrode Quality: IS2879, SWRY11-21, YSW11-41, YGW1141
	Carbon Steels: Low Carbon Grades: IS7887, SAE1008/1008/1010/1012) 1015/1018/1020
	Medium Carbon Grades: IS 7887. SAE 1030/ 1035/1038/1040/1541
	High Carbon Grades: 157904, SAE1050/1060/ 1065/1070/1075/1085 HC 61/ 65 HC 66/70 HC 71/75, HC 76/80, HC 81/85, SWR52A SWR82A SWR8ZA
	Spring Steel Grades: IS1570 Part4, JISG4801 SUP 3,6,7,8,9,10,11,12, 13, SAE 9254
	Bearing Steel Grades: EN31, IS4398, SAE52100
	Free Cutting Carbon Steel Grade: IS1570 PART3, SUM11, SUM 12, SUM22L, SAE12L14, ENTA, ENBM, EN15AM
	Cold Heading Quality Grades: IS11169(Part 1), IS2255, SAE 1010/1015/ 1018/1020, SAE10821, SAE15B23, SAE15825, SAE15841, 19M 84
	Alloy Steel Grades: 16MnCr5, 20MnCr5, SCM415H, SCM420H, SAE8620, SAE4135, SAE4140
Coil Weight	2000 Kg (Max.)
Size Range Diameter (in mm)	5.5, 6, 6.5, 7. 7.5, 8, 9,10,12,14,16, 20, 22

SPECIFIC APPLICATIONS:

Structural applications, Arc welding electrodes, welding machine wires

STRUCTURAL SECTIONS

These are available in a variety of grades according to the users preferences

These are also available in foreign specifications.

The structural members are very beneficial as it has high conservation of steel and can be used for most structural applications.

SECTION	TYPES
CHANNEL	ISMC UPN
ANGLE	ISA
BEAM	ISMB PARALLEL BEAM
SPECIAL SECTIONS	Z PILE U PILE Z BAR BULB FLATS

RAIL PRODUCTS

The use of steel in rail products helps in cost saving and is environment friendly.
Steel ties provide sturdy, reliable support and can endure the rigors of everyday track use.
Steel turnouts also maximize rail safety by holding gauge over the life of a turnout.

PRODUCT	APPLICATION
Rail (Carbon-Manganese ; 90 UTS)	Railway tracks all over the country
High YS / UTS Rail (V/Nb Micro- alloyed)	Heavy haulage, high density railway tracks
Corrosion Resistant Micro Alloyed Rail	For use in corrosion prone regions, mainly coastal areas
Vanadium Alloyed High Strength (100 UTS) Rail	Heavy haulage, high density railway tracks developed for Dedicated Freight Corridor
End Forged Thick Web Asymmetric Rail	For manufacture of switches
High Conductivity Rail (Rimming Quality)	High conductivity Rail or Third Rail for Metro Rail, made through Rimming process
Crane Rails	For Industrial EOT cranes.
Rail 15 Kg, 30 Kg & 45 Kg	For collieries and other purposes.
Crossing Sleeper Bar	For use at Railway crossings

WHEELS AND AXLES

Item	Weight Per piece, kg	Wheel tread dia, mm	Axle load(tonnes)
16.25T AC Coaching Wheel Set	1092	915	16.25
16.25T BG Coach Wheel	384	920	
16.25T Loose Axle	378		16.25
Diesel Loco Wheel	528	1097	
Loco Wheel 'S' shaped	528	1097	
MG Loco Wheel	421	970	16.25

The use of steel in wheels and axles help to increase strength and helps to overcome rear and tear easily.

HR COILS AND SHEETS

Major Specifications	Applications
IS 10748 Grades 1,2,3,4,5	Tube & Pipe Making
IS 11513 Grades CR1, CR2, CR3, CR4 IS 11513 CR4/SAIL SOFT	For Cold Rolling Purpose
IS 2062 Grades E 250 IS 2062 Grades E 300, E 350, E 410 E 450 (SAILMA 300 to 450)	General Structural and Engineering Application
IS 2062 Grades with Copper SAILCOR/IRSM-41	Manufacturing of Corrosion Resistant Engineering Products (Segments Wagon Building, Railways etc.)
IS 1079 Grade HRO, HR1, HR2, HR3, HR4	Drawing, forming & General Engineering Purposes
IS 6240	For Manufacturing of LPG Cylinders
EN 10120, JIS G 3116 (SAIL High Strength LPG)	Export Quality LPG Cylinders
IS 15914	Lighter (Thinner) Cylinders
HSFO Grades IS 5986 ISH410LA HSFQ350 IS 5986 ISH500LA HSFQ450 IS 5986 ISH550LA HSFQ500 IS 5986 ISH600LA HSFQ550	Auto Components and Pre Engineered Building (PEB) Sections (For Forming at Ambient Temperature)
SAIL FORMING Grades IS 5986 ISH410S SAILFORM 250 IS 5986 ISH430LA SAILFORM 350 IS 5986 ISH5400R SAILFORM 410 IS 5986 ISH600 LA SAILFORM 550 IS 5986 ISH500 LA SAILFORM 450	Auto Components (For Forming at high Temperature Hot Forming)
BSK 46/E 46, E-38, E34	Fabriction of Long and Cross Members for LCV,MCV and HCV
IS 5986 Grade ISH 290S, 330S, 360S, 410S	Flanging and Forming Purpose
Medium carbon grades (SAIL MC 40/45/50/60) SAE 1040/1045/1055	Chains, Hair Clip, sprocket, Clutch Plate, Hacksaw Blade etc.
SAE 1012	Manufacturing of Wheel Disk and Cold Formed Products
SAE 1020	Manufacturing of Propeller Shaft
SAE 1541	Manufacturing of Fork and Spokes for Two Wheelers
SAILRIM Grade 1, 2 & 3	Manufacturing of Cycle Rimes
API 5L Grades B, X42, X46, X52, X56 X60 (PSL1/2)	Manufacturing of Pipes mostly for Oil and Gas sector

PLATES

Specification	Application
IS 2062:E250, E275 Grades A, BR BO&C ASTM A36, 283 EN 10025-2:S235, 275 Grades JR, J0, J2 JIS G 3101	General Structruals
IS 5986:Gr 165, 205, 235, 255	Flanging and forming operations
IS2062 Grades with "Cu" IRS M41 SAILCOR, HCRS (Cu+P) ASTM A242M, 588M EN10025-5:235&355 JOW, J2W, JOWP, J2WP JIS 3114	Atmospheric corrosion resistance
IS2002, IS2041 ASTM /ASME : 204, 285, 299, 387, 515, 516, 537 EN 10028-2 & 3 DIN 17155 HI	Boiler and Pressure vessels
ASTM A 517 Grade F	Penstock
SAILHARD	Abrasion resistant
IS 2062 E 300, 350, 410 Grades A, BR, BO, C IS 2062 E 450, 550, 600 Grades A, BR IS 5986 Gr 325, 355, 420, 490 Customised SAIL MA Grades ASTM A 572 Gr 42, 50, 55 JIS G 3106	High Tensile
IS : 3039, Lloyds /ABS Grades A,B,D, AH/DH/EH-32/36 DNV Grades A, B, D, A/D/E-32/36, DMR 249	Shipbuilding
API : 5L Grade A, B, X42, X46, X52, X56, X60, X65, X70	Oil & Gas pipe line manufacturing
Chequered Plate conforming to IS 3502	Industrial flooring
Dead Soft Quality SAIL MAG	Galvanizing pots & Special Engineering Magnet
HSFQ 250/350 (Thickness lesser than 8 mm)	Auto components and Pre Engineered Building (PEB) Section for forming at ambient temperature
SAIL FORMING 250/350 (Thickness 8 to 14 mm)	Auto components (for forming at high temperature)
SAIL Form 34/38/46, SAIL Super Form 45 (SAPH 45)	Fabrication of long and cross members of auto sector
SAIL HITEN 690 AR	ATM Safe
SAIL WR 400 & SAIL WELD 700	Earth Moving Equipment
SAIL - FRS	SAIL Fire Resistant Steel

STAINLESS PRODUCTS

Hot Rolled Stainless Steel	
Thickness	2.5 - 8.0 mm
Width	750 - 1275 mm
Coil ID	762/610 mm
Condition	Annealed and Pickled
Edge	Mill Edge
Sheet	1500 to 6300 mm

Cold Rolled Stainless Steel		
Coil		Sizes (mm)
Dimension	Range (mm)	Standard Size (mm)
Thickness	0.3 to 6.00	0.30,0.40,0.50, 0.55, 0.63, 0.70, 0.80, 0.90, 1.00, 1.25, 1.50, 1.60, 2.00, 2.50, 2.80, 3.00, 3.15, 3.60, 4.00, 5.00, 6.00
Width	50 to 1250	1000, 1250
Inner Diameter	406, 508 or 610	
Sheet /Plate		Sizes (mm)
Dimension	Range (mm)	Standard Size (mm)
Thickness	0.5 to 6.00	0.50, 0.55, 0.63, 0.70, 0.80, 0.90, 1,00, 1.25, 1.50, 1.60, 2.00, 2.50, 2.80, 3.00, 3.15, 3.60, 4.00, 5.00, 6.00
Width	600 to 1250	1000, 1250
Length	500 to 4000	1500, 2000, 2500, 3000, 3500,4000

ELECTRICAL STEELS

Insulation Designation	Type of Coating	Coating Thickness (Microns)	Applications
C-0	Natural	NIL	Fractional horsepower motors and relays, small communication power transformers and reactors.
C-3	Organic	2-3	Air/Oil cooled medium size power and distribution transformers, medium sized continuous duty, rotating electrical machinery
C-3	Organic	4-6	Medium sized continuous duty high efficiency rotating electrical machinery.
C-6	Semi-organic	0.8-1.5	Applications requiring stress-relief anneal and burn-off treatment. Extremely useful for stamped laminations of hermetically sealed compressors used in refrigeration system

SPECIAL QUALITIES OF SAIL PRODUCTS

Steel has now become a part of human life as it is being used in every aspect of life and has helped in the development of human kind and has made our life much more easier , healthier and safer. Therefore, it is now very important to choose the steel products we use. The various special qualities provided by SAIL are:

1. SAIL produces the widest spectrum of steel products in the country, covering both flat and long product segments, providing cost-effective and superior quality of products and services.
2. SAIL products are durable, environment friendly, possess high strength, user friendly and are according to the specifications provided by the government.
3. SAIL has tried to increase the efficiency of various products through the modernization and expansion of production plants.
4. Continuous research and development has led to a competitive edge by producing a variety of products such as high toughness corrosion resistant rails, electrode quality wire rods etc.

CENTRAL MARKETING ORGANISATION(CMO), SAIL

SAIL marketing is handled by the Central Marketing Organisation (CMO), SAIL. CMO is primarily responsible for marketing of steel items, including carbon, alloy and special steel products, as well as stainless steel produced by the steel plants of SAIL.

THE VARIOUS PROVISIONS PROVIDED BY CMO ARE:

- Rural development scheme was launched in view of the fact that rural consumption of steel in the country is projected to grow manifold.
- Extensive customer contact along with product and segment specialization, close monitoring of order servicing and feedback analysis through a Customer Satisfaction Index are established norms at CMO so as to increase efficiency .
- It also supplies steel products to other parts of the world by establishing international trade division under CMO.
- SAIL products have berthed successfully at Japan, China, Korea, Taiwan, Vietnam, Philippines, Singapore, Malaysia, Thailand, Indonesia, Australia, Mexico, Europe (UK, Germany, France, Belgium, Italy, Spain, Netherlands, Portugal), Sudan, Oman, UAE, and many more, as well as in neighboring countries such as Myanmar, Bangladesh, Sri Lanka and Nepal.

MARKET ANALYSIS

India is the second largest steel producer in the world after China. In the financial year 2020-21, the country produced 118 million tones of steel compared to 1,033 million tones produced by China. As per the data from World Steel Association, the global demand for steel is expected to be 1,896 million tonnes this year. Therefore, we can say that India fulfils almost 15% of the global steel demand.

SAIL'S MARKET ACHEIVEMENTS:

SAIL's performance has been very impressive over the last five years. SAIL is very focused on reducing borrowings. Its best production was in FY22 at 17.36 million tonnes as compared to 15.21 million tonnes a year earlier. Its FY22 year-end borrowings were at Rs. 13,678 crores.
SAIL had a EBITDA of Rs.22,364 Crore, Profit Before Tax (PBT) of Rs.16,039 crore and Profit After Tax (PAT) of Rs.12,015 Crore in FY22.

COMPARISON WITH OTHER STEEL PRODUCT PRODUCERS:

- SAIL is one of the three producers which has its own iron ore mines which gives it a price advantage
- It has a more diversified product portfolio and has higher operational efficiency than other producers.
- Government-owned SAIL has also announced capex plans to increase its capacity to 50 million tonnes by 2030 from the present level of approx 19 million tonnes. This is in line with the National Steel Policy of 2017 which estimates India's steel production capacity to hit the 300 million tonnes mark by 2030.
- According to many analysts , SAIL Products are cheaper and more effective .
- It has a higher crude steel production capacity of around 21 million metric tons.
- SAIL primarily focuses on the domestic market and supplies steel for various sectors, including construction, infrastructure, and manufacturing while others only focus on business profit
- As a publicly listed company, SAIL's financial performance is available to the public because of which it has accommodated to the recommendations made by the users.

CUSTOMER REVIEW OF SAIL PRODUCTS

SAIL is India's largest steel company with more than 20% domestic market share and owned 85.8% by the Indian government. Most of the data about manufacturing and marketing are easily assessable by the common people and hence is open to their scrutiny and recommendations. Customers often recommend SAIL products over other products because of:

a) **Quality:** SAIL products are often recognized for their quality standards, durability, and consistency, which is crucial for industries like construction and manufacturing.

b) **Range of Products:** SAIL offers a wide range of steel products, including flat products, long products, and specialized steel for different applications. This variety allows customers to find suitable solutions for their specific needs.

c) **Competitive Pricing**: SAIL products are often considered competitively priced compared to other steel manufacturers, making them an attractive choice for customers looking for cost-effective solutions.

SOME RECOMMENDATIONS PROVIDED BY CUSTOMERS FOR IMPROVEMENT:

- **Timely Delivery**: In some cases, customers have expressed concerns about delivery delays or challenges in obtaining products within the expected timeframe.

- **Customer Service**: A few customers have mentioned that the customer service experience with SAIL could be enhanced, particularly in terms of responsiveness and addressing queries or concerns promptly

EFFECTIVE SOLUTIONS FOR IMPROVED MARKET PROFIT AND CUSTOMER REVIEW

- **Provide exceptional customer service** : Resolve issues promptly and go above and beyond to exceed customer expectations.
- **Actively listen to customers :** Encourage customers to share their feedback and actively listen to their concerns. This can be done through various channels like surveys, social media, or dedicated review platforms.
- **Personalize the customer experience**: Tailor your interactions with customers to make them feel valued and appreciated. Address customers by name, offer personalized recommendations, and show genuine interest in their preferences. This personal touch creates a positive impression and leads to better reviews.
- **Address negative reviews promptly**: Negative reviews are inevitable, but how you respond to them can make a significant difference. Respond promptly, professionally, and empathetically to address the customer's concerns.
- **Continuously improve based on feedback:** Act on the feedback received from customer reviews. Identify recurring issues or common complaints and implement necessary changes in your products, services, or processes. Regularly communicate these improvements to your customers to showcase your dedication to their satisfaction.

- **Product Differentiation:** Differentiate your products or services from competitors by highlighting unique features, benefits, or quality. This will help you stand out in the market and attract customers who value your distinctive offerings.
- **Operational Efficiency:** Continuously evaluate and improve your operational processes to increase efficiency and reduce costs. Look for ways to optimize your supply chain, streamline production, minimize waste, and improve overall productivity.
- **Innovation and Adaptation:** Foster a culture of innovation within your organization to stay ahead of market trends and adapt to changing customer demands. Continuously monitor the market, embrace emerging technologies, and seek opportunities for product/service improvements or new offerings.
- **Improved transportation and delivery of products:** New and improved ways for delivery should be made.

CONCLUSION

In conclusion, this project has provided valuable insights and accomplished its objectives, demonstrating the comparative analysis of various SAIL products to address the market and customer review. Through thorough research and analysis, and I have gained a deeper understanding of the working and its implications.

By successfully completing this project, I have not only expanded our own knowledge and skills but also made a meaningful contribution to the field. This project sets the stage for future research and endeavors, and I hope that our findings and recommendations will inspire others to build upon this work and make a positive impact.

BIBLIOGRAPHY

- SAIL : Official website
- www.google.com
- www.qoura.com
- Various government reports
- Various conference papers
- Various customers in the market
- Various articles

THANK YOU