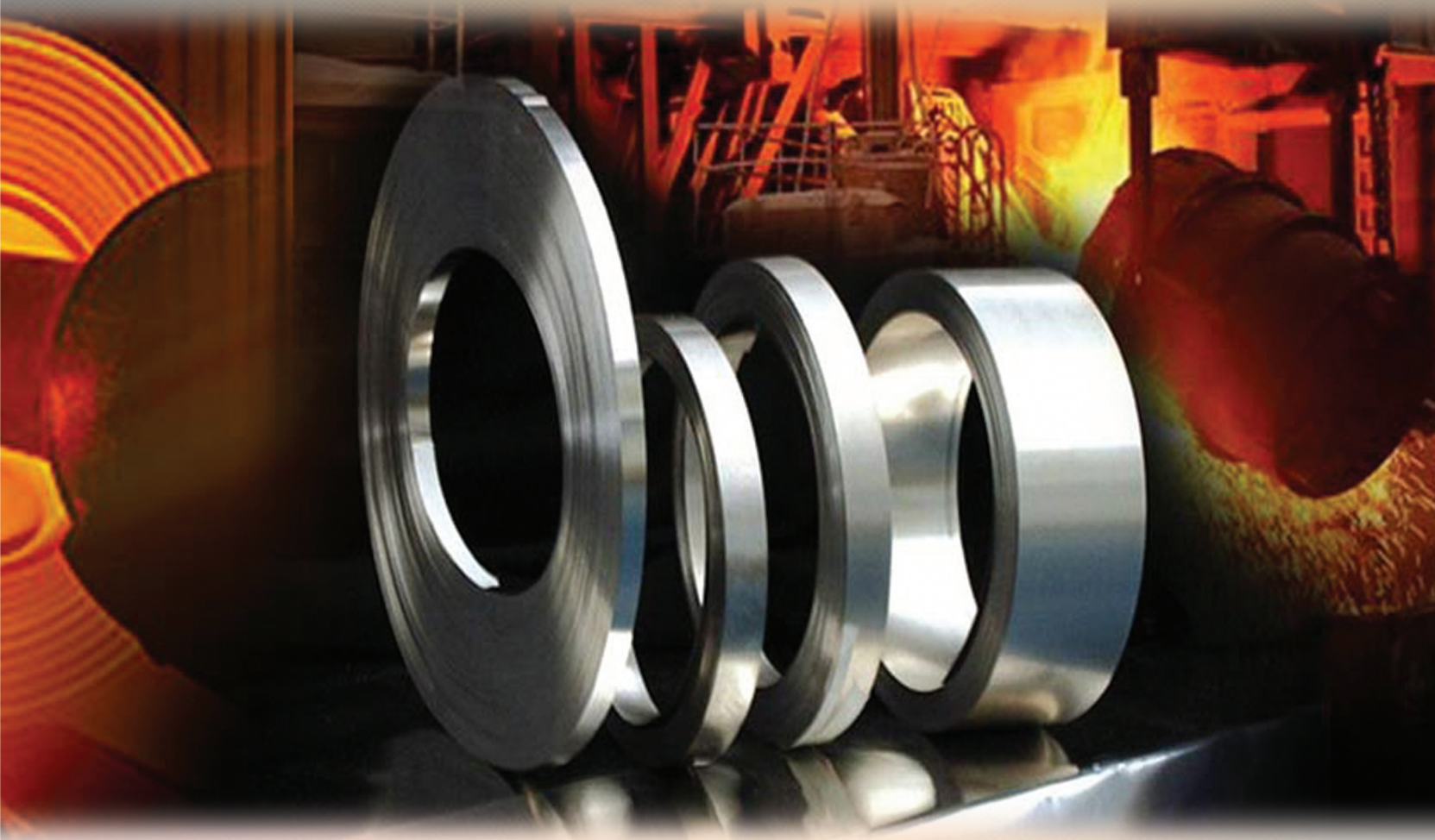




JPC Monthly Bulletin on Iron & Steel
November, 2021

Steel in Technology



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The goal to reach the projected target of about 250 MT of total finished steel consumption in the country about by 2030-31 has led the government to take repeated efforts in enhancing steel production capacity domestically and at the same time increase domestic demand by promoting greater usage of steel. The recently announced GatiShakti Master Plan, envisages Rs.100 lakh crore investment plan for infrastructure development over the next five years. This would certainly boost usage of steel in the country.

The production performance of Steel sector during the first eight months of the current fiscal has been quite encouraging with cumulative production of crude at 77.181 MT and finished steel at 72.819 MT during April-November, FY22. This is certainly higher than that recorded in the previous three years. This improved performance was achieved despite the adverse effect of the second wave of COVID-19 and concomitant localised lockdowns. Cumulative consumption of steel during April-November of the current fiscal at 67.124 MT has also been higher than that in the corresponding period of FY21 but lower than that in FY20. Export of finished steel during November'21 at 7.22 LMT increased by 20.7% over the same period of last year. During the month, India has been net exporter of finished steel recording a nettrade surplus of 4.10LMT and also during April November, 2021 with net trade surplus of 64.68LMT.

During this month the big players of the steel industry have recorded positive performances. During the current financial year, SAIL has shown significant improvement in the performance. Production of crude steel for Apr-Nov'21 has shown a growth of 23% over CPLY (Apr-Nov'20) at 11.249 MT. For higher production, SAIL has ramped up mining of iron ore in the current financial year. MOIL has also produced manganese ore at a 6.0% higher level than that in the previous month, October 2021. Tata Steel reported 661.3 per cent year-on-year rise in consolidated net profit to Rs. 11,918.11 crore for the quarter ended September, rising beyond analysts' expectations. Tata Steel has also been named amongst 100 Best Companies For Women in India in 2021 by Working Mother And Avtar. Steel producer JSPL plans to Naveen Jindal-led Jindal Steel and Power (JSPL) plans to clock around Rs. 50,000 crore of sales revenue by the end of FY22 with 8 Mt of production. The company also plans to bring down its net debt to Rs. 8,000 crore from a peak of around Rs. 22,146 crore as of FY21. JSPL to invest Rs 18,000 crore to boost its Angul steel capacity to 12 million tonnes by 2023.

Though the demand scenario seems lukewarm presently, and the steel industry has miles to go in order to reach the coveted target, the steel companies of the country are moving in the right path in spite of all hurdles that are strewn on its path. The government too is forwarding its best efforts to let the demand soar. It is hoped that these endeavours together would certainly help the steel industry become robust.

Editorial

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Trends November 2021

And the slippage continues

worldsteel data indicates that at a monthly level, though world crude steel production grew marginally (by 0.4%) in October 2021 over September 2021, impacted by stringent production curbs, Chinese production dipped 3% in October 2021 over September 2021. On a year-on-year (yoy) basis, global production dipped by 10.6% in October 2021, dragged down by a 23% decline in Chinese production in same period.

WORLD ECONOMY AT A GLANCE

- Market Economics reports indicated continuing improvements in business conditions and manufacturing operations in November 2021, with the J.P.Morgan Global Manufacturing PMI at 54.2 during the month, showing negligible change from readings achieved in the last three months.
- The reports indicate that out of the 30 nations for which latest data were available, only four (China, Brazil, Mexico and Myanmar) registered contraction. The Euro Area remained a bright growth spot, with four of the five highest ranked countries (Italy, the Netherlands, Ireland and Greece) located here. The US was in sixth position overall.

Key Economic Figures			
Country	GDP 2020: %change*	Manufacturing PMI	
		October 2021	November 2021
India	-7.0	55.9	57.6
China	2.3	50.6	49.9
Japan	-4.8	53.2	54.5
USA	-3.5	58.4	58.3
Eurozone	-6.6	58.3	58.4
Brazil	-4.1	51.7	49.8
Russia	-3.1	51.6	51.7
South Korea	-1.0	50.2	50.9
Germany	-4.9	57.8	57.4
Turkey	1.8	51.2	52.0
Italy	-8.9	61.1	61.1

Source: GDP: official releases; PMI- Markit Economics, *provisional

TREND

- As per the Markit reports, the volume of new orders continued to report a rise in November 2021 while the rate of increase in new export business remained subdued, though faster than in October. Price inflationary pressures remained elevated during the month while suppliers' delivery times lengthened to one of the greatest extents on record, as they have done through much of 2021 to date.

GLOBAL CRUDE STEEL PRODUCTION

Having already crossed the 1 billion tonne mark, world crude steel production stood at 1607.13 million tonnes (mt) in January - October 2021, up by 5.9% over same period of last year as per provisional data released by World Steel Association (worldsteel). While the volume growth at a cumulative level indicated the diminishing impact of COVID-19, yet at a monthly level, world production grew marginally (by 0.4%) in October 2021 over September 2021, pulled down by stringent production curbs in China, where production dipped 3% in October 2021 over September 2021. On a year-on-year (yoy) basis, global production dipped by 10.6% in October 2021, dragged down by a 23% decline in Chinese production in same period..

World Crude Steel Production: January-October 2021*			
Rank	Top 10	Qty (mt)	% change
1	China	877.05	-0.7
2	India	96.93	20.6
3	Japan	80.36	17.5
4	USA	71.72	19.6
5	Russia	62.50	5.7
6	South Korea	58.67	5.9
7	Germany	33.56	15.1
8	Turkey	33.33	14.2
9	Brazil	30.32	19.1
10	Iran	22.37	-5.7
	Total: Top 10	1366.81	4.0
	World	1607.13	5.9

Source: worldsteel; *provisional

- China remained the leader in world crude steel production which stood at 877.05 mt during January-October 2021, down 0.7% over same period of last year. The nation accounted for 76% of Asian and 55% of world crude steel production during this period.
- With a 6% share in total world production, India (96.93 mt) reported a yoy production growth of 20.6% during this period and remained the 2nd largest producer during this period.
- Japanese crude steel production (80.36 mt) was up 17.5% yoy during this period and the country was the 3rd largest crude steel producer in the world.

- USA remained at the 4th largest spot, with production (71.72 mt), up 19.6% yoy while Russia (62.5 mt, up 5.7% yoy) was the 5th largest crude steel producer during this period.
- Crude steel production in EU (27) countries stood at 128 mt during this period, up 18% yoy.
- At 1160.68 mt, Asian crude steel production was up 3% during this period and the region accounted for 72% of world crude steel production during this period.
- The top 10 countries accounted for 85% of total world crude steel production during this period and saw their cumulative production go up by 4% yoy.

NEWS AROUND THE WORLD

THE AMERICAS

- The US and EU have reached an agreement to replace the former's Section 232 tariffs on steel and aluminum with a tariff-rate quota on metals imports from the EU, according to a joint fact sheet Oct. 31., 2021.
- US Commerce Secretary Gina Raimondo and US Trade Representative Katherine Tai have started consultations with Japan to address global steel and aluminum excess capacity and take effective measures to ensure the long-term viability of the two metals industries. The consultations will seek solutions to “strengthen the democratic alliance” between the US and Japan.
- Brazil has temporary reduced the import tariffs over a variety of steel products, aimed at easing the effects of COVID-19. The measure – valid until Dec. 31, 2022 – covers from raw materials such as pig iron, ferroalloys, to semi-finished ingots, billets, slabs and flats and long steel products, including tubes & pipes. Specialty steels were also cited. Carbon hot- and cold-rolled coils, rebar and wire rod had their 12% import tariff cut to 10.8%.
- Some 390 mtpa of DRI capacity and 278 mtpa of additional steel capacity coming from EAF route would be required globally by 2030 to put the global steel sector on a trajectory compatible with the 1.5 degrees Celsius standard in the Paris climate agreement, according to a study presented by the Agora Industry think tank Nov. 3, 2021 during the Cop26 climate summit in Glasgow.

ASIA

- Chinese steel producer Henan Yaxin Steel Group Co has started producing at two Quantum electric arc furnaces (EAFs) and an Arvedi endless strip production (ESP) line at its Fujian Dingsheng plant.
- Steel mills under the jurisdiction of North China's Tangshan city have been imposed another round of emergency restrictions on their sintering and coking facilities starting the evening of November 15, 2021 due to poor air quality forecast in the coming days, though measures seem not as stringent as the previous round over October 28-November 7, 2021.

- Japan's Nippon Steel reiterated its plans to raise the crude steel production capacity of its AM/NS India joint venture as well as to establish an integrated steel mill in Asia.
- South Korea's Dongkuk Steel Mill aims to boost its cold-rolled steel output by 15% to 1 mtpa by 2030. Currently, Dongkuk Steel operates nine production lines at Busan with an overall output of 850,000 tpa of pre-coated steel plates that are mainly used in consumer products and construction materials.

RUSSIA, MID-EAST, AFRICA, AUSTRALIA

- NLMK will raise its HR steel output at NLMK Lipetsk by upgrading the reheating furnace. The upgrade will increase hot-rolled steel output at NLMK Lipetsk by 7% - 430,000 tpa - as well as improve product quality, halve energy consumption and reduce CO2 emissions.
- Evraz plans to raise the share of finished steel products in its portfolio to 77% of total sales volume by 2026, up from 50% currently.
- Turkey's Yildiz Demir Celik, announced that it is targeting to reach 900,000 tpa of galvanizing capacity with a new line to be started in the first quarter of 2022.
- Egypt's Ministry of Trade and Industry has decided to revoke safeguard duties on imports of billets and rebars.

EU AND OTHER EUROPE

- Eurofer has filed a registration request against hot-dip galvanized steel coil imports from Turkey and Russia that could make retroactive any duties set in a dumping case opened by the European Commission (EC) five months ago.
- UK Steel is calling on the UK government to "urgently" seek an exemption to US Section 232 tariff measures, following the recent agreement between the EU and US to largely end Trump-era tariffs on US steel imports from the EU. The agreement, reached Oct. 30, 2021 does not cover exports of non-EU member.
- The UK parliament's Business, Energy and Industrial Strategy (BEIS) Committee called on the government to establish a steel sector deal to address long-running challenges to the industry's competitiveness, including high energy prices and barriers to supplying steel for major public projects. The deal should be made part of a strategic plan for decarbonizing the industry and protecting jobs.
- The UK's Materials Processing Institute (MPI) has supported a recommendation to the UK government to promote hydrogen-based steel production in the UK, following moves to adopt the low emissions technology in Europe and Canada. The Teesside-based MPI's chief executive, Chris McDonald, and the UK's Department for Business, Energy and Industrial Strategy (BEIS) Select Committee advised the UK government "to commit to a pilot of hydrogen-based steel production in the UK as part of its industrial decarbonisation strategy," according to the MPI's statement.

- ArcelorMittal will halt production at its Sestao, Spain EAF plant at the end of November to bring forward planned engineering work that will expand the site's capacity to 1.6 mtpa. Production will be halted until early 2022, with the work being brought forward by around one month.
- Steelmaker Dillinger's board has approved its proposal to invest Eur56.5 million (\$65.6 million) to expand its production of super heavy plate, as well as production of wind tower foundations, known as monopiles, at its Steelwind Nordenham subsidiary
- Liberty Steel UK, part of metals and energy group GFG Alliance, has restarted production at its core greensteel Rotherham electric arc furnace as planned, with operation taking place at night to maximize efficiency and mitigate high energy costs.

[Source Credit: Fastmarkets Metal Bulletin, Platts, leading news papers (India news)]

WORLD STEEL PRICE TRENDS

After reaching record-breaking highs at the end of 2020, global steel prices continued to show moderation and signs of a return to “normalcy” with most markets reporting either a softening or a stability at a reduced level. The trend continued in November 2021 as well. Nonetheless, as seen before also, they remained on strong grounds during the 3rd quarter of the year, impacted by rising demand, stringent supply and a volatile raw material (raw iron ore, scrap) market. Of potential concern are the steel market developments in China, where production cuts – both on-going and upcoming – are already evident and further curbs are expected to impact global demand-supply to a significant level in the coming days. If that materialises, then it would be only a matter of time before global trade flows and global steel price trends, stand to be affected to a similar degree.

Long Product

- November 2021 rebar prices in the USA were subdued and waiting for cues for further hikes. Transactions, as per Fastmarkets Metal Bulletin, were quoted around \$1,010/s.t. at month-end.
- European rebar prices remained stable in November 2021, with market watchers expecting further hikes in the coming days. Transactions, as per Fastmarkets Metal Bulletin, were quoted around €770-790/t (\$874-897) in Southern Europe and around €820-840/t (\$931-954) in Northern Europe.
- Chinese rebar prices saw some gains in closing days of November 2021, following gains in futures prices and demand. Transactions, as per Fastmarkets Metal Bulletin, were quoted around 4,730-4,770 yuan/t (\$743-749) in Shanghai.
- Domestic rebar prices in Russia slipped at end of November 2021, with government monitoring of prices in the construction sector. Fastmarkets' price assessment for steel rebar domestic, cmt Moscow, Russia, stood at 65,000-71,500-roubles/t (\$870-955) at month-end.

Flat Product

- HRC prices in the USA continued to record gains in November 2021. Transactions, as per Fastmarkets Metal Bulletin, were quoted around \$1,795/s.t. at month-end.
- November 2021 saw limited trading activity in the European HRC market. Transactions, as per Fastmarkets Metal Bulletin, were quoted around €946.25/t (\$1,071) in Northern Europe and around €875/t in Southern Europe.
- HRC prices in China reported mild gains in the closing days of November 2021 with rise in futures prices. Transactions, as per Fastmarkets Metal Bulletin, were quoted around 4,730-4,800 yuan/t (\$743-754) in Shanghai.
- Softening in demand and weak transactions marked flat market in Russia in November 2021. Fastmarkets' price assessment for steel hot-rolled sheet, domestic, cpt Moscow, Russia, stood at 76,000-80,000 roubles/t (\$1,020-1,074) at month-end.

[Source Credit: Fastmarkets Metal Bulletin]

SPECIAL FOCUS

India leads global DRI production in 2021 so far

Provisional worldsteel report indicates that global DRI output stood at 86.93 mt in January-October 2021, up 12.7% over same period of last year. Such production growth was driven by India (32.21 mt, 37% share, up 18.7%) at the number one spot and Iran, where production stood at 27.12 mt (31% share), up 6.7% over same period of last year. The two countries together accounted for 68% of global DRI output during this period. Together, the top five countries accounted for 87% of the world DRI production during this period and saw their cumulative output go up 11.2% over same period of last year.

Global DRI Production				
Rank	Country	Jan-Oct. 2021* (mt)	Jan-Oct.2020 (mt)	% change*
1	India	32.21	27.13	18.7
2	Iran	27.12	25.41	6.7
3	Russia	6.39	6.43	-0.7
4	Mexico	4.85	4.27	13.6
5	Saudi Arabia	4.72	4.45	6.1
	Top 5	75.29	67.70	11.2
	World	86.93	77.13	12.7

Source: worldsteel *provisional

INDIAN STEEL MARKET ROUND-UP

The following is a status report on the performance of Indian steel industry during April-October 2021, based on provisional data released by Joint Plant Committee (JPC) in its MIS Report for April-October 2021. It is to be noted that total finished steel includes both non-alloy and alloy (including stainless steel) and all comparisons are made with regard to same period of last year.

Performance of Indian steel industry			
Item	April-October 2021*(mt)	April-October 2020 (mt)	% change*
Crude Steel Production	66.805	53.522	24.8
Hot Metal Production	44.808	36.478	22.8
Pig Iron Production	3.444	2.565	34.3
Sponge Iron Production	22.361	18.064	23.8
Total Finished Steel (alloy/stainless + non-alloy)			
Production	62.877	48.405	29.9
Import	2.751	2.347	17.2
Export	8.809	7.099	24.1
Consumption	57.899	45.933	26.1

Source: JPC; *provisional; mt=million tonnes

Overall Production

- **Crude Steel:** Production at 66.805 million tonnes (mt), up by 24.8%.
- **Hot Metal:** Production at 44.808 mt, up by 22.8%.
- **Pig Iron:** Production at 3.444 mt, up by 34.3%.
- **Sponge Iron:** Production at 22.361 mt, up by 23.8%, led by coal-based route (77% share).
- **Total Finished Steel:** Production at 62.877 mt, up by 29.9%.

Contribution of Other Producers

- **Crude Steel:** SAIL, RINL, TSL Group, AM/NS, JSWL & JSPL together produced 41.972 mt (63% share) during this period, up by 22.5%. The rest (24.833 mt) came from the Other Producers, up by 28.9%.
- **Hot Metal:** SAIL, RINL, TSL Group, AM/NS, JSWL & JSPL together produced 40.037 mt (89% share) up by 21.1%. The rest (4.772 mt) came from the Other Producers, up by 39.4%.
- **Pig Iron:** SAIL, RINL, TSL Group, AM/NS, JSWL & JSPL together produced 0.983 mt (29% share) up by 28.4%. The rest (2.461 mt) came from the Other Producers, up by 36.8%.

- **Total Finished Steel:** SAIL, RINL, TSL Group, AM/NS, JSWL & JSPL together produced 36.656 mt (58% share) up by 30.0%. The rest (26.221 mt) came from the Other Producers, up by 29.7%.

Contribution of Public Sector Units (PSU)

- **Crude Steel:** With 81% share, the Private Sector (53.922 mt, up by 22.6%) led crude steel production compared to the 19% contribution of the PSUs.
- **Hot Metal:** With 69% share, the Private Sector (30.764 mt, up by 17.8%) led hot metal production, compared to the 31% contribution of the PSUs.
- **Pig Iron:** With 88% share, the Private Sector (3.042 mt, up by 33.8%) led pig iron production, compared to the 12% contribution of the PSUs.
- **Total Finished Steel:** With 84% share, the Private Sector (53.068 mt, up by 26.4%) led production of total finished steel, compared to the 16% contribution of the PSUs.

Contribution of Flat /Non-Flat in Finished Steel

- **Production:** Non-flat products accounted for 51% share (up by 35.9%), the rest 49% was the share of flats (up by 24.2%).
- **Import:** Flat products accounted for 91% share (up by 20.8%), the rest 9% was the share of non-flats (down by 10.0%).
- **Export:** Flat products accounted for 78% share (up by 9.4%), the rest 22% was the share of non-flats (up by 139.5%).
- **Consumption:** Led by Non-flat steel (54% share; up by 27.4%) while the rest 46% was the share of flat steel (up by 24.5%).

Finished Steel Production Trends

- At 62.877 mt, production of total finished steel was up by 29.9% in April-October 2021.
- Contribution of the non-alloy steel segment stood at 58.897 mt (94% share, up by 28.5%), while the rest was the contribution of the alloy steel segment (including stainless steel).
- In the non-alloy, non-flat segment, in volume terms, major contributor to production of total finished steel was Bars & Rods (24.708 mt, up by 39.2%) while growth in the non-alloy, flat segment was led by HRC (26.526 mt, up by 22.0%) during this period.

Finished Steel Export Trends

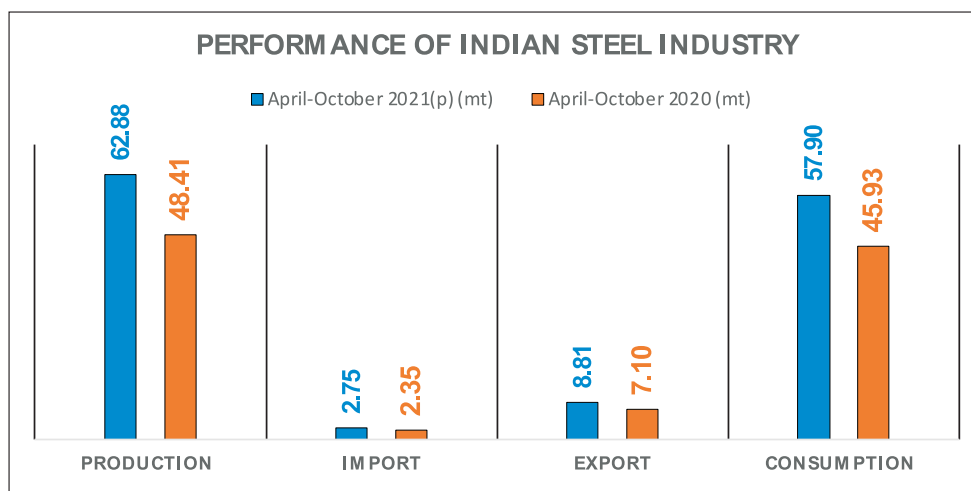
- Overall exports of total finished steel at 8.809 mt, up by 24.1%.
- Volume wise, Non-alloy HR Coil/Strip (3.972 mt, down by 16.9%) was the item most exported (49% share in total non-alloy).
- Vietnam (1.157 mt) was the largest export market for India.

Finished Steel Import Trends

- Overall imports of total finished steel at 2.751 mt, up by 17.2%.
- India was a net exporter of total finished steel in April-October 2021.
- Volume wise, non-alloy GP/GC Sheets/Coils (0.455 mt, up by 23.0%) was the item most imported (27% share in total non-alloy).
- Korea (1.176 mt) was the largest import market for India (43% share in total).

Finished Steel Consumption Trends

- At 57.899 mt, consumption of total finished steel was up by 26.1% in April-October 2021.
- Contribution of the non-alloy steel segment stood at 53.525 mt (92% share, up by 24.1%), while the rest was the contribution of the alloy steel segment (including stainless steel).
- In the non-alloy, non-flat segment, in volume terms, major contributor to consumption of total finished steel was Bars & Rods (24.329 mt, up by 29.7%) while growth in the non-alloy, flat segment was led by HRC (22.051 mt, up by 23.0%) during this period.



INDIAN ECONOMY – HIGHLIGHTS OF PERFORMANCE

GDP: The Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation has released the estimates of Gross Domestic Product (GDP) for Q2 2021-22. As per the reports, GDP at Constant (2011-12) Prices in Q2 of 2021-22 is estimated at Rs. 35.73 lakh crore, showing a growth of 8.4% as compared to 7.4% contraction in Q2 2020-21. Quarterly GVA at Basic Prices at Constant (2011-12) Prices in Q2 2021-22 is estimated at Rs 32.89 lakh crore, showing a growth of 8.5%. Almost all the lead sectors reported strong growth during this period, with Agriculture and allied sector being the lowest (4.5%) and Public Administration, Defence and Other Sectors (17.4%), the highest.

Industrial Production: Provisional CSO data show that the overall Index of Industrial Production (IIP) for the month of April-September 2021, rose by 23.5% due to a significantly low base of same period of last year. Similar high levels of growth trends were noted for the various sectors/sub-sectors due to the same reason.

Infrastructure Growth: Provisional data released by the DPIIT indicate that the Index for the Eight Core Infrastructure Industries saw a growth of 15.1% during April-October 2021 with all the sectors reporting a rise except Crude Oil and Fertilisers.

Inflation: In October 2021 (prov.), the annual rate of inflation, based on monthly WPI, stood at 12.54% while the all India CPI inflation rate (combined) stood at 4.48% and compared to the previous month, both the parameters registered a growth.

Trade: Provisional figures from DGCI&S show that during April-October 2021, in dollar terms, overall exports were up by 53.87% while overall imports were up by 76.76%, both on yoy basis. Overall trade deficit for April-October 2021 is estimated at USD 39.91 Billion as compared to the surplus of USD 14.06 Billion in same period of last year.

Prepared by: Joint Plant Committee

Utilization of Mill Scale by Producing Composite Briquette

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Mill scales are generated as by-product from hot working processes of steel. During deformation of steel at high temperature in oxidation atmospheres, mill scale is formed. The generation of mill scale represents about 2 per cent of steel produced and that is available as a secondary raw material, due to its richness in iron (about 70 to 72 % total Fe). The consumption of steel scrap is about 900 kg from a total metallic charge of 1080 kg for producing one tonne of liquid steel through electric arc furnaces. In oxygen steel making, about 20 to 25 per cent of the charge is scrap which act as coolant. The continuous casting process has reduced drastically internal scrap generation in steel plants. The non-availability of consistent quality at a cheaper cost necessitated the search for an alternative to scrap for use in secondary steelmaking. These problems would be overcome with the help of mill scale-coal composite briquette. The mill scale-coal composite briquette is not only a partial substitute for steel scrap as a feed material in electric arc furnace (EAF)/induction melting furnace (IMF), but also a more suitable melting stock for the good quality steel production.

Introduction

The steel industry is the heart of the global economy. Despite the influence of the pandemic (in 2020), through its different regional impacts, the global steel industry was fortunate to end 2020 with only a minor contraction in steel demand[1]. Steel use in China expanded while it contracted in the rest of the world. World steel production in 2020 was 1877.5 million tonnes, increased only 0.17 per cent with respect to 2019 (1874.4 Mt). By producing 100.3 million tonnes steel in 2020, India occupied again 2nd position in the world's steel production[1], which is preceded by only China. India decreased steel production by 9.96 per cent with respect to 2019 and apparent steel use per capita was also decreased from 75.1 kg (2019) to 64.2 kg in 2020.

Out of 100.3 million tonnes crude steel production by India, 44.5 per cent (i.e. 44.63 Mt) produced by oxygen steel making process which required about 76 million tonnes of processed iron ore and 95 million tonnes run of mine ore, and 55.5 per cent (i.e. 55.67 Mt) produced by electric steel making process which required about 50.1 million tonnes of steel scrap. Although India is fortunate to have good reserves of high-grade iron ores. But with time, these reserves of high-grade iron ores are bound to be diluted. Indian steel industries mainly used higher grades of iron ore and a higher proportion of lumps ore due to their easy availability. High grade iron ores are depleting fast throughout the world. However, there is a pressing need to utilize low grade iron ore including slimes and dump iron ore fines. Recycle of wastes from iron and steel plants like mill scale are also helpful.

The consumption of scrap is about 900 kg from a total metallic charge of roughly 1080 kg for producing one tonne of liquid steel through electric arc furnaces. In oxygen steel making, about 20 to 25 per cent of the charge is scrap which act as coolant[2].The advent of continuous casting, which accounts 96.9 per cent of the world and 87 per cent Indian crude steel output in 2020[1], has reduced drastically internal scrap generation in steel plants. The non-availability of consistent quality at a cheaper cost necessitated the search for an alternative to scrap for use in secondary steelmaking. These problems would be overcome with the help of mill scale-coal composite briquette. The mill scale-coal composite briquette is not only a partial substitute for steel scrap as a feed material in electric arc furnace (EAF)/induction melting furnace (IMF), but also a more suitable melting stock for the good quality steel production. In comparison with scrap, the use of mill scale-coal composite briquette offers consistency in composition and size, low residual elements and environment friendliness.

This paper highlights the mill scale utilization by producing the mill scale-coal composite briquette and subsequently using as feed material for iron and steel making.

Mill scales

Mill scales are generated as by-product from hot working processes of steels like rolling and forging mills and heat treatment shop. During deformation of steel at high temperature in oxidation atmospheres, mill scale is formed, which promotes the growth of iron oxides layer at the surface of steel; which comes out during deformation. The generation of mill scale represents about 2 per cent of steel produced and that is available as a secondary raw material, due to its richness in iron (about 70 to 72 per cent total Fe)[3]. Since, it is composed of various oxides of iron primarily Fe_3O_4 , Fe_2O_3 and FeO (in small quantity). Mill scale is bluish black in colour and is usually less than 1×10^{-3} m thick. The cost of mill scale is 20 per cent cheaper than iron ore fines in the Indian market.

Agglomeration

Raw materials in steel industry decide on the productivity, quality and price competitiveness. Utilizing iron-containing byproducts (such as dust, sludge and mill scale) as raw materials for steel products can save the cost of cleaning up iron-containing by-products and solve environmental problems. Iron-containing byproducts have a small particle size. If they are directly inserted in an iron and steel making furnace, it causes a problem such as poor heat transfer and settled down at the bottom. To solve these problems and induce the additional reduction, many researchers conducted studies concerning iron ore-coal composite agglomerates (pellet/briquette). Iron ore-coal composite agglomerates would be a potential feed material for iron and steel making.

Composite Pellet/briquette

The term composite pellet/briquette describes a pellet/briquette consisting of a mixture of fines of iron-bearing oxide and carbonaceous material (coal, coke, or char), to which cold bonding techniques have imparted sufficient green strength for subsequent handling[4]. The pellets/briquettes should have enough strength to withstand high temperature and stresses during reduction in a furnace.

Interest in iron ore-coal composite pellets/briquette technology had been there for many years without any significant successful application in ironmaking. The principal technological problem was to produce such composite pellet/briquette at low cost. Advances in cold bonding technology have brightened the prospects. Interest in composite pellet/briquette has grown now a days because of the advantages: i) rate of reduction is very fast, since the carbonaceous reducer is in intimate contact with iron oxide; ii) cold bonded composite pellets/briquettes do not require costlier heat hardening processes as conventional pelletization process and iii) composite pellets/briquettes can also utilize cheap and readily available reductants such as coal fine, coke breeze, coal char fines, or wood char fines.

Processes based in the rotary hearth furnace (RHF) handle the charge in a way that it does not have to support severe load. Single or double layers of pellets or briquettes, that don't need to be cold bonded, are fed to the furnace, heated by burning fuel gas, oil or pulverized coal. The process temperature is higher than 1250°C, which promotes a high reaction rate. The residence time of the agglomerates in the hearth is between 6 and 12 minutes, after which a highly metallized sponge iron is obtained[5]. There are some similar processes employing the rotary hearth furnace, like ITmk3, Fastmet, Iron Dynamics and DryIron. The differences among the rotary hearth processes lie in the feed materials (iron ore or iron containing wastes), type of agglomerate (pellets or briquettes), process temperature and treatment of the product. Iron nuggets, in solid form, contain high iron (96-97%), high carbon (2-3%) and low sulphur (0.05%). The iron nuggets can be fed directly to the EAF/IMF with steel scrap or sponge iron to produce steel[6].

Composite Pellet

For producing mill scale-coal composite pellet, mill scale should be grinded first in ball mill; particle size should be less than 0.149 x 10⁻³m (i.e. – 100 mesh). Grinded mill scale is mixed with coal, binder (starch) and moisture. The mixed material is charged to the pelletizer for making composite pellets. The good strength is obtained for mill scale-coal composite pellets. Finally, the mill scale-coal composite pellets with scrap are charged to the IMF for melting.

Composite Briquette

For producing mill scale-coal composite briquette, grinding of mill scale do not required. Mill scale (without grinding) is mixed with carbonaceous material (i.e. coal, coke, or char), binder (starch) and moisture. The mixed material is charged to the briquetting machine and pressed with applied load. Shape of briquette may be spherical, cylindrical or pillow like.

Advantages of briquette formation:

- The briquette become more denser and stronger than pellet,
- Size is bigger than pellet, so easier to charge and penetrate to the melting unit,
- Faster production,
- Grinding cost can be saved,
- Less fine generation due to handling and transportation.

Roy et.al.[7] studied on reduction kinetics of briquettes of hematite fines with boiler grade coal and coke dust in two different forms: intermixing and multi layered. They prepared intermixing briquettes by mixed thoroughly to get a homogenous mixture of iron ore, carbonaceous material (coal and coke dust) and binders and pressed to form cylindrical briquettes using dyes. Multi layered briquettes prepared by iron ore was put in between two layers of the reductant (coal and coke dust in proportion of 1:1) and pressed to prepare briquettes. They[7] observed that for multi layered briquettes, weight loss was significantly less compared to intermixing briquettes. This was due to reducing gases might not be able to diffuse to the core of the briquettes as coal and coke dust were present as layers in case of multilayered. On the other hand, in case of intermixing, as coal and coke dust were homogeneously mixed with iron ore hence during reduction reductants were converted to gases creating many pores into briquettes which facilitated diffusion of more and more gases to the core of briquettes. As higher amount of weight loss was accounted due to higher extent of reduction hence reducibility of briquettes of intermixing samples was greater than that of multilayered briquettes. Hence, intermixing briquettes showed better extent of reduction compared to multilayered form of briquettes.

Daiga et.al.[8] produced briquettes of dusts, sludge and scales from ironmaking waste to recover iron and zinc. Yu et.al.[9] also studied carbon composite briquette using iron-containing by-products (like dust, sludge and scale). The effect of composition of Fe-containing process wastes, reducing agent, flux and binder on formability of carbon composite briquette was measured.

Mill scale-coal composite briquettes are produced by hydraulic pressure and with starch as binder. Coal contains 58.9 per cent fixed C, 27.3 per cent volatile matter and 13.8 per cent ash. Briquettes sizes are $\Phi 850 \times 10.3\text{m}$ and $500 \times 10.3\text{m}$ width. The mill scale-coal composite briquettes are charged in RHF for production of sponge iron[10]. Sponge iron contains 0.22 to 0.5 per cent C and 75 to 82 per cent metallization.

Composite Hot Briquette

Ore-coal composite hot briquette is a new kind of feed materials for ironmaking, which is produced from pulverized coal or blended coals and iron ore fine by hot briquetting process[11–12]. In comparison with other coal composite agglomerates, composite hot briquette owns better reducing property, lower cost, and higher strength.

Liu et.al.[11] prepared high alumina iron ore-coal composite hot briquettes. The dried high alumina iron ore and coal (preset particlesizes) were mixed with a certain proportion. The mixed samples were charged into a hot mould and heated samples were briquetted with a certain pressure (50 MPa) to form briquette. The compressive strength of high alumina iron ore-coal composite hot briquettes varied from 307.6 to 1322.9 N with variation of coal addition ratio and particle sizes.

Wang et.al.[12] also produced iron coke hot briquette (ICHB) with the mixtures of iron ore and blended coals. The mixtures were placed into a mould, which was heated to 3000C. Then, it was immediately pressed to form iron ore-coal composite briquette by hot pressing under 50 MPa load. Subsequently, the hot briquette was

placed in a furnace and carbonized at 1000°C for 10 hours under an inert atmosphere. After carbonization, the samples were cooled with N₂ flow. Finally, ICHB was obtained from the cooled product. With the increasing ratio of iron ore from 0 to 20 per cent, the compressive strength of hot briquette was enhanced from 659 to 849 N, while the compressive strength of ICHB was reduced from 5602 to 4689 N. For comparison, the compressive strength of ICHB was much higher than the compressive strength of conventional metallurgical cokes (2000 N). Iron oxide was reduced by the reducing gases discharged from the blended coals, and the reduction of iron ore was accelerated along with the increasing iron ore addition ratio, which could be observed by the increasing degree of metallization for ICHB.

Non-agglomeration

Sinter cake

An attempt was made by Chokshi, Sompura and Dutta[13] to produce non-agglomerated sinter cake of mill scale with charcoal powder. Mill scale was placed at the center of the metallic mould and surrounded by charcoal. Mill scale and charcoal powder were sintered in non-agglomerate condition. Different amount of lime is also added to improve the strength of sinter cake. Lime was used as slag bonding in between of particles. Quantity of charcoal and lime was varied for the non-agglomerated sinter cake production. Best degree of reduction (47.84%) value was obtained in sinter cake of 10 per cent excess stoichiometric charcoal and 20 per cent lime. Best compressive strength (1950 N/sample) was achieved in sinter cake of 10 per cent excess stoichiometric charcoal and 30 per cent lime. Overall, addition of lime was favorable to the strength as well as degree of reduction of sinter. In general, lime is also required for steelmaking to control slag basicity.

Melting of non-agglomerated sinter cake was also done at laboratory scale induction furnace (6kg capacity). Initially TMT rods (as a scrap) were melted in induction furnace to make molten bath. The non-agglomerated sinter cake was slowly charged with different proportion and that was dissolved in molten bath[13]. Lime was also added as a fluxing agent. After proper attending temperature of the bath, molten metal was poured into the mould. Low P and S (0.03-0.04%) steels were produced successfully.

Summarization

- Due to continuous casting, internal scrap generation in steel plants has reduced drastically.
- The non-availability of consistent quality at a reasonable price necessitated the search for an alternative to scrap for use in secondary steel sectors.
- These problems would be overcome with the help of mill scale-coal composite briquette.
- Mill scale-coal composite briquettes are produced by hydraulic pressure and with starch as binder.
- Mill scale-coal composite briquette owns better reducing property, lower cost, and higher strength.

- Mill scale-coal composite briquettes can be used as feed material for iron and steel making units; in RHF they produced sponge iron, and in IMF they produced steel successfully.

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National News

‘Raw material prices forcing foundries to shut operations’

Reeling from extreme cost pressures with rise in prices of coal as well as pig iron – a key raw material for manufacturing metal castings, foundries are being forced to curtail or shut production. Estimates by Institute of Indian Foundrymen (IIF) – a pan India association for the foundries, suggest that most foundries in Gujarat are yet to resume production after Diwali, as they are facing acute working capital shortage. Coal is a key input material for foundries to operate, whose prices have doubled. That apart, pig iron which is a basic raw material has become costlier by at least 45 per cent. Since most foundry units are dependent on coal for manufacturing processes, the input costs have dramatically shot up by at least 25 per cent. According to Subodh Panchal, past president, IIF most foundries were micro small and medium enterprises, which did not have adequate working capital to buy costlier raw materials. At the same time, timely availability of raw material was another constraint. Making matters worse, foundries are unable to cash-in on fresh order volumes due to supply-side bottlenecks triggered by uncertain supply and rising cost of raw material. This is making foundry operations unviable and lot of small units are on the verge of closure, according to IIF.

Rourkela Steel Plant registers 'best-ever' Apr-Oct production in key areas

The Rourkela Steel Plant (RSP), a unit of SAIL, has registered the "best-ever" production performance for the April-October period in the current fiscal in three key segments of hot metal, crude and saleable steel. During the first seven months of the 2021-22 fiscal, the plant produced 24,63,448 tonnes of hot metal, 22,96,815 tonnes of crude steel and 20,90,372 tonnes of saleable steel, it said in a release. It achieved remarkable growth of 30.7 per cent, 31.1 per cent and 35.3 per cent respectively over the corresponding period last year.

RINL bags Energy Efficient Unit Award

Rashtriya Ispat Nigam Limited (RINL) bagged the Excellent Energy Efficient Unit Award in recognition of its efforts towards energy conservation. The award was presented by the Confederation Indian Industry at the GBC National Award competition held for Excellence in Energy Management in virtual mode in the month of August. Speaking on the occasion, RINL CMD, Atul Bhatt commended the Visakhapatnam Steel Plant collective for the unique achievement and mentioned that

it reflects the commitment of the workforce towards conserving energy. He exhorted them to achieve international benchmarking in energy consumption, one of the key parameters in the steel making process. RINL was earlier awarded with the National Energy Leader Award three times for winning the Excellent Energy Efficient Unit Award consecutively for four years (2017, 2018, 2019, 2020, 2021).

Tata Steel Q2 results: Consolidated PAT soars 661% YoY, beats estimate; sales up 55%

Tata Steel reported 661.3 per cent year-on-year rise in consolidated net profit to Rs. 11,918.11 crore for the quarter ended September, which was slightly above analysts' expectations. The steelmaker reported 54.8 per cent on-year rise in consolidated total revenue from operations to Rs. 60,282.8 crore for the reported quarter, which was sharply above Street's expectations. The company also announced the share swap ratio for the merger of Bannipal Steel and Tata Steel BSL into itself. Tata Steel said that it will offer one share of the company for every 15 shares held by shareholders of Tata Steel BSL. Further, the stake held by Bannipal Steel and Tata Steel in Tata Steel BSL will stand cancelled.

Tata Steel UK invests in Lisburn Service Centre in Ireland

Tata Steel UK is improving its service and distribution centre in Lisburn in Northern Ireland as well as updating its logistics fleet of vehicles as it seeks to secure an uninterrupted supply of material to customers in the important Ireland markets. A new GBP 1.2 million steel roof, made with the company's own high-spec roofing products, has been installed at the Lisburn site which ensures steel destined for the Irish markets can be stored and processed in the optimum conditions before delivery. The new roof was installed by Industrial Roofing Scotland. At the same time the company has replaced its fleet of delivery trucks with a fleet of nine new more fuel efficient tractor units and trailers. Tata Steel's Lisburn Service Centre provides a wide product and service offering, covering the full range of Tata Steel flat products which are used in everything from earth moving and agricultural equipment to construction. In-house coil slitting, decoiling and blanking provide a wide processing capability to meet customer requirements locally from an extensive stock range. This combination of local processing capability and extensive stock range provides a flexible and responsive service to its customers.

Tata Steel named amongst 100 Best Companies for Women in India in 2021 by Working Mother and Avtar

Tata Steel has been recognised amongst 100 Best Companies for Women in India (BCWI) in 2021 by Working Mother & Avtar. This year, the awardees were selected based on a study which is India's largest gender analytics study aimed at recognising companies with the most impactful gender diversity initiatives. The study looked into the key dimensions of gender diversity policies and practices such as workforce profile, recruitment, retention, career, safety and security, flexible work, parental leave & parental benefits, flexible benefits & work life programmes, company culture and management accountability.

JSW Steel's crude steel output grows 6% to 14.25 LT in October

Domestic steel giant JSW Steel posted a 6 per cent year-on-year rise in crude steel production at 14.25 lakh tonne (LT) during October 2021. JSW Steel had produced 13.38 LT of crude steel during the same month in 2020, a company statement said. On a month-on-month (m-o-m) basis, the production in October was also 6 per cent higher from 13.43 LT steel the company had produced in September 2021.

ArcelorMittal Nippon Steel India EBITDA jumps 213% to \$551 mn in Sept qtr

ArcelorMittal Nippon Steel India (AM/NS India) reported a 213 per cent increase year-on-year (YoY) in EBITDA to \$551 million in the quarter ended September 30. It was at \$176 million in the year-ago period. The EBITDA was lower compared to \$607 million in the previous quarter, primarily due to a negative cost-impact, including higher iron ore and energy costs. Crude steel production increased to 1.9 million tonne (mt) in the quarter compared to 1.8 mt in 2Q 2021. ArcelorMittal follows a January-December financial year and AM/NS India numbers were released as part of its earnings in the quarter

JSW Steel, Varun Beverages first companies to get land in J&K for business units

Around 400 companies including 50 from Jammu and Kashmir have responded to the union territory's new industrial policy. Among the firms that have expressed interest are JSW Steel, Varun Beverages Limited, HP Kapital, AtmiyaFieldcon and Rashmi Group. According to sources in the department of Industries and Commerce, JSW Steel has been allowed 50 kanals (6.25 acres) of land at Lassipore in Srinagar for setting up a steel plant. "The group will be investing Rs 150 crores," sources said. On October 9, during the three-day visit of Home Minister Amit Shah to the UT, the group's representatives were given the papers allocating land for the steel plant. Sources said Varun Beverages Limited have also been issued land allotment papers for setting up a business unit in Kathua in Jammu. The company produces bottles and distributes beverages and is PepsiCo's second-largest franchisee outside of the United States.

JSPL to invest Rs 18,000 crore to boost its Angul steel capacity

Steel producer JSPL plans to invest Rs 18,000 crore to boost its Angul steel capacity to 12 million tonnes by 2023. JSPL managing director V.R. Sharma, the Company was investing about Rs 18,000 crore to increase the Angul plant capacity to 12 million tonnes and have plans to increase it to 15 million tonnes by 2025. According to Sharma, the expansion would be carried out through internal accruals. The expansion plan for 15 million tonnes envisages a 4.25 million tonnes blast furnace, 2.7 million tonnes direct reduced iron and 6.3 million tonnes steel melt shop, replicating the present facilities at Angul. The company will take 30 months (December 2023) to commission the blast furnace, to be followed by the direct reduced iron plant, with commissioning expected in February 2025. These projects along with the related raw material capacities — coke oven, oxygen plant — will account for almost two-thirds of the planned capital expenditure of Rs 18,000 crore.

ArcelorMittal Nippon Steel India (AM/NS India) reported a 213 per cent increase year-on-year (YoY) in EBITDA to \$551 million in the quarter ended September 30.

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Nov'21).

JSPL hopes to clock Rs. 50,000 crore in sales in FY22, aims to cut debt

Naveen Jindal-led Jindal Steel and Power (JSPL) plans to clock around Rs. 50,000 crore of sales revenue by the end of FY22 with 8 Mt of production. The company also plans to bring down the company's net debt to Rs. 8,000 crore from a peak of around Rs. 22,146 crore as of FY21. Revenue has been going up and their business plan was to reach revenue of Rs. 50,000 crore by the end of FY22 with an output of 8 million tonnes, the company's managing director, VR Sharma conceded.

ShyamMetalics records PAT of Rs 410 crore in Q2 FY22

ShyamMetalics and Energy reported 157 per cent jump in consolidated net profit to Rs 410.3 crore in Q2 FY22 from Rs 159.6 crore in Q2 FY21. Revenues in the second quarter increased by 87 per cent to Rs 2,494.3 crore from Rs 1,335.2 recorded in the same period last year. EBITDA in Q2 FY22 was Rs 624 crore, up by 140 per cent from Rs 260.3 crore in Q2 FY21. EBITDA margin was 25 per cent in Q2 FY22 as against 19.5 per cent in Q2 FY21.

Visa Steel reports standalone net loss of Rs 12.72 crore in the September 2021 quarter

Net loss of Visa Steel reported to Rs 12.72 crore in the quarter ended September 2021 as against net loss of Rs 21.91 crore during the previous quarter ended September 2020. Sales rose 32.87 per cent to Rs 206.17 crore in the quarter ended September 2021 as against Rs 155.17 crore during the previous quarter ended September 2020. Particulars: Quarter Ended Sep. 2021 Sep. 2020 per cent Var. Sales 206.17 155.17 33 OPM per cent -3.77 -11.69 -PBDT -1.10 -10.18 89 PBT -12.72 -21.91 42 NP -12.72 -21.91 42.

Indian steel market stays subdued in festive season

Semi-finished steel prices registered a sharp fall during week 45 (1-6 Nov'21). Domestic billet prices fell by INR 200-1,000/t while sponge iron offers also fell sharply by INR 500-1,500/t across regions with a major drop of INR 1,000-1,500/t reported from southern India. India's finished long steel market via the induction furnace (IF) route received dull response this week with prices declining by up to INR 1,000/t w-o-w. Domestic prices for hot-rolled coils (HRCs), HR-plates and cold rolled coils (CRCs) remained flat this week.

Industry protest against steel price hike enters fourth day

On Vishwakarma day, when industry focuses on organising special prayers in factories to remember Vishwakarma, the god of engineering, a section of the industry is instead sad on dharna, demanding a regulatory commission for controlling prices of raw materials like steel, zinc etc. Manjinder Singh Sachdeva, general secretary of UCPMA, who is leading the dharna said that it was the voice of industry and hence dharna is not under the banner of UCPMA as problem of raw materials is for one and all. The industry was left with no working capital. The times was hard for industry and Union government should contemplate rationally.

MSMEs plan protests against raw material price hike

The Micro, Small and Medium-Scale Enterprises (MSMEs) here are looking at staging protests to draw the attention of the government towards the high raw material prices. According to M.V. Ramesh Babu, president of the Coimbatore District Small Industries Association the prices keep fluctuating. A couple of days ago the prices of copper products went up to Rs. 90/kg and dropped by Rs.10 or Rs.15 after that. This make it difficult for us to quote a price for the products. They have asked for appointment to meet the Ministers and have made several appeals, but there has been no response from the government. If a quote was given to the buyers, the order would be finalised only after 10 days. When the order is finalised, if the prices dropped, the MSME unit would benefit. If it went up, the unit would suffer a loss. Those who participated in tenders also were unable to give bids. Similarly, units that have entered into contracts with buyers for a year were also suffering losses. A solution required.

Competition between Indian, Chinese steel players to intensify: Icra

The competition between Indian and Chinese steel players could intensify at global level, amid subdued steel demand in China, according to Icra. In China - the largest steel consuming country - steelmakers could brace for an extended period of weak demand as the economy goes through the process of rebalancing of an overheated property market, which was a key growth engine driving the country's steel demand for the last two decades, the ratings agency said in its latest report. According to Icra, in 2020-21, China emerged as the single-largest importer of steel from India. However, with the Chinese steel demand growth waning in the current fiscal, the share of steel exports to China by Indian mills has plummeted to just 8 per cent in the first half of the ongoing fiscal from 30 per cent in the preceding financial year.

Karnataka HC quashes petition questioning land allotment to Jindal Steel

The Karnataka High Court has quashed a petition questioning the allotment of 3,667 acres land to Jindal Steel Company by the state government. A division bench headed by Chief Justice Ritu Raj Awasthi took the decision as it took up the petition filed by K.A. Paul in this regard. Counsel for the government submitted to the court that the decision to allot land to Jindal Steel Company was taken in the cabinet meeting held on April 26 by then Chief Minister B.S. Yediyurappa. The petition questioned the decision and the matter is before Chief Minister Basavaraj Bommai, who will relook the earlier decision and take a call on it, he added.

International News

UAE establishes National Steel Association, eyes local content

United Arab Emirates has established an association representing national steelmakers' interests. The National Steel Producers' Committee (SPC) was approved in 2020 by the Federation of UAE Chambers of Commerce and Industry, under the Federation's law article no. 22/2000. In September, Emirates Steel (ESI) chief executive Saeed Al Remeithi became deputy treasurer to the board of directors of the Abu Dhabi Chamber of Commerce and Industry (see Kallanish passim). Speaking at SPC's introductory press conference, Remeithi, who has been appointed SPC chairman, and is now also ceo of Arkan since the firm merged with ESI, said: "The UAE Steel Producers Committee has a vital role to play in the multi-billion-dollar industry. "The SPC has been set up to be an independent NGO that provides industry representation with the purpose of not only protecting steel producers and service providers across the UAE, but also to contribute to Operation 300 billion, the UAE's industrial strategy and UAE Net Zero by 2050 Strategic Initiative." "In addition, the committee addresses the reality of challenges faced by the industry while strengthening working relationships with government, the private sector and joint ventures for the overall interest of the steel industry," he added. The committee, made up of 15 industry leaders, will coordinate with government sectors to promote the country's image, with initiatives such as "Made in UAE", but will not undermine open market regulations. SPC will not enforce any rules or regulations or stop imports in the scope of fair competition principals, and aims to reach a "win-win" situation between imported and locally made steel products, the association observes. The committee will also provide the necessary training and learning experience for UAE nationals to forge a career in the steel industry.

China's steel output curb likely to extend to March 2022

China's steel production curb is expected to continue to the first quarter of 2022 as Beijing seeks to control pollution ahead of the Winter Olympics and due to the improving but still ongoing power shortage. The pollution control and power shortage will create a favourable supply and demand dynamic to support the margin for Chinese steel companies, according to CreditSights, a Fitch Group's unit, in its recent note. China's monthly crude steel production was down 23 per cent year-on-year in October and the capacity utilisation rate of China's steel mills dropped to a record low in November. Based on CreditSights's observation, over 50 per cent of blast oxygen furnaces in the Tangshan region – a major steel production base in the Beijing-Tianjin-Hebei capital region – remain shut. The region accounts for more

than 20 per cent of China's steel output. Even small steel mills, which tend to rapidly increase output during price up cycles have not managed to ramp up production owing to the strong enforcement of production curbs by the local governments, it said. Moreover, China has committed to cut energy consumption per unit of GDP by 13.5 per cent and carbon emission by 18 per cent by 2025.

European HRC prices fall as auto sales slump

Lower auto sales in Europe have put West European hot rolled coil prices under pressure. However, demand from construction is nonetheless helping to support prices for the flat-rolled product. According to a trader, the people wanted to invest their money into something. ArcelorMittal had originally sought €1,080 (\$1,210) in November. While that price remains the Luxembourg group's official one, transactions have taken place at lower levels. Large-volume transactions have occurred in November at €980-1,000 (\$1,095-1,120) per metric ton exw for delivery in January, the trader said. Transactions for smaller volumes €1,050 (\$1,175), the trader added. Imports from Russia and Turkey have transacted at an average of about €865 (\$970) per ton cfr Europe, the trader noted. New automobile registrations in the European Union totaled 665,000 units for October. That marked a drop of more than 30 per cent year over year from 950,000 units, the European Automobile Manufacturers Association (ACEA) has said.

U.S. Steel imports slump in october as prices cool off

U.S. steel imports dropped in October on a monthly comparison basis, but are up year over year for the first ten months of the year — according to the latest American Iron and Steel Institute ("AISI") report. Total steel imports declined 17 per cent in October. The association of North American steel makers noted yesterday that total domestic steel imports fell 16.7 per cent from the previous month in October to roughly 2.71 million net tons. Finished steel imports also declined 6 per cent to around 2.32 million net tons for the reported month. Biggest volumes of finished steel imports from offshore for October were South Korea with 203,000 net tons (down 32% from September), Turkey with 149,000 net tons (up 26%), Vietnam with 110,000 net tons (up 41%), Germany with 83,000 net tons (down 6%), and Japan with 80,000 net tons (down 3%), per AISI. Meanwhile, total and finished domestic steel imports went up 38.5 per cent and 39.6 per cent year over year, respectively, year to date through the first ten months of 2021. The AISI noted that these figures are based on preliminary Census Bureau data. According to AISI, finished steel import market share was estimated at 24 per cent in October, down from 25 per cent in September. For the first ten months of 2021, finished steel import market share was estimated at 21 per cent. For 2021, annualized total and finished steel imports are expected to be 31.8 million net tons (up 44.6% year over year) and 22.8 million net tons (up 41.4%), respectively, AISI noted.

China's steel-related manufacturing production index slips in October

China's manufacturing production index of steel consumption produced by S&P Global Platts stood at 102 points in October, down 13 points from September and 6 points lower from the same period of 2020. The production index is based on China's

Ergin Makine, a specialised steel producer based in Istanbul, Turkey, gained accreditation as an environmentally friendly business.

Supported by the European Union, the EBRD has helped the company achieve this goal and gain ISO certification.

National Bureau of Statistics production data for 17 steel-related manufactured goods, which are categorized into seven sectors and weighted according to their share of steel consumption. The monthly production average in 2018 is used as the baseline of 100. In the last few weeks, construction-related manufactured goods have taken the biggest hit from the slowdown in China's property sector, while the outlook is promising for the consumption-related goods sector, which is expected to receive more policy support in 2022. In October, slow production of engineering machinery, home appliances and vehicles contributed the most to the decline in the manufacturing production index. The decline in China's manufacturing steel demand has outstripped the pace of decline in steel production since mid-October. As a result, sales profit margins of domestic hot-rolled coil, or HRC, fell 64% from the start of October to \$74/mt at the end of the month, data from Platts Analytics showed. Since Nov. 10, HRC margins have turned negative. HRC margins are an indicator for the price trend in the flat steel sector. Property sector slows down. The downturn in engineering machinery and home appliances manufacturing was a result of a slowdown in China's property construction activities, some sources said. China's property sector has been under pressure for a while now, a development triggered by measures to tighten borrowing that were taken to defuse the sector's debt risks. The outlook is also not looking promising for the sector in the near term, with the slowdown in land purchases and home sales in 2021 expected to continue into 2022.

Turkish steel producer Ergin Makine going green

Ergin Makine, a specialised steel producer based in Istanbul, Turkey, gained accreditation as an environmentally friendly business. Supported by the European Union, the EBRD has helped the company achieve this goal and gain ISO certification. Ergin Makine, which has been serving in many engineering fields for more than 50 years, is taking firm steps towards the future with its innovative technologies and expert staff. All their business activities are carried out with the best quality materials and the best workmanship available in the market. The company provides services in the field of steel manufacturing, assembly, complete mechanical service and recyclable counterweight (Greenweight) production for industrial and commercial enterprises.

Iran maintains position as world's tenth biggest steel manufacturer

Latest data released by the World Steel Association show Iran's steel output has declined, yet the country's world standing remains unchanged. Iranian steel mills produced a total of 22.4 million tonnes of crude steel in the first 10 months of 2021, which indicate a 5.7 per cent decline compared with the corresponding period of 2020. As per the report released by the World Steel Association, Iran's October output hit 2.2 million tonnes, down 15.3 per cent year-on-year. Despite the decline in output, Iran maintained its global status as the world's 10th biggest crude steel manufacturer.

Chinese steelmaker starts EAF mill

Chinese steel producer Henan Yaxin Steel Group Co. Ltd. (Henan Yaxin) has started up its electric arc furnace (EAF) minimill for flat products at its Fujian Dingsheng

plant in Fujian province, China. The mill consists of two EAF Quantum electric arc furnaces provided by United Kingdom-based Primetals Technologies. The scrapped process allows for 85 per cent CO₂ savings compared to integrated production, according to Primetals. Each EAF unit at the melt shop in Fujian has a maximum tapping weight of 115 metric tons, adds the technology provider. The accompanying Arvedi endless strip production (ESP) line, also supplied by Primetals, has a design capacity of 2.5 million metric tons per year. Privately held Henan Yaxin operates integrated and compact steelmaking plants in five provinces and cities in China and can produce more than 10 million metric tons of steel each year, says Primetals. The steelmaker's newest EAF mill includes "an innovative scrap feeding process" and other features, according to Primetals, designed to "attain significantly reduced tap-to-tap times." Primetals also describes the mill's electrical energy requirements as "considerably less than that of a conventional EAF" plant.

Mexico to reinstate temporary tariffs on steel imports in 2022

Mexico announced the temporary reinstatement of 15 per cent import tariffs on some types of steel to begin in the next year, aimed at boosting the industry after a slump brought on by the coronavirus pandemic. The tariffs will begin in June 2022 and gradually disappear at the end of 2024, the government said in presidential decree published in the Official Gazette on Monday night. The measure applies to more than 100 steel products. The local steel industry "requires a period of adjustment that allows it to resort to the necessary legal instruments against unfair trade practices," the decree said. Mexico previously imposed tariffs in 2018 following former U.S. President Donald Trump's 25 per cent "Section 232" national security tariffs on steel imports. That measure, which affected both Canada and Mexico and threatened negotiations on the modernization of the North American Free Trade Agreement which has been revised and renamed the United States-Mexico-Canada Agreement was suspended after the United States lifted taxes on its trading partners. A spokesman from Mexico's steel industry association, CANACERO, said the decree would limit unfair imports and apply only to countries without a trade agreement with Mexico.

World Steel Association: October 2021 crude steel production Down by 10.6%

World crude steel production for the 64 countries reporting to the World Steel Association (worldsteel) was 145.7 million tonnes in October 2021, a 10.6 per cent decrease compared to October 2020. Africa produced 1.4 million tonnes in October 2021, up 24.1 per cent on October 2020. Asia and Oceania produced 100.7 million tonnes, down 16.6 per cent. The CIS produced 8.3 Mt, down 0.2 per cent. The EU (27) produced 13.4 million tonnes, up 6.4 per cent. Europe, Other produced 4.4 million tonnes, up 7.7 per cent. The Middle East produced 3.2 Mt, down 12.7 per cent. North America produced 10.2 million tonnes, up 16.9 per cent. South America produced 4.0 million tonnes, up 12.1 per cent.

Canadian steelmakers embrace 'green steel' as carbon taxes set to rise

The steel industry is at a crossroads, with government policies like carbon pricing designed to combat climate change hitting manufacturers' bottom lines and international pledges likely to seek further concessions from companies that burn

Mexico announced the temporary reinstatement of 15 per cent import tariffs on some types of steel to begin in the next year, aimed at boosting the industry after a slump brought on by the coronavirus pandemic.

fossil fuels. And the chief executive of Algoma Steel is hoping the company's costly investment to make "green steel" will help to insulate it from the kinds of sector-wide downturns that previously threw it into bankruptcies. Chief executive, Michael McQuade, who has plans to reduce the company's carbon emissions by about 70 per cent has said that he would never say never and agreed that they were certainly doing everything in their power to certainly minimize, if not eliminate that risk. Canada's steel industry is currently in a position of strength as the economy recovers from a COVID-19 pandemic that diminished demand and having emerged in 2019 from a period of punishing tariffs imposed by the Trump administration. The \$15 billion industry produces about 13 million tonnes of primary steel, steel pipe and tube products in more than 30 facilities in five provinces. Profits are soaring as production destined primarily for sale in Canada and the U.S. fetches elevated prices amid strong demand from an uptick in oil drilling and infrastructure spending. That has not always been the case as rivals have previously flooded the market when transportation costs were lower, sending the commodity price of the metal lower.

EU imposes tariffs on stainless steel from India, Indonesia

The European Commission, which conducted the investigation, has set duties of 10.2 per cent for Indonesia's IRNC and 20.2 per cent for other Indonesian producers, the EU official journal said recently. The European Union has imposed tariffs on imports of cold-rolled flat stainless steel products from India and Indonesia after an investigation found they were being sold at artificially low prices. The European Commission, which conducted the investigation, has set duties of 10.2 per cent for Indonesia's IRNC and 20.2 per cent for other Indonesian producers, the EU official journal also said. The rates for India are 13.9 per cent for Jindal Stainless Ltd and Jindal Stainless Hisar Ltd and 35.3 per cent for other Indian producers. The Commission said that the anti-dumping duties, to take effect soon, aim to remedy damage caused to EU producers such as Acerinox and Outokumpu.

China's steel output in early Nov down 20% on year: CISA

China's daily crude steel output in early November was 20 per cent lower year on year, to be slightly above October's average, according to China Iron & Steel Association. Industry sources expected China's steel production to remain low through November-December, but said it may rebound in early 2022 after steelmakers complete mandatory output cuts by the end of December. CISA estimated China's daily crude steel output over Nov. 1-10 averaged 2.343 million mt/day, up 1.5 per cent from October but still the second lowest level since March 2018. Besides weak steel demand, China's mandatory requirements to keep 2021 steel output within 2020 levels were the major reason behind low steel production.

Steel mills in northern China, especially in the Hebei province, will continue to conduct winter steel output cuts over January-March 2022, but other parts of China could be allowed to ramp up production to at least the level of a year ago. Hebei has pledged to keep its crude steel output from Jan. 1 to March 15 at 70 per cent of the level seen in the same period of 2021. Output at that level during those three months, if realized, would be higher than the current level. According to sources,

average blast furnace utilization rates in Hebei's Tangshan and Handan cities, two major steelmaking hubs in China, were at below 65 per cent and 70 per cent, respectively, as of mid-November. Meanwhile, oversupply concerns have emerged amid expectations of soft end-user demand in Q1 2022. Market sources said while property construction was likely to deteriorate in Q1 2022 due to poor home sales and land purchases in 2021, steel production on the contrary may increase. Some sources said both traders and end-users were not interested in restocking, as steel market may continue trending downwards amid oversupply in the first quarter of 2022. Although daily crude steel output in early November was almost 20 per cent lower on year, combined finished steel inventories at steel mills and spot markets monitored by CISA, as of Nov. 10, were still 0.1% higher on year at 22.91 million mt, indicating dip in steel demand still outstripped that in production.

Excerpts are from leading Indian dailies Metal Bulletin, Steel Guru, SEASI steel letter and other important Journals and websites.

Upcoming Events/November 2021

International Conference on Ferrous Metallurgy; Date: Thu, 18 Nov 2021;
Venue: map London, United Kingdom; Organiser: World Academy of Science;
Contact: <https://waset.org/>

International Conference on Ferrous Metallurgy: Date: November 18,
2021; Venue: London, United Kingdom; Organiser: World Academy of Science
Contact: <https://waset.org/>

Asia Steel 2021: Date: December 05, 2021; Venue: South Korea; Organiser: The
Korean Institute of Metals and Materials; Contact: secretary@asiasteel2021.org

NASCC: The Steel Conference 2022; Date: 23 Mar 2022; Venue: map
Colorado Convention Center, Denver, Colorado, USA; Organiser: American
Institute of Steel Construction; Contact: nascc@aisc.org

5th International High Manganese Steel Conference 2022; Date: 23 May
2022; Venue: map Voestalpine Stahlwelt Linz, Austria; Organiser: Austrian
Society for Metallurgy and Materials; Contact: asmet@asmet.at

The Indian Iron & Steel Database 2020-21



Joint Plant Committee
An ISO 9001 : 2015 Organisation

The Indian Iron and Steel Database, 2020-21

The vast, heterogenous and complex nature of the spread of the modern day domestic iron and steel industry has necessitated an enumeration – a State/UT-wise listing of the iron and steel units. Accordingly, with dissemination of information as one of its core activity, Joint Plant Committee (JPC) has come up with its latest offering, the “*The Indian Iron and Steel Database*” – a first of its kind publication which provides a detailed listing of the units present in the country in 2020-21, segment-wise, category-wise and most importantly - and which is the cornerstone of the publication - State/UT-wise.

Price: Rs. 15000/-

To purchase, Contact:

Joint Plant Committee

Ispat Niketan, 52/1A, Ballygunge Circular Road, Kolkata – 700019

Tel: (033) 2461 4055 ;Email: jpc.kolkata@gmail.com

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ANDHRA PRADESH			
Assam			
Bihar			
<u>District Wise Distribution</u>			
Chandigarh			
Chhattisgarh			
		DISTRICT	NO. OF UNITS
Delhi		ANANTAPUR	
Daman and Diu		CHITTOOR	
Dadra and Nagar Haveli		EAST-GODAVARI	
Goa		KRISHNA	
Gujarat		NELLORE	
Himachal Pradesh		PRAKASAM	
Haryana		VISAKHAPATNAM	
Jammu and Kashmir		VIZIANAGARAM	
Jharkhand		WEST-GODAVARI	
Karnataka		TOTAL	
Kerala			
Maharashtra			
Madhya Pradesh			
<u>Segment Wise Distribution</u>			
Meghalaya		Segment	No. of Units
Odisha			Capacity('000 tonnes)
Puducherry		Pellets	
Punjab		Sponge Iron	
Rajasthan		Blast Furnace	
Tamil Nadu		Crude Steel	
Telangana		1 BOF	
Tripura		2 Induction Furnace	
Uttarakhand		Total Crude Steel (1-2)	
Uttar Pradesh		3 Re-rolling	
West Bengal		4 Colour Coated	
		5 Pipes	
		Finished Steel (3-5)	
C. Index			

Performance of the Indian Iron & Steel Industry: A Statistical Summary April - October 2021 (prov.)

Trends in Production, Export, Import and Consumption

Overall Production

- **Crude Steel:** Production at 66.805 million tonnes (mt), up by 24.8%.
- **Hot Metal:** Production at 44.808 mt, up by 22.8%.
- **Pig Iron:** Production at 3.444 mt, up by 34.3%.
- **Sponge Iron:** Production at 22.361 mt, up by 23.8%, led by coal-based route (77% share).

Total Finished Steel

- At 62.877 mt, production of total finished steel was up by 29.9% in April-October 2021. Contribution of the non-alloy steel segment stood at 58.897 mt (94% share, up by 28.5%), while the rest was the contribution of the alloy steel segment (including stainless steel).
- Overall exports of total finished steel at 8.809 mt, up by 24.1%.
- Overall imports of total finished steel at 2.751 mt, up by 17.2%.
- India was a net exporter of total finished steel in April-October 2021.
- At 57.899 mt, consumption of total finished steel was up by 26.1% in April-October 2021. Contribution of the non-alloy steel segment stood at 53.525 mt (92% share, up by 24.1%), while the rest was the contribution of the alloy steel segment (including stainless steel).

*Note: All growth figures as compared to same period of last year; All data are provisional
Source: JPC*

**STATISTICS
TABLE**

CRUDE STEEL PRODUCTION				
(In '000 tonnes)				
APRIL - OCTOBER				
Producers	2021 - 22 (Prov.)	2020 - 21 (Final)	% Variation	
A SAIL	9776	7737	26.4	
B TSL GROUP	11007	9353	17.7	
C RINL	3107	1798	72.7	
D AM / NS (ESSAR) GROUP	4348	3620	20.1	
E JSPL	4261	3798	12.2	
F JSWL	9474	7947	19.2	
G OTHER	24833	19269	28.9	
TOTAL PRODUCTION	66805	53522	24.8	

Category-wise Production of Finished Steel APRIL - OCTOBER 2021 (2021 - 22)							
('000 tonnes)							
Category	SAIL, RINL, TSL Group, AM/NS, JSWL & JSPL		Other Producers		Production		
	2021-22 (Prov)	2020-21	2021-22 (Prov)	2020-21	2021-22 (Prov)	2020-21	
I. Pig Iron	983	766	2,461	1,799	3,444	2,565	
II. Sponge Iron	6,728	5,112	15,633	12,952	22,361	18,064	
III. Semis	41,972	34,253	24,833	19,269	66,805	53,522	
IV. Finished Steel Equivalent (Non - Alloy)							
Bars & Rods	8,499	5,206	16,209	12,550	24,708	17,756	
Structurals	1,177	781	2,708	2,566	3,885	3,346	
Rails & Rly. Materials	778	885	7	13	785	898	
PM Plates	2,931	2,058	62	40	2,993	2,098	
HR coils/skelps/strips	22,516	18,696	4,010	3,048	26,526	21,744	
TOTAL (Non - Alloy)	35,902	27,626	22,995	18,216	58,897	45,842	
V. Finished Steel Equivalent (Alloy)							
Non - Flat	596	339	1,625	928	2,221	1,267	
Flat	49	134	109	68	159	201	
TOTAL (Finished Steel Alloy)	646	472	1,734	995	2,380	1,468	
VI. Finished Steel Equivalent (Stainless)							
Non - Flat	0	0	423	289	423	289	
Flat	109	95	1,069	711	1,178	806	
TOTAL (Stainless)	109	95	1,492	1,000	1,601	1,095	
TOTAL (Finished Steel Equivalent)	36,656	28,193	26,221	20,212	62,877	48,405	

CRUDE STEEL TO FINISHED STEEL EQUIVALENT (Prov.)									
APRIL 2021 - OCTOBER 2021 (2021 - 2022)									
CATEGORY	PRODUCTION					TOTAL			
	SAIL	TSL GROUP	RINL	AM/NS (ESSAR)	JSPS		JSWL	OTHERS	
SEMIS	9776	11007	3107	4348	4261	9474	24833	66805	
FINISHED STEEL (NON - ALLOY)									
BARS & RODS	1653	1928	1881	0	1123	1914	16209	24708	
STRUCTURALS	562	0	206	0	410	0	2708	3885	
RLY. MATERIALS	695	0	0	0	83	0	7	785	
TOTAL(NON-FLAT)	2910	1928	2086	0	1616	1914	18923	29378	
PM PLATES	1815	0	0	447	668	0	62	2993	
HR COIL/STRIP	2886	8596	0	3866	489	6680	4010	26526	
TOTAL(FLAT)	4701	8596	0	4314	1158	6680	4072	29519	
TOTAL(Non-Alloy)	7611	10524	2086	4314	2774	8594	22995	58897	
FINISHED STEEL (ALLOY)									
NON-FLAT	4	235	0	0	66	292	1625	2221	
FLAT	0	0	0	0	2	47	109	159	
TOTAL(Alloy)	4	235	0	0	68	339	1734	2380	
FINISHED STEEL (Stainless)									
NON-FLAT	0	0	0	0	0	0	423	423	
FLAT	109	0	0	0	0	0	1069	1178	
TOTAL(Stainless)	109	0	0	0	0	0	1492	1601	
FINISHED STEEL (Non-Alloy + Alloy + Stainless)									
TOTAL(NON-FLAT)	2914	2163	2086	0	1682	2206	20971	32022	
TOTAL(FLAT)	4810	8596	0	4314	1160	6727	5250	30856	
TOTAL Finished Steel	7723	10758	2086	4314	2842	8933	26221	62877	

(*000 tonnes)

**PRODUCTION, IMPORT, EXPORT & CONSUMPTION OF IRON & STEEL (Prov.)
APRIL 2021 - OCTOBER 2021 (2021 - 2022)**

CATEGORY	PRODUCTION				EXPORT AVAILABILITY		Stock		CONSUMPTION		Consumption Variation Over Last Year(%)
	PRODUCTION	IMPORTS	EXPORT	AVAILABILITY	As on 01- APR-2021	As On 31- OCT-2021	Variation in Stock	Current Year	Last Year		
SEMIS	66805	97	3515	63386	679	822	143	63243	48611	30.10	
FINISHED STEEL (Non - Alloy)											
BARS & RODS	24708	46	1384	23370	4365	3405	-959	24329	18756	29.71	
STRUCTURALS	3885	9	126	3768	247	241	-6	3773	3427	10.1	
RLY. MATERIALS	785	49	0	833	180	172	-8	841	915	-8.15	
TOTAL(NON-FLAT)	29378	103	1510	27971	4791	3819	-972	28943	23098	25.3	
PM PLATES	2993	130	527	2596	470	536	66	2530	2098	20.57	
HR COIL/STRIP & Equivalent	26526	1482	6103	21905	3583	3436	-146	22051	17932	22.97	
TOTAL(FLAT)	29519	1612	6630	24501	4052	3972	-80	24581	20030	22.72	
TOTAL(Non-Alloy)	58897	1715	8140	52472	8843	7791	-1053	53525	43129	24.1	
FINISHED STEEL (Alloy)											
NON-FLAT	2221	125	296	2050	83	47	-36	2087	1316	58.56	
FLAT	159	418	66	511	7	6	-1	512	383	33.63	
TOTAL(Alloy)	2380	543	362	2561	90	53	-37	2598	1699	52.94	
FINISHED STEEL (Stainless)											
NON-FLAT	423	18	109	332	15	5	-10	342	218	56.51	
FLAT	1178	474	198	1454	19	39	20	1434	886	61.74	
TOTAL(Stainless)	1601	492	307	1786	34	44	10	1776	1105	60.71	
FINISHED STEEL (Non-Alloy +Alloy+ Stainless)											
TOTAL(NON-FLAT)	32022	247	1915	30353	4889	3871	-1018	31372	24633	27.36	
TOTAL(FLAT)	30856	2504	6894	26466	4078	4017	-61	26527	21300	24.54	
TOTAL Finished Steel	62877	2751	8809	56819	8967	7887	-1080	57899	45933	26.1	

Note: For Import, Export, Availability, Stock Variation & Consumption, all items across the value chain have been taken

DOWNSTREAM PRODUCTION / VALUE ADDED PRODUCTION (PROV.) APRIL 2021 - OCTOBER 2021 (2021 - 2022)										‘000 tonnes
CATEGORY	SAIL	TSL GROUP	RINL	AM/NS (ESSAR)	JSPL	JSWL	OTHERS	TOTAL		
	PRODUCTION									
FINISHED STEEL (Non-Alloy)										
HSM PLATES	0	0	0	194	84	21	0	0	300	
HR SHEETS	69	71	0	1017	0	196	0	0	1352	
CR COIL/SHEETS	712	2032	0	947	0	4596	2767	0	11054	
GP/GC SHEETS/COIL	96	725	0	568	0	1651	1568	0	4609	
COLOR COATED COILS/SHEET	0	114	0	222	0	518	509	0	1364	
ELECTRICAL COILS/SHEETS	33	0	0	0	0	101	111	0	245	
TIN PLATES (incl ww)	0	0	0	0	0	111	213	0	324	
PIPES (LARGE DIA.)	32	168	0	142	0	0	1533	0	1875	
TMBP	0	0	0	0	0	0	5	0	5	
TIN FREE STEEL	0	0	0	0	0	0	4	0	4	
FINISHED STEEL (Alloy)										
FLAT	0	0	0	0	0	0	220	0	220	
FINISHED STEEL (Stainless)										
FLAT	30	0	0	0	0	0	350	0	381	

DOWNSTREAM / VALUE ADDED PRODUCTION, IMPORT, EXPORT & CONSUMPTION (PROVISIONAL)											
APRIL 2021 - OCTOBER 2021 (2021 - 2022)											
CATEAGORY	PRODUCTION	Consumed For DownStream Processing	AVAILABILITY			Stock		CONSUMPTION		Consumption Variation Over Last Year(%)	
			IMPORT	EXPORT	As on 01- APR-2021	As On 31- OCT-2021	Current Year	Last Year			
HR Coils/Strips	15844										
FINISHED STEEL (Non - Alloy)											
HR PLATES	300	0	0	0	300	0	0	300	224	33.52	
HR SHEETS	1352	0	0	3	1349	314	326	1338	1039	28.71	
CR COIL/SHEETS	11054	5031	175	749	5449	1462	1364	5547	3514	57.85	
GP&GC/GALVALUME	4609	1364	400	1098	2547	192	180	2558	2444	4.65	
COLOR COATED COILS/ SHEET	1364	0	55	162	1257	47	70	1233	1138	8.36	
ELECTRICAL COILS/ SHEETS	245	0	257	20	482	11	17	476	385	23.71	
TIN PLATES (incl wwv)	324	0	51	27	348	13	29	332	267	24.54	
PIPES (LARGE DIA.)	1875	0	87	72	1890	193	128	1955	1794	9	
TMBP	5	0	0	0	5	0	1	5	4	39.08	
TIN FREE STEEL	4	0	11	1	15	0	0	14	26	-46.05	
FINISHED STEEL (Alloy)											
FLAT	220	0	188	16	392	0	1	392	106	270.87	
FINISHED STEEL (Stainless)											
FLAT	381	0	373	114	640	3	2	640	384	66.68	

CRUDE STEEL TO FINISHED STEEL EQUIVALENT APRIL 2020 - OCTOBER 2020 (2020 - 2021)										(*000 tonnes)
CATEGORY	SAIL	TSL GROUP	RINL	AM/NS (ESSAR)	PRODUCTION					TOTAL
					JSPL	JSWL	OTHERS	JSPL	JSWL	
SEMIS	7737	9353	1798	3620	3798	7947	19269			53522
FINISHED STEEL (NON - ALLOY)										
BARS & RODS	907	1336	857	0	778	1329	12550			17756
STRUCTURALS	391	0	62	0	327	0	2566			3346
RLY. MATERIALS	816	0	0	0	68	0	13			898
TOTAL(NON-FLAT)	2114	1336	919	0	1174	1329	15129			22000
PM PLATES	1240	0	0	395	423	0	40			2098
HR COIL/STRIP & Equivalent	2058	7319	0	3155	412	5752	3048			21744
TOTAL(FLAT)	3299	7319	0	3550	835	5752	3088			23842
TOTAL(Non-Alloy)	5412	8655	919	3550	2009	7081	18216			45842
FINISHED STEEL (ALLOY)										
NON-FLAT	0	129	0	0	41	169	928			1267
FLAT	0	0	0	0	0	134	68			201
TOTAL(Alloy)	0	129	0	0	41	303	995			1468
FINISHED STEEL (Stainless)										
NON-FLAT	0	0	0	0	0	0	289			289
FLAT	95	0	0	0	0	0	711			806
TOTAL(Stainless)	95	0	0	0	0	0	1000			1095
FINISHED STEEL (Non-Alloy + Alloy + Stainless)										
TOTAL(NON-FLAT)	2114	1464	919	0	1215	1498	16346			23556
TOTAL(FLAT)	3394	7319	0	3550	835	5886	3866			24849
TOTAL Finished Steel	5508	8783	919	3550	2049	7384	20212			48405

PRODUCTION,IMPORT, EXPORT & CONSUMPTION OF IRON & STEEL

APRIL 2020 - OCTOBER 2020 (2020 - 2021)

CATEGORY	PRODUCTION				IMPORTS		EXPORT		AVAILABILITY		Stock		CONSUMPTION		Consumption Variation Over Last Year(%)
	53522	17756	3346	898	96	245	306	636	48800	613	802	189	48611	62367	
SEMIS															
	FINISHED STEEL (Non - Alloy)														
BARS & RODS	17756	47	562	17241	7704	6189	-1516	18756	23926	-21.6					
STRUCTURALS	3346	17	59	3304	400	278	-122	3427	4027	-14.9					
RLY. MATERIALS	898	32	15	915	188	188	0	915	995	-7.98					
TOTAL(NON-FLAT)	22000	96	636	21460	8292	6654	-1638	23098	28948	-20.2					
PM PLATES	2098	245	306	2037	624	562	-62	2098	2745	-23.54					
HR COIL/STRIP & Equivalent	21744	1245	5683	17306	4693	4067	-626	17932	23814	-24.69					
TOTAL(FLAT)	23842	1489	5989	19343	5317	4630	-688	20030	26558	-24.57					
TOTAL(Non-Alloy)	45842	1585	6624	40803	13609	11283	-2326	43129	55507	-22.29					
	FINISHED STEEL (Alloy)														
NON-FLAT	1267	163	94	1335	49	69	19	1316	1903	-30.86					
FLAT	201	339	171	369	18	4	-14	383	701	-45.38					
TOTAL(Alloy)	1468	502	265	1704	68	73	5	1699	2605	-34.77					
	FINISHED STEEL (Stainless)														
NON-FLAT	289	15	70	235	3	19	16	218	271	-19.22					
FLAT	806	245	140	911	6	31	24	886	1438	-38.36					
TOTAL(Stainless)	1095	260	210	1146	9	50	41	1105	1709	-35.33					
	FINISHED STEEL (Non-Alloy +Alloy+ Stainless)														
TOTAL(NON-FLAT)	23556	274	800	23030	8344	6742	-1603	24633	31122	-20.85					
TOTAL(FLAT)	24849	2073	6300	20622	5342	4664	-678	21300	28698	-25.77					
TOTAL Finished Steel	48405	2347	7099	43653	13686	11406	-2280	45933	59820	-23.21					

Note:For Import,Export,Availability,Stock Variation & Consumption, all items across the value chain have been taken

DOWNSTREAM PRODUCTION / VALUE ADDED PRODUCTION APRIL 2020 - OCTOBER 2020 (2020 - 2021)										
('000 tonnes)										
CATEGORY	PRODUCTION							TOTAL		
	SAIL	TSL GROUP	RINL	AM/NS (ESSAR)	JSPL	JSWL	OTHERS			
FINISHED STEEL (Non-Alloy)										
HSM PLATES	0	0	0	151	62	12	0	224		
HR SHEETS	54	16	0	790	0	176	0	1036		
CR COIL/SHEETS	402	1410	0	746	0	2970	1923	7452		
GP/GC SHEETS/COIL	68	654	0	476	0	978	1459	3634		
COLOR COATED COILS/SHEET	0	96	0	192	0	344	511	1143		
ELECTRICAL COILS/SHEETS	19	0	0	0	0	72	74	165		
TIN PLATES (incl ww)	0	0	0	0	0	102	137	238		
PIPES (LARGE DIA.)	29	132	0	93	0	0	1541	1796		
TMBP	0	0	0	0	0	0	4	4		
TIN FREE STEEL	0	0	0	0	0	0	0	0		
FINISHED STEEL (Alloy)										
FLAT	0	0	0	0	0	0	182	182		
FINISHED STEEL (Stainless)										
FLAT	19	0	0	0	0	0	255	274		

DOWNSTREAM / VALUE ADDED PRODUCTION, IMPORT, EXPORT & CONSUMPTION
APRIL 2020 - OCTOBER 2020 (2020 - 2021)

CATEAGORY	PRODUCTION	Consumed For DownStream Processing	IMPORT	EXPORT	AVAILABILITY	Stock		CONSUMPTION		Consumption Variation Over Last Year(%)
						As on 01- APR-2020	As On 31- OCT-2020	Current Year	Last Year	
HR Coils/Strips		11383								
			FINISHED STEEL (Non - Alloy)							
HR PLATES	224	0	0	0	224	0	0	224	342	-34.39
HR SHEETS	1036	0	1	9	1027	334	322	1039	1421	-26.84
CR COIL/SHEETS	7452	3950	104	327	3279	1944	1710	3514	4234	-17.00
GP&GC/GALVALUME	3634	1143	310	410	2391	316	263	2444	3413	-28.38
COLOR COATED COILS/ SHEET	1143	0	60	61	1142	61	65	1138	1319	-13.72
ELECTRICAL COILS/ SHEETS	165	0	221	21	365	46	27	385	621	-38.04
TIN PLATES (incl ww)	238	0	59	9	288	0	21	267	347	-23.23
PIPES (LARGE DIA.)	1796	0	83	63	1816	129	151	1794	2256	-20.49
TMBP	4	0	0	0	4	0	0	4	3	48.29
TIN FREE STEEL	0	0	27	1	26	0	0	26	50	-47.14
			FINISHED STEEL (Alloy)							
128	182	0	71	147	106	0	1	106	97	8.76
			FINISHED STEEL (Stainless)							
FLAT	274	0	183	71	387	1	4	384	1183	-67.53

**STATISTICS
TABLE**

JOINT PLANT COMMITTEE
IMPORT OF IRON & STEEL THROUGH MAJOR INDIAN PORTS
CATEGORYWISE IMPORT REPORT FOR PERIOD 01-Apr-21 To 31-Oct-21(PROV.)

Quantity : '000 tonnes
Value : Rs. Crores

SL No	Carbon Steel (Prime)		Carbon Steel (Seconds/Defective)		Alloy/Stainless Steel		Total			
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value (Rs Crs)	Value (USD million)	
I	STEEL									
	A.SEMIS									
Billets,Slabs,etc.	8.9	43.2	0.0	0.0	24.8	385.7	33.7	428.9	57.9
Re-rollable Scrap	62.8	218.2	0.0	0.0	0.0	1.1	62.8	219.3	29.6
	B.FINISHED STEEL									
	1. Non-Flat Products									
	BARS & RODS	45.5	291.5	0.1	0.4	141.9	2212.8	187.5	2504.7	338.3
	STRUCTURALS	8.6	60.5	0.0	0.0	2.0	21.5	10.5	82.0	11.1
	RLY. MATERIALS	48.6	389.6	0.0	0.0	0.0	0.0	48.6	389.6	52.6
	TOTAL (1) Non-Flat Products	102.7	741.7	0.1	0.4	143.8	2234.3	246.6	2976.3	402.0
	2. Flat Products									
	PLATES	130.2	1017.9	0.0	0.1	62.8	740.1	193.0	1758.0	237.4
	HR SHEETS	0.0	0.0	0.0	0.0	5.1	51.3	5.1	51.3	6.9
	HR COIL/STRIP	446.5	2867.2	0.0	0.0	267.9	2844.7	714.4	5711.9	771.5
	CR COIL/SHEETS	168.6	1100.0	6.3	36.6	488.9	4994.3	663.8	6130.9	828.0
	GP/GC SHEETS/COIL	390.3	3252.7	64.4	326.3	0.0	0.0	454.6	3579.0	483.4
	ELECT. SHEETS	256.7	2682.9	0.0	0.0	0.0	0.0	256.7	2682.9	362.4
	TMBP	0.0	0.0	0.1	0.5	0.0	0.0	0.1	0.5	0.1
	TIN PLATES	10.9	74.5	39.8	200.9	0.0	0.0	50.7	275.5	37.2
	TIN FREE STEEL	2.7	20.5	8.5	44.6	0.0	0.0	11.3	65.1	8.8
	PIPES	56.4	446.1	30.8	120.0	67.3	1377.4	154.5	1943.5	262.5
	TOTAL (2) Flat Products	1462.3	11461.8	150.0	729.0	892.0	10007.9	2504.3	22198.7	2998.2
	TOTAL Finished Steel(1+2)	1564.9	12203.5	150.1	729.4	1035.9	12242.1	2750.8	25175.0	3400.2
	TOTAL Steel=(A+B)	1636.6	12464.8	150.1	729.4	1060.7	12629.0	2847.4	25823.1	3487.7
II	Other Steel Items									
	FITTINGS							77.4	992.4	134.0
	MISC. STEEL ITEMS							175.0	2015.3	272.2
	SCRAP							2790.4	15832.4	2138.4
III	Iron									
	PIG IRON							7.5	29.6	4.0
	SPONGE IRON							23.6	64.5	8.7
IV	Ferro-Alloys									
	GRAND TOTAL							6237.4	49896.1	6739.1

CRUDE STEEL TO FINISHED STEEL EQUIVALENT PRODUCTION, IMPORTS, EXPORTS, AVAILABILITY, STOCK & CONSUMPTION (PROVISIONAL)										
APRIL 2021 - NOVEMBER 2021										
(In '000 tonnes)										
PRODUCERS	Non-Alloy Steel					FINISHED STEEL Alloy / Stainless Steel				
	2021 - 22 (Prov.)	2020 - 21 (Final)	% Variation	2021 - 22 (Prov.)	2020 - 21 (Final)	% Variation	2021 - 22 (Prov.)	2020 - 21 (Final)	% Variation	Total 2020 - 21 (Final)
a) Production										
SAIL	8745	6442	35.7	130	114	14.0	8874	6555	35.4	
TSL GROUP	12022	10186	18.0	271	165	63.8	12293	10352	18.7	
RINL	2389	1202	98.8	0	0		2389	1202	98.8	
AM / NS (ESSAR) GROUP	17973	14852	21.0	462	401	15.3	18435	15253	20.9	
OTHER	26372	21630	21.9	3702	2447	51.3	30074	24077	24.9	
Total Production	67501	54313	24.3	4564	3127	46.0	72065	57439	25.5	
b) Imports	1899	1841	3.1	1164	856	36.0	3063	2697	13.5	
c) Exports	8785	7163	22.7	745	534	39.6	9531	7697	23.8	
d) Availability (a + b - c)	60614	48991	23.7	4983	3449	44.5	65597	52440	25.1	
Opening Stock	8843	13609		124	77		8967	13686	-34.5	
Closing Stock	8092	10858		106	127		8198	10985		
e) Variation in Stock	-751	-2751		-18	50		-769	-2701		
f) ASU (Consumption)	61366	51742	18.6	5001	3399	47.1	66366	55141	20.4	

**STATISTICS
TABLE**

JPC MARKET PRICE RETAIL FOR 16TH OCTOBER 2021					
(Rs/Tonnes)					
Sl. No.	ITEM	Kolkata	Delhi	Mumbai	Chennai
1	PIG IRON	56300	57820	59590	53100
2	BILLETS 100 MM	56150	57820	56820	61070
3	BLOOMS 150X150 MM	57500	58780	55180	NA
4	PENCIL INGOTS	53340	57940	53570	56020
5	WIRE RODS 6 MM	62000	63720	65730	68510
6	WIRE RODS 8 MM	61500	62540	65140	68030
7	ROUNDS 12 MM	63000	66120	68520	68370
8	ROUNDS 16 MM	61500	65730	68280	68370
9	ROUNDS 25 MM	61500	65540	68280	68370
10	TMT 10 MM	67700	68160	65560	67010
11	TMT 12 MM	67700	67210	65900	66520
12	TMT 25 MM	67700	66980	65460	66520
13	ANGLES 50X50X6 MM	62500	66580	66110	66960
14	ANGLES 75X75X6 MM	62500	66310	66510	66960
15	JOISTS 125X70 MM	62000	64830	65740	66960
16	JOISTS 200X100 MM	60000	64300	66640	67150
17	CHANNELS 75X40 MM	61000	66500	67520	68960
18	CHANNELS 150X75 MM	61000	65910	67700	67150
19	PLATES 6 MM	79250	83050	85120	82210
20	PLATES 10 MM	78500	83050	86000	82210
21	PLATES 12 MM	78050	83050	87830	84290
22	PLATES 25 MM	78050	83780	84770	85960
23	H. R. COILS 2.00 MM	78000	82640	85140	85260
24	H. R. COILS 2.50 MM	77670	81810	84380	82740
25	H. R. COILS 3.15 MM	77500	81810	84380	82740
26	C. R. COILS 0.63 MM	90250	88950	91420	98320
27	C. R. COILS 1.00 MM	89000	88570	90880	97550
28	G. P. SHEETS 0.40 MM	98500	99530	104490	105610
29	G. P. SHEETS 0.63 MM	96500	97890	99830	104680
30	G. C. SHEETS 0.40 MM	99500	100300	105700	108390
31	G. C. SHEETS 0.63 MM	97500	98140	100980	107680
32	MELTING SCRAP H M S - I	45750	46380	50150	45040
33	MELTING SCRAP H M S - II	45500	46020	49820	43860
34	SPONGE IRON (COAL BASED)	35670	48270	42775	41820

NOTE: 1) JPC will not be responsible for the outcome of any work done by any party/user of this report based on the data featured in this report. 2) Prices are indicative. 3) Prices are inclusive of GST. 4) All prices are in Rs./Tonne and has been compiled on the basis of average of Main & Others producers' price. 5) All prices are as on the 16th of October 2021. 6) Prices have been rounded up to the nearest ten. 7) For Blooms 150X150MM, prices were not available in Chennai.

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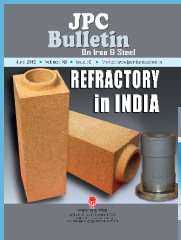
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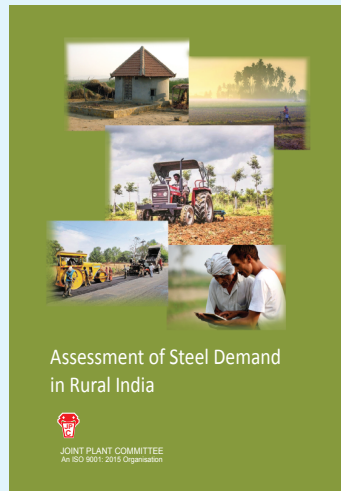


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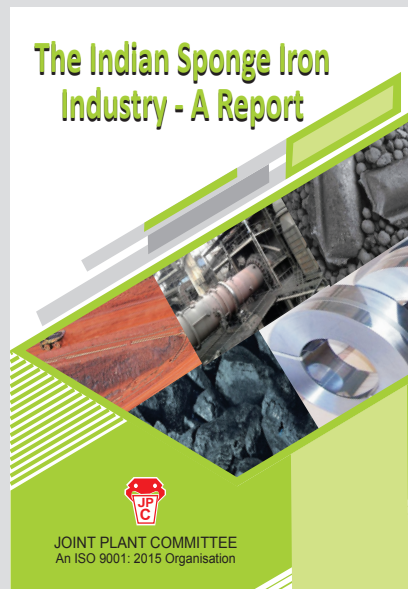
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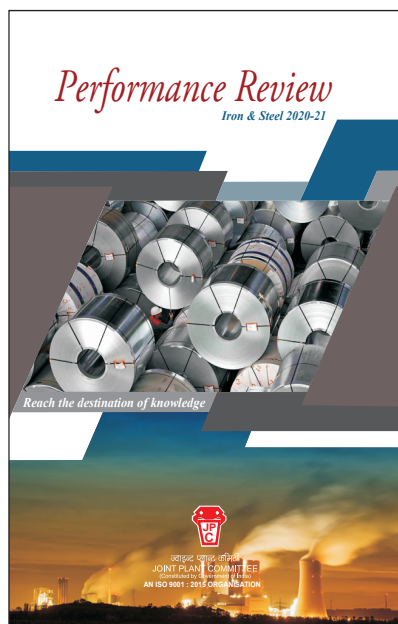
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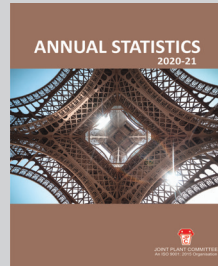
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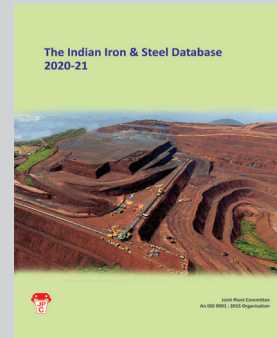
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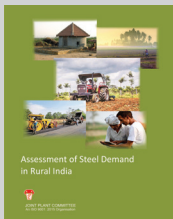
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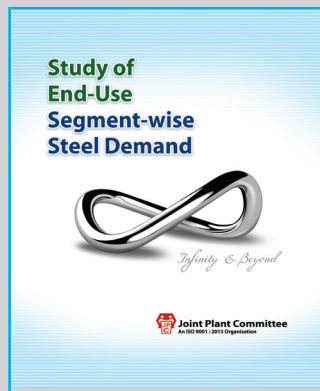
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