

Methodology

Indian Domestic Billet Price Index

EXW Raipur

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India Billet Market Overview

India: Crude steel capacity and production

India is the world's second-largest steel producer after China, producing about 125 mn t of crude steel as against an installed capacity of about 167 mn t during FY 22-23, as per SteelMint data. India produced steel mainly through the BF, EAF and IF routes in the respective proportion of about 47%, 23% and 31%.

Primary and small-medium producers

With the ramp up of capacities, India's steel production is continuously rising. The steel plants are divided mainly into two categories: the primary mills and the small, medium producers (secondary mills). The primary mills are producing steel mainly through the BF/BOF route, while the small, medium producers in India are making steel via the EAF/IF route.

In terms of production, the primary producers in India churned out 120 mn t of crude steel last year, whereas about 54 mn t was produced through the EAF/IF route by the small, medium producers as per **SteelMint** data.

IF route capacity and manufacturers across India

India has more IF plants than BF due to less capital expenditure, quick installation time and rising demand for steel. Overall, about 900+ plants in India have IF facilities, with daily capacity ranging around 100 t to 3,000 t.

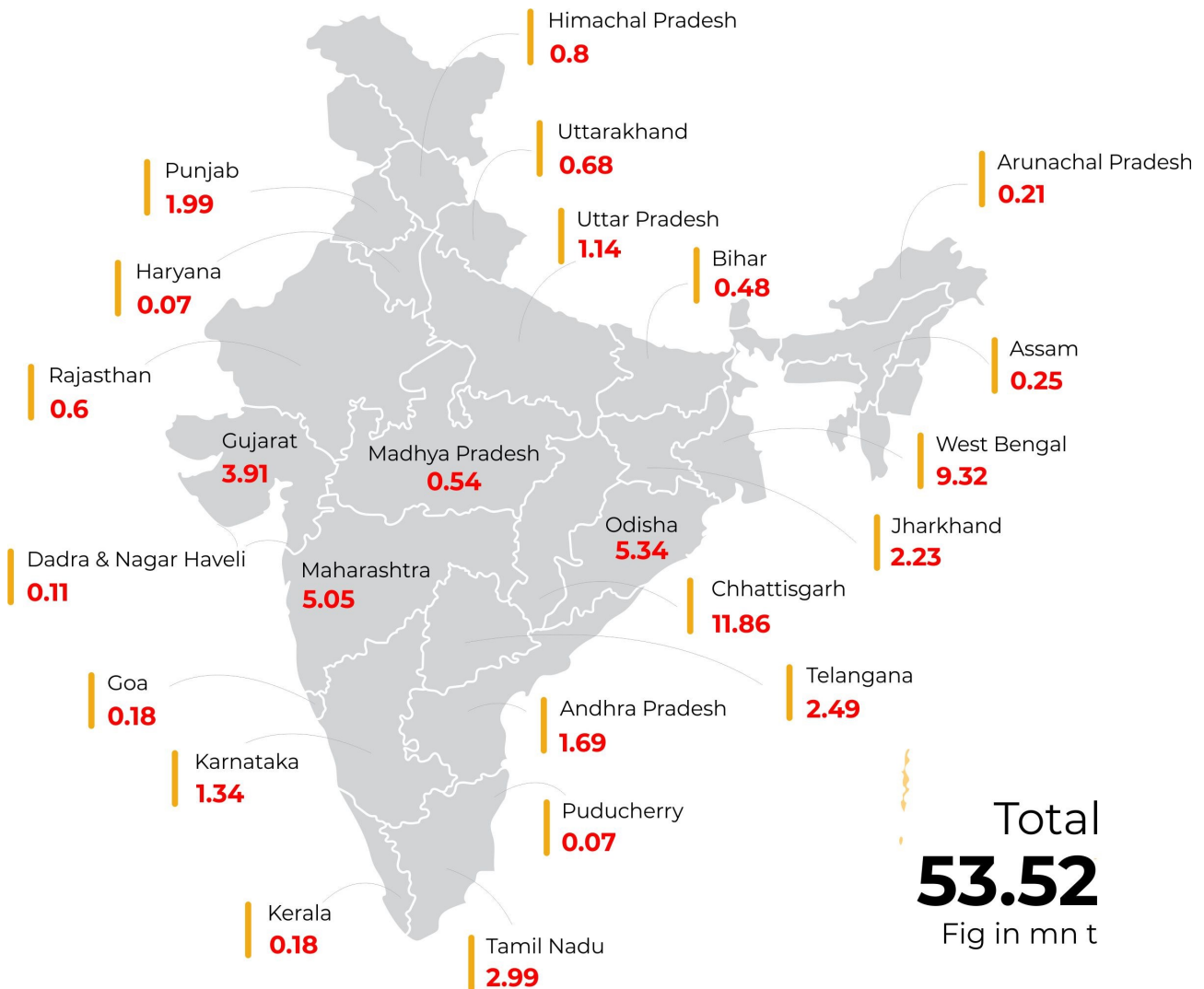
The market is fluid due to the high number of buyers and sellers where spot trade prices change four-five times daily. Hence to set a reference price, SteelMint plays a key role in setting a framework for buying, selling and purchasing the material with a formula-based transparent pricing mechanism.

Major locations and dynamics

IF furnace in India have an installed capacity of about 167 mn t, with the major capacity of about 11.8 mn t in Chhattisgarh: Raipur and Raigarh are the major industrial hubs with around 300 steel mills. The second major state in West Bengal with 9.3 mn t of capacity followed by Odisha with 5.3 mn t of capacity.

Within Chhattisgarh, Raipur has huge steel production capacity, which SteelMint treats as a price index for domestic billets. The index is published daily at 18:30 along with the reference price four-five times a day with 14+ other locations considered as important markets. Please find the capacity and SteelMint assessment table below:

Indian Crude Steel Capacity through IF route in FY'23



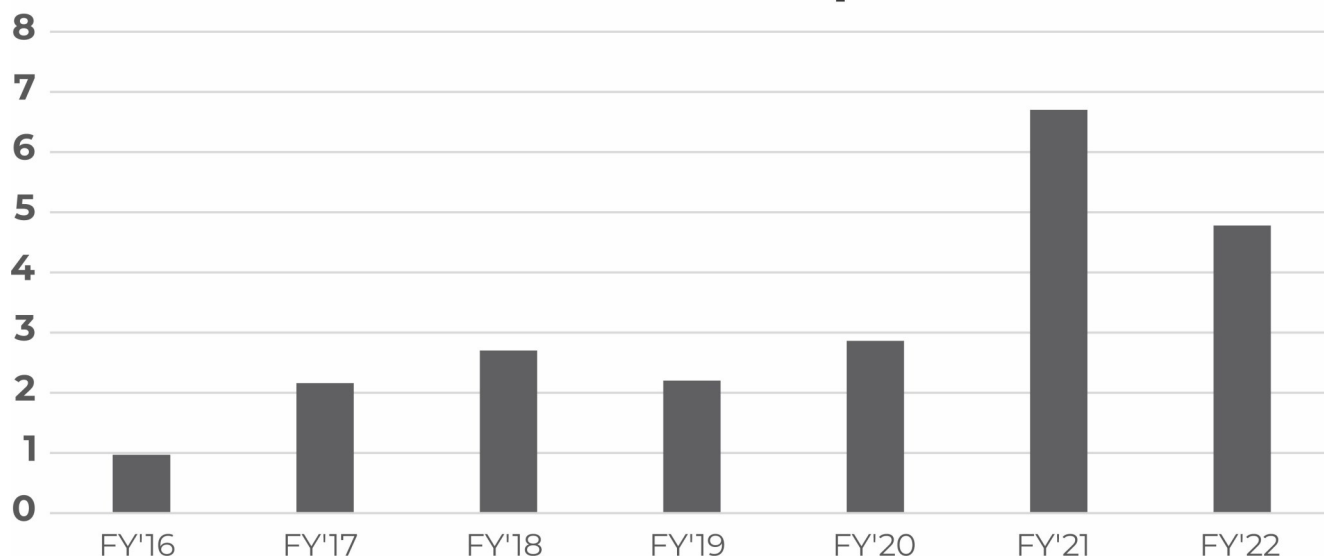
Plant having IF capacity >50000 tpa

Indian Billet Exports

Indian billet exports continue to gain momentum & have registered a significant rise during FY '21 to reach a little over seven mn t against 2.8 mn t in FY'20. China, Nepal, Indonesia, Thailand and the Philippines were the predominant buyers of the Indian billets during the period under consideration. While JSPL, RINL, and SAIL were the prominent exporters.

The steep rise in the exports was primarily due to the increased buying from China. Chinese economy recovered comparatively at a faster pace than other countries. As domestic supplies could not cater to demand it created room for imports.

Indian Billet Exports



Methodology overview for billet price index ex-works Raipur, India

Raipur in central India is a key Centre for steel billet trade, with producers buying billets from Raipur-based producers as well sourcing from Odisha and Raigarh. Most of the trading is done through brokers who connect the sellers to buyers in Raipur.

SteelMint conducts daily assessment of induction furnace (IF) billet cargoes that are sold on EXW and DAP (Delivered at Plant) basis in Raipur and comply with quality and quantity specifications. The assessment accords the value to transactions that have been confirmed by reputed and trustworthy buyers, sellers or brokers.

As with all SteelMint assessments, the analysts and management are equidistant from all market players, with no financial interest involved in any transaction whatsoever.

Trading window - The billet market in Raipur is active throughout the day with the typical trading window opening at 11 am and final transactions stretching into 7.30 pm IST.

SteelMint collects market data from 11 am-5.30 pm. However, SteelMint only considers deals, offers, bids & Indicative price received in the 2.30-5.30 pm IST trading window, which is typically the most active part of the trading day for final price calculation.

However, if no deals are reported in the 2.30-5.30 pm trading window, SteelMint may consider the deals that might have happened in the earlier part of the day (11 am-2.30 pm) for final price calculation.

The timestamp for assessment is at 5:30 pm IST. Bids, offers and deals received after the timestamp are not included in the data collection and calculation process.

Data hierarchy - The highest importance in the price calculation process is assigned to confirmed deals received in the trading window where either a buyer or seller provides details of the transaction.

Trades reported by brokers directly involved in sales are also considered for price calculation. Deals provided by reputed and trustworthy buyers, sellers and brokers are included in the price collection and calculation process. Confirmed bids and offers are also considered valuable for the pricing process.

In periods when market activity is sluggish, analysts will poll market participants for indicative or tradable price levels for that day.

Transaction data threshold - SteelMint does not impose a minimum transaction threshold for arriving at an assessment, as an arbitrary imposition of minimum market data may not truly reflect the fundamentals such as seasonality – the monsoon rains – that sharply impact traded volumes.

This index has been derived based on transactions, offers, bids and indicative price data sets. Transactions are considered as T1 and given a weightage of 50% whereas other data sets are considered as T2 and given a weightage of the balance 50%.

Frequency of assessments - The billet assessment is conducted and published on a daily basis. The Raipur billet index price will be published every working day at 6.30 PM IST, except Saturday, when it would be published at 4.00 pm.

Assessment Details

Assessment name	Billet, Exw Raipur
Chemical composition	Phosphorus <0.09%; Sulphur <0.05% (S+P >0.140%); Carbon: 0.15-0.25%; Manganese >0.4%
Physical composition	Typical size: 100mmX100mm
Quality specification	Commercial grade, induction furnace (IF) route. mild steel (MS) billets conforming to the Bureau of Indian Standards (BIS) specification 2830 or 2831 produced by a BIS-licensed plant/factory
Delivery	1 week
Payment terms	within 0-5 days
Quantity	Min: 100 MT; Typical: 100-200 MT
Assessment frequency	Daily
Data collection	Daily
Data publication time	Monday to Friday 6.30 pm, Saturday 4.00 pm
Currency	INR

Normalisation for large billets - The typical steel billet sold in Raipur is 100X100mm but larger billet cargoes are sold at a premium. For transactions of typical billet cargoes, the premium for the larger size, as provided by the buyer/seller/broker, is included in price calculations. The rationale for the assessment mentions the premium amount due to the size variation. The premium for larger billets is as follows:

Size	Premium Upto
100X100mm	Base
110X110mm	0
125X125mm	+300
150X150mm	+300
165X165mm	+300

Test certificate - MS Billets conforming to the Bureau of Indian Standards (BIS) specification 2830 or 2831 produced by a BIS licensed plant/factory. The billet manufacturing plant provides the test certified (TC) report as per BIS norms. The TC reveals the chemical composition and mechanical properties. The manufacturers charge premium for adhering to the specification between INR 1,500-2,000/t, majorly in eastern India.

Medium and High Manganese Billet premium - The suppliers are charging a premium of INR 1,000/t to INR 3,000/t over the BIS test certified billet for the Medium and High Manganese billet that contents the Mn percentage from 0.60 to 1.80 %, the premium price is based on the present silico manganese price approx INR 1,15,000/t exw.

Premium on DAP - There is no change in premium if material is bought from outside on DAP (Delivered at Plant) basis, the plants are buying at similar price which is offered on ex-works Raipur basis.

Delivery terms - SteelMint typically considers deals, bids and offers with a 0-7 day delivery period to Raipur. Material delivered before two days and after eight days are not included in the index calculation. Cargoe volumes of less than 100 t are not considered for price calculation as well.

Payment terms - SteelMint considers deals, bids and offers for payments made within 0-5 days of signing of the contract. However, a discount is given to buyers if the payment is made in advance, while buyers have to pay a premium if the payment is delayed. Currently, the various premiums and discount on base terms are as under:

Payment period	Premium/Discount Upto
Within 0-5 days	Base
Advance	-200/t
15-20 days	+300-400/t
25-30 days	+500-600/t

SteelMint Billet Price Assessment in Domestic Market

S.No.	Place	Delivery	Products Coverage	Time*	Frequency
1	Mandi Gobindgarh	DAP	MS Ingot, MS Billet	11:45, 13:15, 16:00, 18:00	4
2	Ludhiana	DAP	MS Ingot	13:15, 16:00, 18:00	3
3	Ghaziabad	EXW	MS Ingot	15:30, 18:00	2
4	Muzaffarnagar	EXW	MS Ingot	13:15, 16:00, 18:00	3
5	Durgapur	DAP	MS Billet	11:45, 13:15, 16:00, 18:00	4
6	Kolkata	DAP	MS Billet	11:45, 13:15, 16:00, 18:00	4
7	Ramgarh	EXW	MS Billet	13:15, 16:00, 18:00	3
8	Rourkela	EXW	MS Ingot, MS Billet	13:15, 16:00, 18:00	3
9	Raigarh	EXW	MS Ingot, MS Billet	11:45, 13:15, 16:00, 18:00	4
10	Raipur	EXW	MS Ingot, MS Billet	11:45, 13:15, 16:00, 18:00	4
11	Chennai	DAP	MS Billet	13:15, 18:00	2
12	Hyderabad	EXW	MS Billet	11:45, 13:15, 16:00, 18:00	4
13	Ahmedabad	DAP	MS Ingot, MS Billet	13:15, 18:00	2
14	Bhavnagar	DAP	MS Billet	13:15, 16:00, 18:00	3
15	Jaipur	EXW	MS Ingot, MS Billet	13:15, 18:00	2
16	Goa	EXW	MS Billet	13:15	1
17	Jalna	DAP	MS Billet	13:15, 18:00	2
18	Mumbai	DAP	MS Ingot, MS Billet	11:45, 13:15, 16:00, 18:00	4

*Last update on Saturday is done at 16:00, EXW- Ex works, DAP- Delivered at Plant Site, Payment within 0-5 days, Delivery Terms 0-5 days, Grade: IF route,

Price Development Mechanism

Stage	Details
Data Collection	Data is collected from the integrated mills as well as small and medium mills with minimum capacity above 0.03 million tonnes per annum
	Based on the publishing date and time, data is collected from market participants. The data is primarily collected through telephone calls, emails and messenger platforms such as WhatsApp, etc.
	As per our Data Partner (DP) policy, a broad mix of DPs from buyers, sellers, traders and manufacturers, etc. are approached so that the data collated gives us a correct picture of the market.
	Another important sources of price data are the results of auctions and tenders being hosted by PSUs or private entities.
	Every effort is made to ensure that deals of only reputed and trustworthy producers and trading firms are included in the price development mechanism.
	The data collected is subsequently arranged as per established hierarchies.
	Highest importance in the price calculation process is assigned to confirmed deals as part of which either the buyer or seller provided details of the transaction.
	Confirmed offers and bids too are considered valuable for the pricing process.
Data Arrangement	In periods when market activity is sluggish, analysts will poll market participants for indicative or tradable price levels for that day.
	Deals or prices obtained closer to the publishing date and time would be given preference over older deal(s).
	Similarly, deals involving significantly large volumes or deals involving major market participant as against smaller players would be given preference and the hierarchy would be likewise established.
Normalisation	The normalisation would be carried out for four different categories of data i.e., transactions, indicative prices, bids and offers.
	SteelMint would then normalise the four groups of data based on the sample types, chemical specifications, delivery dates and terms, freights, etc.
	If the normalised price of one submission in a group significantly differs compared with the remaining post-normalisation group submissions, SteelMint will reconfirm the details of the sample.
	If the submitted data is incomplete, opaque and/or there is disagreement between the parties to the transaction or the normalisation result shows significant bias compared with the market level, the submission sample will be removed.
Data Outlier Elimination	SteelMint adopts 'standard deviation' approach to eliminate the outliers of data sets seen in price collection. The normalised values are collated and the mean value is determined.
	The values lying outside the Mean + Variance (upper limit) and Mean - Variance (lower limit) are discarded for the purpose of price discovery
Price finalisation	SteelMint uses volume weighted approach to arrive at the final price index where the volume-based deals are available in the data collated in an adequate number.
	Alternatively, a simple average is calculated by giving the highest weightage to confirmed transactions in addition to offers, bids and indicative prices.
	Expert judgment would be exercised by our analysts in each specific scenario.

Miscellaneous Aspects - Common to all assessments

Rationale publication

A rationale for the assessment which will include a summary of the type and number of data points considered for price calculation and reasons for exclusion of deals, if any, are published on the day of publication of prices to provide transparency to the assessment process.

Record keeping

Records of price sheets used in assessment, calculation, rationale and notes taken by reporters during the data collection and discussion process with contacts are stored securely in physical or electronic forms for a reasonable period of time.

Correction of assessments

Steelmint will publish corrections of assessments if an error has resulted due to faulty entry of data or an unintentional omission of data point in the price calculation process. However, prices will not be corrected or updated in any manner if new deals or bids/offers become available after the weekly timestamp.

Methodology review

The basic purpose of any pricing process is to accurately reflect market fundamentals and as such the methodology is open to review as market conditions and modes of trading and pricing contracts change. Noticeable changes in chemical specifications and price components of openly-traded fines and lump cargoes will also trigger a review in Steelmint's methodology. Once editors and the management decide to review the methodology, sufficient time will be provided to external stakeholders to comment on the proposed methodology changes via email or other appropriate communication tools. Any final change to the methodology will only be made after completing an external consultation process.

Similarly, any decision to add or cease an assessment will also be taken after due consultation with the external stakeholders.

Becoming a Data Submitter with SteelMint

SteelMint continually seeks to increase the number of market sources willing to take part in the price discovery process. The main condition is that contributors should be active participants in the market and have an in depth knowledge about market dynamics regarding that specific commodity.

SteelMint Data Partner Policy provides guidelines defining the high level of data quality and integrity that we expect from contributing organisation providing pricing data. Market participants that wish to provide pricing data and be part of the price discovery process should first read the Data Partner Policy. All data sources are subject to review before their data submitted is fully taken into account in the pricing process. If you want to become a data submitter / contributor to SteelMint pricing, or have questions or comments about the methodology and price specifications, please contact SteelMint's Audit and Compliance Officer at info@steelmint.com

DATA IS OUR DNA

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