



SteelMint Pellet Index (PELLEX)

Methodology

SteelMint Pellet Index Guide Methodology/Specifications

VERSION CONTROL

Version	Revision Description	Revision Date	Revision Author

SteelMint Pellet Index Guide

This guide is intended to introduce our subscribers/market participants to the Domestic Pellet Index (PELLEX) issued by SteelMint. The guide provides in detail the methodology, the processes and the standards adopted in collecting data and the methods employed to finalise the index price for publication.

About SteelMint

SteelMint is a leading research-based, price reporting and market intelligence services organisation, catering to our clients associated with the steel industry across the globe.

About SteelMint Pellet Index

The SteelMint Pellet Index ("PELLEX") is a representation of the domestic pellet prices for pellets delivered at buyers' site in Raipur (DAP Raipur).

DAP Raipur	=	Ex Plant Prices	+	Freight
Delivered prices to DRI makers in Raipur		C. G. based Plants (Prices viable for Delivery in Raipur)		Applicable Freight Rates

The index is based on actual transactions and other market inputs received from market participants to SteelMint internal research team. We are totally determined to represent unbiased, impartial and transparent approach for publishing PELLEX.

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Domestic Pellets Market

FY 2018-19 (quantity in MnT)

State	Total Capacity	Total Production	Captive Production	Merchant Production (Domestic and Export)
Odisha	28.9	20.53	11.39	9.14
Karnataka	19.5	13.91	11.08	2.83
Chhattisgarh	9.6	6.69	3.7	2.99
Jharkhand	8.4	7.54	6.91	0.63
Andhra Pradesh	8	6.43	6.43	
West Bengal	4	3.5	2.05	1.45
others	7	5.42	4.57	0.85
Total	85.4	64.03	46.17	17.89

PELLEX Rationale

Why Raipur?

- Production capacity in India is 85 MnT (approx) and actual production is around 65 MnT;
- 5 major states - Odisha (28.9), Karnataka (19.5), Chhattisgarh (9.6), Jharkhand (8.4) and Andhra Pradesh (8) - cover around 85-90% of the capacity;
- States other than Odisha and Chhattisgarh produce majorly for captive purposes;
- Odisha's production capacity goes either into exports or captive consumption. There is scant material left to offer domestic merchant market;
- Based on the above we have chosen Raipur as our index base as this market seems more active from a domestic merchant trading perspective. Also, Chhattisgarh has a good base for sponge iron makers (DRI) who procure a decent amount of pellets.

Domestic Pellets Market

FY 2018-19 (quantity in MnT)

Top producers and top merchant sellers

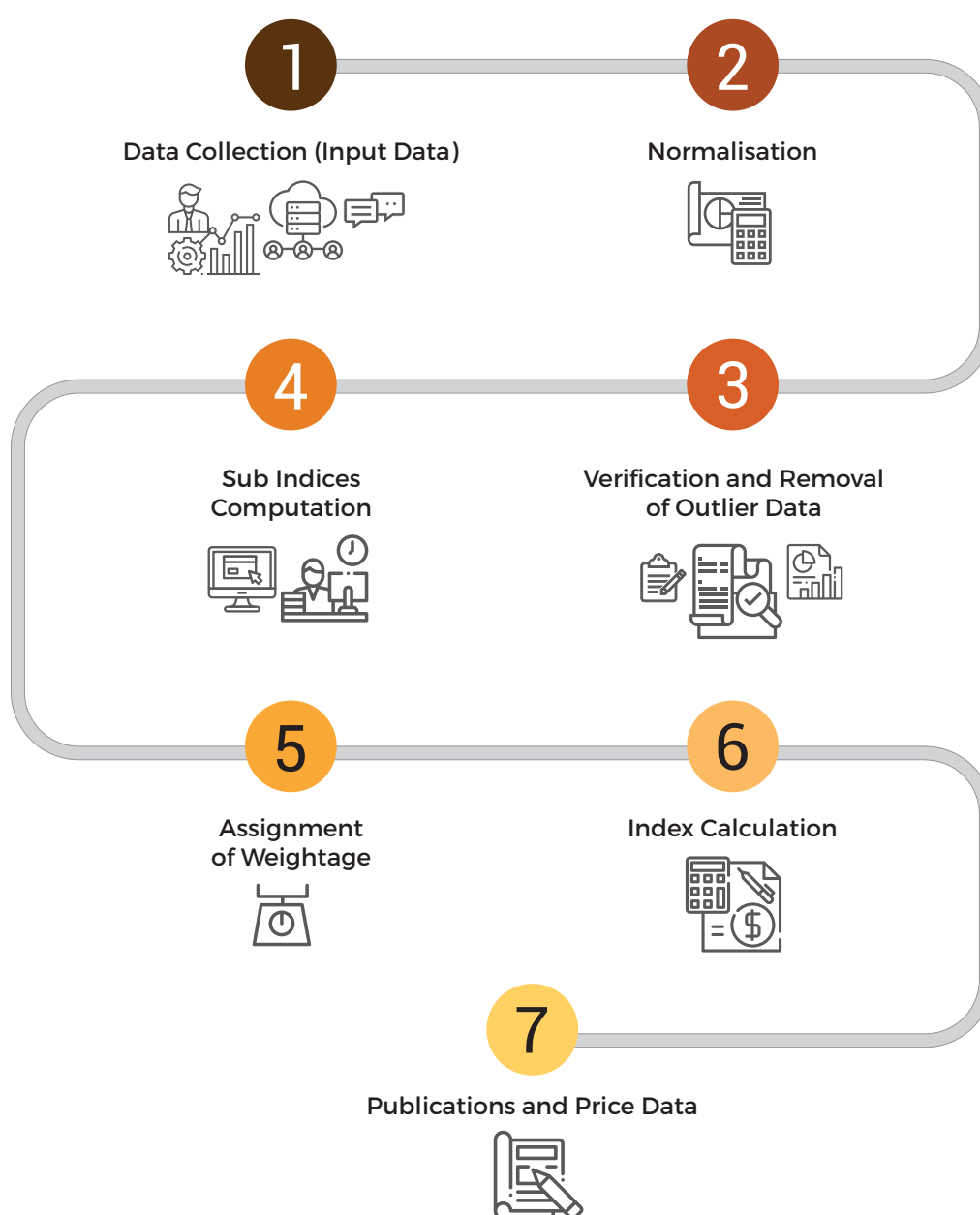
Company Name	Total Capacity	Total Production	Merchant Production	
			Captive Consumption	(Domestic and Export)
Godawari Power & Ispat	2.1	1.93	31%	69%
Monnet Ispat & Energy	2	0.54	100%	0%
Jayaswal Neco Industries	1.2	1.19	29%	71%
Shree Bajrang Power & Ispat	1.2	1.05	57%	43%
MSP Steel & Power	0.9	0.86	42%	58%
Sarda Energy & Minerals	0.6	0.6	67%	33%
Raipur Power & Steel	0.4	0.46	43%	57%
Rashi Steel & Power	0.4	0.06	0%	100%
Others	0.8			
total	9.6	6.69		

SteelMint Pellet Index Methodology

SteelMint aim is to produce price assessments that are reliable and representative indicators of commodity market values. Our methodology details the processes and standards we adhere to in collecting data, classifying data, normalising and rationalising the data to arrive at final assessment values (PELLEX).

The indices aim to be reflective of the price levels seen during the data collection time period or window and to be a reliable indicator of value of the pellets market.

Price Discovery Process- Seven Major Steps



Data Collection (Input Data)

SteelMint encourages market participants to submit all market data and surrounding circumstances for assessment under consideration; for example transactional data, including details of quality, specifications and any locational and loading/delivery information.

The following reporting methods are accepted by assessment analysts:

- Telephone
- Commonly Used Instant Messaging Software
- Email
- SteelMint Customized App (coming soon...)

Our Index assessment methodology divides and classifies the market data into following heads:

- Transaction Data - Concluded domestic transactions in raipur and export transactions from Raipur
- Firm Offer Data - Firm Offers to Raipur based DRI makers from Chattisgarh based Pellet Plants
- Firm Bids Data - Firm Bids by Raipur based DRI makers
- Export Factor - Export realization in INR (Delivered in Raipur)
- Substitute Factor - Reflects price which the buyers (DRI manufacturer) are willing to pay for pellet in comparison with Iron Ore from NMDC and Orissa
- Iron Ore Movement from NMDC and Orissa-based Mines

Normalisation

Generally, all the commodities traded in the physical market differ from the base specification of the indices due to the heterogeneous nature of commodity. As a result, SteelMint aligns data collected with its standard assessment specifications through a process called normalisation.

Normalisation is an essential price adjustment technique used to align reported market information to the base standard reflected in SteelMint's price assessments specification. SteelMint establishes the level of normalisation by surveying markets and judgments applied by the index assessment team. This is done by analysing freight rates (for locational differences), quality premiums (for quality differences), the movements of all markets through time (for time differences) and other premiums associated with the size of trades and delivery terms.

The normalisation co-efficients for the daily Indices are updated regularly to reflect the true value of different products and grades. The details of the same are provided below:

Normalization Adjustments Factors

Particulars	Base Specification	Range	Change in Base	Premium/ Discount (INR)
Fe Content	Between 63% to 64%	Between 61% to 64.5%	Per 1%	120
Combined Silica / Alumina	Maximum 7.0%	Between 5% to 8%	Per 1%	200
Trade Size	Minimum 2,500 MT, Maximum 10,000 MT	10K to 20K	Quantity Discount	50
		20K to 30K		100
		30K to 50K		200
		50K to 100K		300
Delivery Terms	DAP Raipur (Delivered to buyers' site in Raipur)		As per current market freight rates	
Payment Terms	Advance (on loading)	within 2 weeks		80

Verification and Removal of Outlier Data

Our analysts apply various checks to all the markets data in order to determine their reliability and genuineness. Furthermore, we have constructed a system based on the data type to exclude the data through a well defined mechanism. The mechanism has been provided below:

Data Type	Exclusion Criteria
Concluded Transactions	Total transacted quantity below 2500 MT for a day
Firm Offers	3% deviation from the average offer price or export realization
Firm Bids	5% deviation from the average bid price or substitute parity price
Export Realization	When the exports become unviable
Substitute Parity Price	When there is no movement of Iron ore from NMDC & Odisha

If in case an analyst notices that the certain bids, offers are in huge variance from the current level of market data, the same shall be reported to the senior analyst and accordingly the transaction should be excluded from the price assessment process.

We reserve the right to exclude data that is not fairly presented or we believe may be an effort to distort the index.

Calculation of Sub-indices

Sub-indices for every data type is computed post-verification and we reach at a single price for various data types. The various sub-indices that form part of our index are provided below:

- Concluded Transactions
- Firm Offers
- Firm Bids
- Export Realisation and
- Substitute Parity Price
- Last Index

Each sub-index is computed basis a defined mechanism. The mechanism has been determined basis the research and discussion with the industry

Data Type	Computation Mechanism
Concluded Transactions	1. Tonnage weighted average of the Concluded Transaction 2. If tonnage weights are not available, the market share of the respective participant
Firm Offers	Simple average of the all the firm offers post exclusion
Firm Bids	Simple average of the all the firm bids post exclusion
Export Realization	SteelMint FOB China Index normalized to DAP Raipur Price
Substitute Parity Price	Maximum price which the buyers (DRI manufacturer) is willing to pay for pellet in comparison with Iron Ore from NMDC and Orissa. At this price the buyers is indifferent between the Pellet and Iron ore.

Note:

1. The market data type (transactions, bids, offers etc.) which are near to the publishing date shall be given highest weighing in comparison with the data types collected in the beginning of the data collection window.
2. These subindices are not Ex Plant Prices; these are Raipur delivered Prices.

Assignment of Weights to the Sub-indices

PELLEX try to balance the influences of all sides of the market to reduce the potential risk of market distortions and bias in the data. This will ensures that all parts of the market have the required influence on the final index calculation.

The assignment of weights to all five sub-indices is basis the nature of the market conditions. The SteelMint Index Team has derived these weights by applying research and analysis on a broad and historical array of factual market information. The details of the weightage assigned is provided below:

Sub Indices	Weightage
Concluded Transactions	50%
Firm Offers	12.5%
Firm Bids	12.5%
Export Realisation	12.5%
Substitute Parity Price	12.5%

This removes the possibility of bias or any single data provider having an overbearing influence on the final Index.

Conditions

1) In case the market is liquid (transactions are reported for both domestic and export) then only three factors ie Concluded Transactions, Firm Offers and Firm Bids shall be considered. In this case Export Realization and Substitute Parity Price shall be ignored

2) In case of no transaction data, the last index price shall be given 50% weighting in the final index and remaining 50% shall be distributed basis the above mentioned weighting.

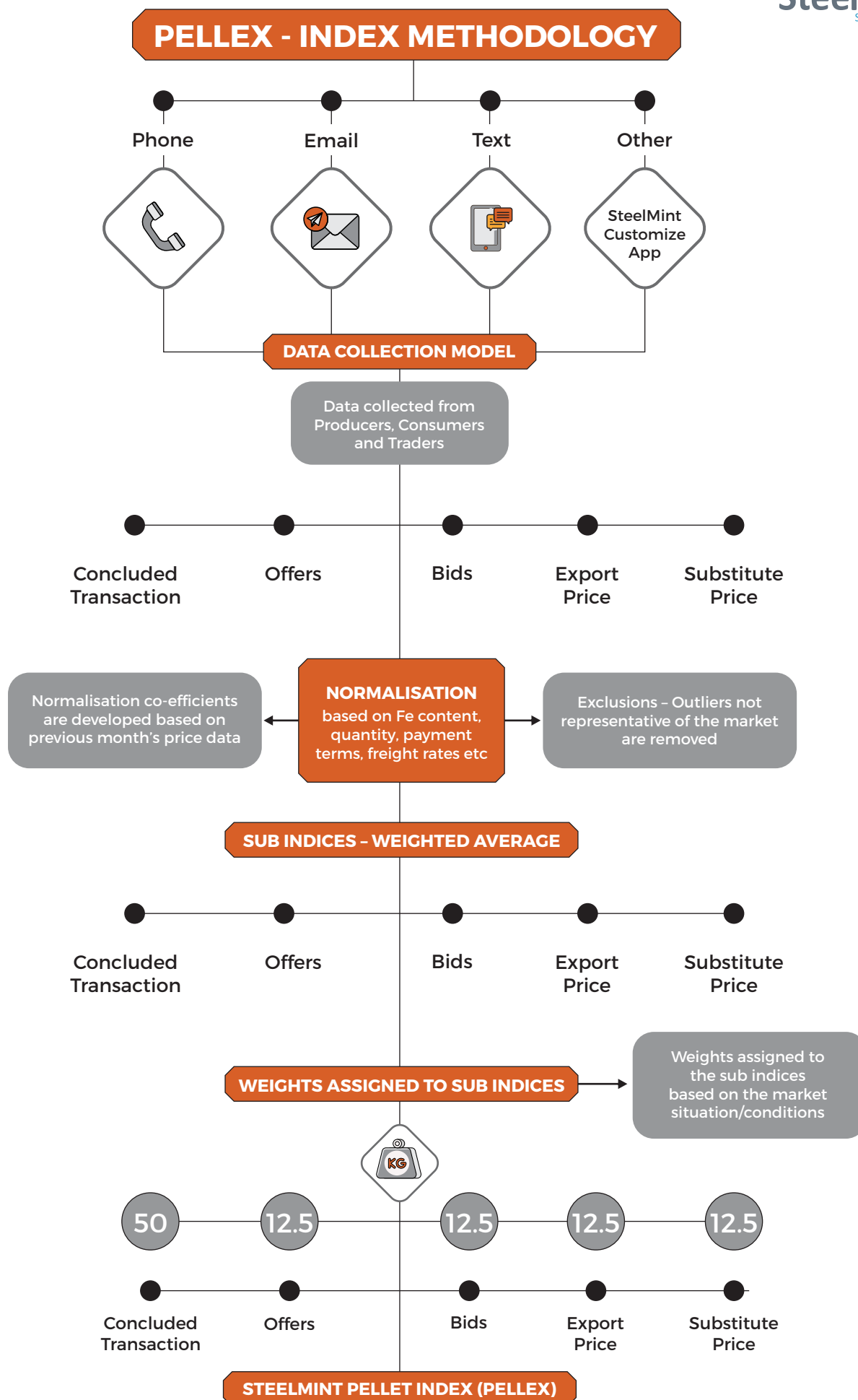
Index Calculation

We apply the weights determined in the above steps and finally reach a single index price. The final index shall be rounded off nearest multiple of 50.

Publications and Dissemination

The pellet index shall be published biweekly with the following timelines. Any market data missed but which was to be considered in the previous window shall be accounted for in the next window. In case of holiday, the assessment shall be made in the preceding or succeeding working day.

Day	Data Collection Window	Publication Day	Dissemination Channels
Tuesday	Monday 9.00 until Tuesday 17.30 (IST)	Tuesday 17.30 to 18.30 (IST)	SteelMint Website
			SteelMint App
Friday	Wednesday 9.00 until Friday 17.30 (IST)	Friday 17.30 to 18.30 (IST)	Email
			Text Message



Pellet Specification

PELLEX is assessed based on a defined base specification. Material that differs from the base specification is normalised to the base specification. The base specification has been chosen to accurately reflect the reality of the physical market.

India Domestic Pellet Specification, DAP Raipur

Particulars	Specifications
Price	INR per metric tonne
Fe Content	Base 63.5%, Range 63% to 64%
Silica	Base 3.5%, Maximum 5.0%
Alumina	Base 2.0%, Maximum 4.0%
Combined Silica / Alumina	Maximum 7.0%
Trade Size	Minimum 2,500 MT, Maximum 10,000 MT
LOI	Base 3.0%
Delivery Terms	DAP Raipur (Delivered to Buyers' Site in Raipur)
Delivery period	Within 2 -4 week
Assessment Frequency	Twice in a Week
Data collection	<ul style="list-style-type: none"> Window 1 - Monday 9.00 until Tuesday 17.30 (IST)
(India Time)	<ul style="list-style-type: none"> Window 2 - Wednesday 9.00 until Friday 17.30 (IST)
Publication	<ul style="list-style-type: none"> Window 1 - Tuesday 17.30 to 18.30 (IST)
(India Time)	<ul style="list-style-type: none"> Window 2 - Friday 17.30 to 18.30 (IST)
Payment Terms	Advance (Loaded to Truck)

Note:

- Transactions/market information not covered in the previous cycle to be considered in the next cycle
- PELLEX assesses DAP Raipur Prices. DAP is Delivered at Place, meaning seller is responsible for arranging carriage and for delivering the goods, ready for unloading from the arriving conveyance, at the named place i.e. Raipur.

FAQs

What is a methodology and why is it important?

The methodology is a set of guidelines which details out the process of how we assesses the market value of a specific commodity so that customers and other interested parties understand our processes. The same is designed to produce consistent quality in a price assessment.

What is the SteelMint Pellet price index (PELLEX)?

PELLEX is a price index of 63.5% Fe pellets delivered to buyers' site in Raipur and aims to be reflective of the market values of pellet prices in Raipur.

How is PELLEX different from the other pellet price assessments undertaken by SteelMint?

PELLEX is the price index and other price assessments which are currently undertaken by SteelMint are regular price assessments. The index is more robust, calculation-intensive and details out mathematically how the price is derived and considers other factors which may have direct impact on the prices.

Does SteelMint release its price index for all locations?

No, Currently we only publish index for raipur. But we have price assessments (not index) for 7 other locations.

Who participates in the SteelMint price assessment processes?

We take the market data from manufacturers, traders, buyers and other stakeholders. We try to cover 70-90% of the market as guided by our methodology in computing this index.

Is the price of a commodity the mid-point of the bid-offer range?

No. Bid-offer ranges can be wide and taking a blind mid-point value would not give a realistic assessment

How is the index calculated during the periods of low liquidity or no market transactions?

We have not set a minimum transaction data threshold required for the publication of PELLEX as liquidity varies across the pellet markets. However if incase we do not receive sufficient market data, We give 50% weightage to last index.

What information is excluded from our price assessment processes?

Our analysts are trained to use their expert judgment to exclude unrepresentative and unreliable market data and prices.

When and where is the PELLEX published?

The publishing details for PELLEX is provided on page no. 08

Index Related Queries and Feedback

SteelMint encourages market engagement in our pricing methodology and promotes understanding of our calculation procedures.

We are committed to responding to requests for further information and clarification on a timely basis. There are multiple channels for interaction with the index department, including email, telephone and instant messenger services. Details of the same is provided below:

All queries, questions and interactions by the customers are strongly valued by the SteelMint Index Team and the same help us to modify our methodology and principles for reflection in our proposed methodology.

For more information about the index and how it can help you, please do not hesitate to contact the Index Team:

Indranath Jha

Email: info@steelmint.com

Disclaimer

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