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Next review: Nov 2024

SteelMint India Domestic Scrap Methodology Document (Draft)

SteelMint[®]



About Assessment

SteelMint's assessment of recycled steel reflects the different grade of scraps traded in the Indian domestic market. SteelMint gathers and verifies information from buyers and sellers active in the physical spot market. The data obtained from the market participants are normalized for quality, dimensions, delivery timing, location and other trade terms.

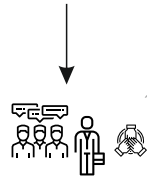
Methodology Overview

SteelMint conducts daily assessment of different grades of melting scrap. Recycled steel is sold on a delivered at plant (DAP) basis in different regions of India. The melting scrap is mostly generated during the manufacturing of white goods, automobile components and dismantling of plants and building etc.

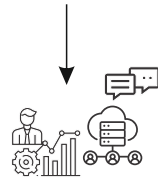
This methodology document outlines basic process for prices assessments of Recycled steel or Melting scrap.

In the data collection phase, information is sourced from various channels, such as phone calls, emails, and messaging platforms like WhatsApp, involving a diverse array of market participants, including buyers, sellers, traders, and manufacturers. Additionally, data from auctions and tenders hosted by public or private entities is incorporated. The collected data is structured based on predefined hierarchies, with a strong emphasis on confirmed deals. In periods of reduced market activity, analysts seek indicative or tradeable price levels, giving preference to more recent, high-volume, and major player-involved deals.

DEFINING Market



POOLING Participants



DATA Collection



DATA Normalisation



DATA Rationalization



DATA Dissemination



FEEDBACK & Review



Normalization processes adjust data across four categories (transactions, indicative prices, bids, and offers) by considering factors like sample types, specifications, and delivery details. Outliers are removed using a 'standard

deviation' approach. Price determination employs a volume-weighted or average approach, with input from expert analysts in specific scenarios.

India Recycled Steel Market

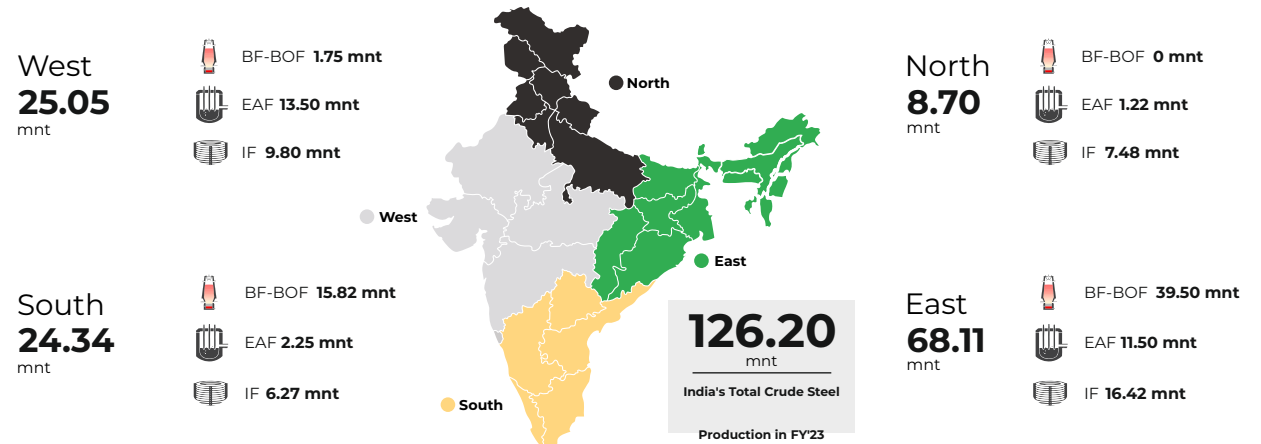
In India, The major recycled steel market is in northern region. At which steel clusters of Mandi-Gobindgarh and Ludhiana is the major consumer of ferrous scrap. Mandi-Gobindgarh HMS 80:20 is refereed as the benchmark indicator for rest of the domestic scrap prices. Aside from this, there is a sizable scrap trade happens in Western region Jalna and Mumbai Maharashtra cluster and southern region of Chennai and Hyderabad clusters. In Central India and the Eastern region Raipur and Kolkata are major locations for scrap consumption, Although due to easier accessibility and lower cost compared to scrap, sponge iron is preferred more in the charge mix in these regions.

In fiscal year 2023, India's crude steel production surged to 126.25 million metric tonnes, marking a robust 5% year-on-year increase and underlining the nation's burgeoning prowess in the steel manufacturing sector. Simultaneously, scrap consumption for crude steel production amounted to approximately 25-26 million (26-30 mnt) metric tonnes, with roughly 10 million metric tonnes being sourced through imports and the remaining 15 million metric tonnes coming from domestic supplies.

In the context of India's domestic scrap generation, three distinct categories of ferrous scrap emerge. First, Old Scrap, arises from products reaching the end of their lifecycle through activities like ship breaking, automobile dismantling, and demolishing heavy structures. Home Scrap, the second category, forms within Indian steel plants during production, including processes like end cutting and mis-rolls, typically remaining on-site for remelting. The third category, New (Prompt) Scrap, results from processing and fabrication at the customer's end, covering steel component production for



India's Region/Route-wise Crude Steel Production in FY'23



Note- A Financial Year (FY) starts from 1st April and ends on 31st March. | Provisional Figures | BF: Blast Furnace | BOF: Basic Oxygen Furnace | EAF: Electric Arc Furnace | IF: Induction Furnace
All above figures are rounded off | Above capacities include alloy and non-alloy steel. | Quantity in million tonnes (mnt) | Source: SteelMint

auto parts, equipment, and white goods, including materials like bloom, billet, plate rejects, and defective components. These categories significantly contribute to India's domestic scrap supply, essential for the steel industry's operations.

Additionally, the domestic market is supplemented by imported scrap, which plays a crucial role in various industries. This imported scrap primarily hails from key regions such as the United Kingdom (UK), the United States (USA), Europe, and South Africa, contributing to the country's steel and metal supply chain.

Region Wise Insights

Northern Region

In North India, the primary hub for recycled scrap is found in Mandi-Gobindgarh and Ludhiana, Punjab region. This market significantly influences price benchmarks for other

states due to its scrap based steel making. Its scrap vs metallics consumption % ratio is usually 90:10. Notably, the most commonly traded scrap categories in the North include End Cutting, CR-busheling, HMS, and LMS scraps.

Punjab's annual scrap consumption amounts to approximately 4.8 million tonnes, with a major portion being utilized by induction furnaces situated in Mandi-Gobindgarh and Ludhiana. Punjab also imports about 0.8-1 million tonnes of scrap, primarily sourced from other states, including around 2.5 million tonnes from UP, Haryana, Rajasthan, West Bengal, and the Delhi/NCR region.

Producers purchase approximately 4.8 million tonnes of scrap per year, alongside 0.5 million tonnes of Sponge Iron. The preferred payment terms typically range from 0 to 7 days after delivery, and cargo prices are inclusive of delivery at the plant location (DAP).

Western Region

In Western India, two primary marketplaces for the trade of

recycled steel scrap are located in Mumbai and Jalna. Jalna, specifically, serves as a prominent hub for steel production in the Maharashtra region. In Jalna, furnace producers procure approximately 1.9-2 lakh tonnes, along with around 0.75-0.8 lakh tonnes of sponge iron every month. The scrap vs metallics % ratio is usually 80:20 usually.

They source domestic melting scrap from cities within a 150-200 kilometer radius of Jalna, including locations like Aurangabad, Bhusawal, Akola, Ahmednagar, Nagpur, Nasik, and Pune. In terms of imported scrap, the majority of buyers in the region prefer to purchase it from the Maharashtra Nhava Sheva port and the nearest Inland Container Depot (ICD) facility available at Maliwada, which is situated approximately 40-50 kilometers away from Jalna. This strategic sourcing of both domestic and imported scrap materials is vital to support the steel manufacturing industry's requirements in this region.

Southern Region

Hyderabad and Chennai are the two largest markets in southern India; in comparison to Hyderabad, Chennai has a larger market. Chennai serves as a major steel market in the southern region of India, where scrap and sponge iron are the primary raw materials. Usually 90:10 is the % ratio of scrap vs metallics consumption for steel making.

Various industrial units in Chennai, including die-casting, stamping, alloy manufacturing, and white goods production, demonstrate a substantial and healthy consumption of ferrous scrap in their processes. Notably, recycling units play a pivotal role in meeting the demand for ferrous scrap, and their capacities are continually evolving to support the consumption segments mentioned above.

In Chennai, with a total steel production capacity of around 4 million metric tonnes, the primary raw materials used include 2.5-3 million metric tonnes of scrap and the rest being sponge iron.

Melting scrap is predominantly sourced from cities within a 400-kilometer radius of Chennai, encompassing areas like Tondiarpet, Gummidipundi, Sriperumbudur, Sahukarpet, and Mannadi.

Additionally, CR-Busheling, punching, and other automobile scrap are procured from regions such as Sriperumbudur, Mahindra World City, Orgadam, and Tiruvallur, highlighting the variety of scrap sources supporting the steel manufacturing processes in the region.

Notably, the majority of buyers opt for imported scrap, including HMS 80:20 and Shredded scrap underscoring the global reach of Chennai's scrap material supply chain, essential for meeting the area's steel production demands and industrial processes.

Central & Eastern Region

Central India and most eastern states are rich in coal mines and iron ore. Typically mills prefer metallics (Sponge Iron & Pig Iron) over scrap since it is more easily accessible and cost viability is better. The % ratio of scrap vs metallics in steel making is 10:90.

The imported scrap is accessed via Vizag port while most of volume comes from domestically generated industrial scrap.

Major Recycled Steel Grades

LMS (Light Melting Scrap)

MS sheet scrap, both obsolete and new, processed by cutting, punching, and hydraulic compression into bundles that may include various food tins and beverage cans.

Also referred as: Old Scrap (Mandi), Bazar Melting Commercial Household (Chennai), Commercial Scrap (Hyderabad), LMS Bundle Scrap (L2 & K2 – Lower grade/north), Commercial L2 (Jalna MH), Mix Selected (Raipur CG)



HMS 80:20 (Heavy Melting Scrap)

HMS scraps encompass end-of-life steel, including automotive parts like rims, pipes, cylinders, and specific elements such as gears, axles, shafts, bearings, and springs, conforming to HMS (80/20) ratio: 80% HMS 1 and 20% HMS 2.

Also referred as: HMS 80:20 Godown Melting (Chennai), HMS 80:20 Super/Kabadi Heavy (Jalna MH), Selected (Raipur CG)



End Cutting Scrap

Steel scrap, comprising end cuttings from iron or steel production, involving crop-ends, rejects, or defective materials such as rods, rails, pipes, and fabricated unit leftovers, commonly known as Prime New Scrap or Blue Steel.



CR Busheling Scrap

New scrap from industries like auto, white goods, and engineering, alloy-free CRC, HR steel scrap, bundled, compressed to specific dimensions, known as Busheling, Stamping, Punching Scrap.



Turning Boring Scrap

clean, newly generated mild carbon steel fragments originating from machining processes like turning, boring, drilling, or similar operations in a machine shop.



SteelMint Domestic Scrap Index – Mandi Index

In northern India, with an overall steel production capacity of 11 million tonnes (mnt), Punjab stands out, contributing more than 5.5 mnt. The region's steel manufacturing primarily relies on melting domestically sourced scrap due to its easy accessibility. Daily trade involves 15,000-20,000 tonnes (tpd) of steel. Scrap materials are procured from Delhi-NCR, Haryana, Uttar Pradesh, Bihar, Rajasthan, and Himachal Pradesh.

Mandi Gobindgarh accommodates 500-550 small and medium-sized induction furnaces, while Fatehgarh hosts 120-125 such furnaces. Additionally, 300-350 small to medium scale re-rolling units operate in the region, alongside 25-30 furnaces in Ludhiana specializing in producing special steels.

This market exerts substantial influence on price benchmarks across other regional scrap markets. The Mandi scrap index has been adopted as the SteelMint India domestic scrap index.

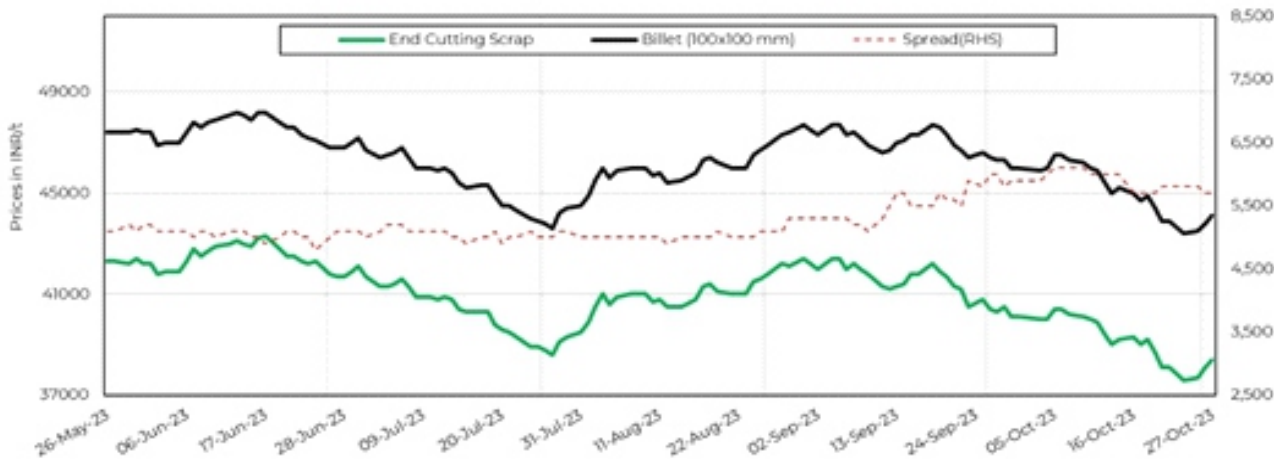
Spread between other grades

Grade	Yield	Spread (Difference from Basic)
LMS	88-90%	Basic
HMS 80:20	92-94%	Basic + 2,500-3,000
End Cutting	97-98%	Basic + 5,500-6,000
CR Busheling	97-99%	Basic + 6,000-6,500

Basic price : It is derived by factoring minimum conversion cost from semi-finish (Ingot) and is decided by local mills based upon current demand and supply scenario.

INR 38,400/t +300
End Cutting, 27 Oct '23

 **SteelMint Melting Scrap Index**
End Cutting vs Billet, DAP- Mandi



Assessment Specification

Particulars	Specifications
Grade	End Cutting Scrap
Quality	Yield 97-98%
Quantity	100MT min
Delivery Terms	DAP Mandi-Gobindgarh
Payment Terms	Cash, 0-7 days after delivery
Assessment Frequency	Daily
Publication Time	1.00 PM & 5.00 PM

SteelMint India Domestic Scrap Assessments

Assessment	Type	Frequency	Time (IST)	Location	Quantity	Quality	Incoterm	Delivery	Payment Term	Currency
LMS, DAP-Mandi Gobindgarh, India	Primary	Daily	13:00, 17:00	Mandi	100 MT	Recovery 88-90%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Mandi Gobindgarh, India	Primary	Daily	13:00, 17:00	Mandi	100 MT	Recovery 92-94%	DAP	Immediate	After Delivery 0-7 days	₹/mt
End Cutting, DAP-Mandi Gobindgarh, India	Primary	Daily	13:00, 17:00	Mandi	100 MT	Recovery 97-98%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CR Busheling (Loose), DAP-Mandi Gobindgarh, India	Primary	Daily	13:00, 17:00	Mandi	100 MT	Recovery 97-99%	DAP	Immediate	After Delivery 0-7 days	₹/mt
Turning Boring Scrap, DAP-Ludhiana, India	Primary	Daily	13:00, 17:00	Ludhiana	100 MT	Recovery 88-90%	DAP	Immediate	After Delivery 0-7 days	₹/mt
End Cutting, DAP-Ludhiana, India	Primary	Daily	13:00, 17:00	Ludhiana	100 MT	Recovery 97-98%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CR Busheling (Loose), DAP-Ludhiana, India- Loose	Primary	Daily	13:00, 17:00	Ludhiana	100 MT	Recovery 97-99%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CI Scrap, DAP-Ludhiana, India	Primary	Daily	13:00, 17:00	Ludhiana	100 MT	Recovery 95-97%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Durgapur, India	Primary	Daily	13:00, 17:00	Durgapur	100 MT	Recovery 92-94%	DAP	Immediate	After Delivery 0-7 days	₹/mt
End Cutting, DAP-Raipur, India	Primary	Daily	13:00, 17:00	Raipur	100 MT	Recovery 97-98%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Raipur, India	Primary	Daily	13:00, 17:00	Raipur	100 MT	Recovery 90-92%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Ahmedabad, India	Primary	Daily	13:00, 17:00	Ahmedabad	100 MT	Recovery 92-94%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CR Busheling (Bundle), DAP-Ahmedabad, India	Primary	Daily	13:00, 17:00	Ahmedabad	100 MT	Recovery 97-99%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, Exy-Alang, India	Primary	Daily	13:00, 17:00	Ex-Alang	100 MT	Recovery 94-95%	Ex-Yard	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Jalna, India	Primary	Daily	13:00, 17:00	Jalna	100 MT	Recovery 92-94%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CR Busheling (Loose), DAP-Jalna, India	Primary	Daily	13:00, 17:00	Jalna	100 MT	Recovery 97-99%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Mumbai, India	Primary	Daily	13:00, 17:00	Mumbai	100 MT	Recovery 92-94%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CR Busheling (Bundle), DAP-Chennai, India	Primary	Daily	13:00, 17:00	Chennai	100 MT	Recovery 97-99%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Chennai, India	Primary	Daily	13:00, 17:00	Chennai	100 MT	Recovery 90-92%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 90:10, DAP-Chennai, India	Primary	Daily	13:00, 17:00	Chennai	100 MT	Recovery 94-96%	DAP	Immediate	After Delivery 0-7 days	₹/mt
Turning Boring Scrap, DAP-Chennai, India	Primary	Daily	13:00, 17:00	Chennai	100 MT	Recovery 88-90%	DAP	Immediate	After Delivery 0-7 days	₹/mt
CI Scrap, DAP-Coimbatore, India	Primary	Daily	13:00, 17:00	Coimbatore	100 MT	Recovery 95-97%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 80:20, DAP-Hyderabad, India	Primary	Daily	13:00, 17:00	Hyderabad	100 MT	Recovery 90-92%	DAP	Immediate	After Delivery 0-7 days	₹/mt
HMS 90:10, DAP-Hyderabad, India	Primary	Daily	13:00, 17:00	Hyderabad	100 MT	Recovery 95-96%	DAP	Immediate	After Delivery 0-7 days	₹/mt

DAP: Delivered at Plant | Exy: Ex- Yard | Recovery % based on survey | GST 18% extra

Guidelines for Assessment Normalization

■ HMS 80:20, DAP-Jalna, India

In Jalna, the assessment is being carried out for the HMS 80:20, which has a metallic yield of around 92-94%. In general trade, INR 1,000/t is subtracted with a 2% decline in material yield. As a result, HMS 80:20 with 90-92% metallic yield will cost INR 1,000/t less than the 92-94% variant. Raipur

■ HMS 80:20, DAP-Raipur, India

In Raipur, the assessment is being carried out for the HMS 80:20, which has a metallic yield of around 90-92%. In general trade, INR 1,000/t is added with a 2% increase in material yield. As a result, HMS 80:20 with 92-94% metallic yield will cost INR 1,000/t more than the 92% variant.

■ HMS 80:20, DAP-Durgapur, India

In Durgapur, the assessment is being carried out for the HMS 80:20, which has a metallic yield of around 92-94%. In general trade, INR 500-1,000/t is subtracted with a 2% decline in material yield. As a result, HMS 80:20 with 90-92% metallic yield will cost INR 500-1,000/t less than the 92-94% variant. End Cutting scrap and Shredded scrap having metallic yield at around 97%-98% are traded INR 1,000/t premium as compared to the assessment price of HMS 80:20 (92-94% yield).

Methodology Revision History

■ **March 2021** : SteelMint updated market study of Mandi Gobindgarh. No changes in assessment specifications.

■ **March 2022** : SteelMint updated market study of Mandi Gobindgarh. No changes in assessment specifications.

■ **March 2023** : SteelMint updated scrap yield%, payment terms in domestic assessments.

■ **October 2023** : Revamped methodology document structure. Included information of market study, guidelines of assessment, revision history, list of assessments.

Pricing Development Mechanism

■ Data collection involves reaching out to market participants through various channels such as telephone calls, emails, and messaging platforms like WhatsApp, prior to the publishing date.

■ The Data Partner policy encompasses engaging with diverse entities, including buyers, sellers, traders, and manufacturers, to ensure a comprehensive overview of the market.

■ Auctions, tenders by both public sector undertakings (PSUs) and private entities serve as vital sources for price data.

■ Only deals from reputable and reliable producers and trading firms are included in the price development mechanism after thorough verification.

■ The collected data is structured based on established hierarchies for further analysis.

■ Emphasis is placed on confirmed deals where transaction details are provided by either the buyer or seller in the price calculation process.

■ Confirmed offers and bids also hold significance in the pricing process, contributing to the overall price determination.

Data Arrangement

■ Confirmed offers and bids are also considered valuable for the pricing process.

■ In periods when market activity is sluggish, analysts will poll market participants for deals. Prices obtained closer to the publishing date and time would be given preference.

■ Similarly, deals with significantly large volumes or deals of major market participant vis-a-vis smaller players would be given preference and the hierarchy would be established.

Normalization

- Data normalization encompasses four distinct data categories: transactions, indicative prices, bids, and offers.
- SteelMint normalizes these groups based on sample type, chemical specifications, delivery dates, terms, and freight considerations.
- If a normalized price within a group significantly differs from the rest after normalization, SteelMint reconfirms the sample details.
- In cases of incomplete or opaque data, disputes between transaction parties, or significant deviations from market levels post-normalization, the submission sample is excluded from consideration.

Data Outlier Elimination

- SteelMint sorts all the Data collection - Trade, Offer, Bid and Indicative price quotes in ascending order and outlying the extreme quotes from the total quotes.
- The values lying outside the Mean + Variance (upper limit) and Mean - Variance (lower limit) are discarded for the purpose of price discovery

Price Finalization

- SteelMint uses volume weighted approach to arrive at final price index where the volume-based deals are available in the data collated and that too in adequate numbers.
- Alternatively, a simple average is calculated by giving 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.

Glossary

HMS – heavy melting scrap

LMS – Light Melting Scrap

CI – Cast Iron

DAP – Delivered at plant

CFR – Cost & Freight

Miscellaneous

■ 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 many, 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. 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.

DATA IS OUR DNA

We Invite Your Participation

- SteelMint's Scrap assessments will enable industry participants to base their trades on a benchmark price and we encouragingly invite your active participation to reflect a wider and more representative set of fundamentals. Please do send your feedback by writing to us at info@steelmint.com or contacting the support team on +91 97700 56666.

Disclaimer

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