

- **AMM Midwest Scrap Index (No. 1 heavy melting scrap)**
- **AMM Midwest Scrap Index (No. 1 busheling)**
- **AMM Midwest Scrap Index (Shredded)**

## **American Metal Market**

AMM is the leading independent supplier of market intelligence and pricing to the North American metals industries and publisher of the widely-used reference prices for scrap.

AMM's Midwest Scrap Index builds upon the publication's extensive experience in reporting scrap prices in a wide range of grades and locations and utilizes an established and leading index methodology.

## **AMM Midwest Scrap Index**

The Midwest Scrap Index has been developed to provide a fair, transparent and objective representation of the market.

The AMM Index methodology is a tonnage-weighted calculation of transactions that have been normalized to our base specification using value-in-use curves as defined by the market.

Our methodology aims to use the input of high-quality data. AMM has been reporting on the U.S. scrap market for more than 100 years and therefore has a unique level of experience and knowledge in providing benchmark prices to the industry.

The Index is based on actual transactions, which are reported to AMM by any market participant conducting trades on a delivered Midwest mill basis and is not restricted to a panel or selected group.

The Midwest Scrap Index also utilizes aggregate transaction data, where available, in order to maximize the proportion of the market represented in the final Index.

AMM is impartial and has no financial or other interest in the level or direction of the Index. AMM will not pay any market player to participate in the Index.

## **Midwest Scrap Index Specifications**

The details on pages 4 and 5 are the base specification. The Index is quoted in \$/gross ton delivered to the mill and is calculated for three grades: No. 1 heavy melting scrap, No. 1 busheling and shredded.

The number of grades quoted can be increased according to market requirements. The grades are based on ISRI specifications from 2011 and are listed in the table on pages 7 and 8.

Trades in similar grades are normalized back to the base specification to reflect the whole market and to increase liquidity in the calculation.

The trades are normalized using the value-in-use of the different grades as defined by the market itself and are updated on a regular basis as market movements dictate. In addition, where there is variation in other contract terms, such as a difference in pricing terms, these are adjusted back to the base specification.

## **Index Calculation**

The Index consists of two sub-indices, based on data received from sellers and buyers of scrap.

The sub-indices are each based on a tonnage-weighted average of the normalized trade information, and the two indices are combined with equal weighting to ensure that the market is fairly represented across all participants. Only the final Index is published.

## **Data Quality and Verification**

All data points that vary by more than 4 percent from the calculated Index are excluded and the Index recalculated to a single iteration. Outliers can be investigated, and attempts to influence the Index unfairly

will result in the data provider being warned or excluded.

In some cases, where prices appear out of line or anomalous, participants may be asked to provide evidence of the transaction in the form of a signed contract. Participants will have the right to decline to provide this and *AMM* will have the right to exclude prices that cannot be substantiated.

The number of trades available for use in the Index does of course vary depending on the market conditions prevailing, but *AMM* seeks to utilize as many trades as possible.

Where insufficient transactions have taken place in the market, defined as less than 20 percent of the average monthly market volumes over the past 12 months, *AMM* reserves the right to include assessments, bids and offers from market participants in the Index calculation.

Material of all origin is included in the calculation with no sources specifically excluded. However, the origin may have an influence on the normalization coefficients used, if appropriate to the grade.

Data is submitted in a secure manner by phone and e-mail survey.

In its attempts to collect as much data from the market as possible, *AMM* will use the means that best suit the prevailing market environment.

All correspondence is stored by *AMM*. The data collection and Index calculation process will be made available for audit by a recognized and accepted third-party auditor.

## **Index Publication**

The Index is published on the 10th of each month at 5 p.m. EST from our New York office. All data must be received by 12 p.m. EST. Any data received after 12 p.m. EST on the day of publication will not be included in the Index calculation.

In the event of the 10th of the month falling on a public holiday or weekend, the Index will

be published on the following working day. While the Index will typically be published by *AMM*'s New York office, *AMM* and its parent organization maintain offices in a number of locations and can publish the Index from any of them as circumstances dictate.

*AMM* reserves the right to change the publication frequency according to market requirements.

## **Data Input**

*AMM* aims to collect as many transactions from the greatest number of counterparties as possible each month in its attempt to represent the majority of the market. *AMM* has the reach and network to achieve this.

The more data collected, the larger the proportion of the market that is represented and the more statistically significant the final figure will be.

*AMM* is constantly looking to expand its contact list in order to represent any changes in participants in the market. All market participants are permitted to contribute and the process is not limited to a closed price-setting panel.

Both buyers and sellers are equally represented in the final Index price in order to avoid bias. However, different numbers of inputs may be entered from each side of the market into each sub-index.

## **Notes on the Data Submission and Calculation Methodology**

These notes are intended as a guide to the *AMM* Midwest Scrap Index and aim to expand the thinking and development processes that go into the calculation of each *AMM* Index. They also aim to answer some of the typical queries about the calculation of the methodology, selection of data, removal of bias and transparency of the process.

## **How Many Respondents are Included in the Data Collection?**

The number of respondents is not limited to a pricing panel or group of price setters, but is open to any market participant who is con-

ducting business on a delivered Midwest mill basis. *AMM* collects transactional data from approximately 50 market participants. Naturally, only a proportion will be active in the market in any particular month, but they will all typically be contacted each month to determine whether they have conducted any business.

## What Data Does *AMM* Request from Market Participants?

*AMM* requires that its contacts in the market report data in good faith and with full transparency. Typically that would include establishing a formal relationship and a dedicated contact point to maintain consistency from month to month.

In order to create the most representative Index, *AMM* requests the following aspects of the transaction for inclusion in the calculation:

- Transaction price
- Material type  
(based on ISRI specifications)
- Origin
- Tonnage
- Delivery point
- Delivery period
- Payment terms
- Name of company
- Date of transaction
- Any other relevant data to pricing  
(e.g. distressed sale.)

Data can be supplied in a number of ways to maximize convenience. This can include by phone or e-mail to the normal *AMM* contact or to [editor@amm.com](mailto:editor@amm.com).

## Verification of Data

*AMM* employs a number of mechanisms to ensure that data submitted to the Index is fair and representative of the market. The calculation automatically removes data which is more than 4 percent away from the calculated final Index, and the Index is then recalculated to one iteration. This allows outliers to be discarded, whether they are based on error, erroneous data or any attempt to influence the Index calculation.

*AMM* reserves the right to demand to see contracts and signed paperwork before inclusion of

the data in the calculation. If this is refused, the data, or the data supplier, can be excluded from the data collection process. Furthermore, *AMM* reserves the right to exclude data that it does not feel is fairly presented or is an effort to distort the market.

## Security of Data

*AMM* stores the collected data and calculation process on secure off-site servers that are backed-up on a daily basis. The data is not accessible to parties outside *AMM* or the group, and internally only to defined individuals within the Index and editorial teams.

If required, the Index calculation process is auditable by a recognized and mutually acceptable third-party auditor according to legal requirements and under non-disclosure agreements.

## Internal Compliance

*AMM* has established extensive training to ensure that the methodologies of data collection, Index calculation, publication and information storage are strictly adhered to. This includes internal auditing, close management oversight and regular updating of standards to reflect any changes in market practice.

## Why is the Index Calculation Split into Buyers and Sellers?

The *AMM* methodology is designed specifically and uniquely to balance out any bias in the market to create the most representative and objective price. The Index is split into the two groups of buyers and sellers to balance a number of factors, including tonnage bias, where more transactions are reported by one side or the other.

In this case, if more tonnage is reported on one side, it will contribute to the accuracy of the sub-index, but it does not over influence the market as it will always be 50 percent of the final Index calculation.

By splitting the calculation into two, influence from potential selective reporting of data is reduced. This is critical in a tonnage-weighted assessment that calculates the Index in a methodological and mathematical manner.

## **How Many Trades are Captured in the Index?**

This depends on the market conditions at the time of calculation. In calculations of the Index, there are typically 30 to 40 data points included, giving a very strong statistical analysis.

## **How Does the Index Methodology Adjust for Different Levels of Concentration Between the Buyers and Sellers?**

The sub-indices are based on a tonnage-weighted calculation of actual transactions normalized for grade, payment terms, etc. The final Index is the non-weighted average of the two sub-indices, allowing for equal representation from both sides of the market, and also counters market distortion or selective reporting of data. Only the final Index is published.

The different market concentrations then do not matter, as both sides of the market are treated individually and then combined equally.

## **What Happens if the Material is Downgraded on Delivery?**

The transaction is done on the expected delivery specifications, including grade and payment terms, and the price settled on this basis. If it turns out to be different, then that is an issue between the two parties who entered the contract, and the Index is not revised retroactively.

## **Spot Pricing vs. Long-Term Contracts**

The *AMM* Midwest Scrap Index includes material that will be delivered within 30 days to the mill. Spot business concluded after the 10th of the month will not be included. Any material that is delivered as part of a long-term contract is excluded from the calculation process.

## **Payment Terms**

The basis of the payment terms is based on typical commercial practice in the Midwest scrap market. Transactions that are conducted on different payment or credit terms will be normalized back to the base specifications, taking into account discounts, current interest rates and standard commercial terms.

## **Low Liquidity**

There may be periods when the number of transactions available for inclusion in the Index calculation will fall, for example, due to poor market conditions. *AMM* has established formal methodologies to address this issue. Where insufficient transactions have taken place in the market, defined as less than 20 percent of the average monthly market volumes over the past 12 months, *AMM* reserves the right to include assessments, bids and offers from market participants in the Index calculation. These are treated in the same way as transactions, but weighted at a minimum tonnage and subject to exclusion under the same rules.

## **Timing of Publication**

The structure of the Midwest scrap market means that the large majority of the business is conducted in the first 10 days of the month. *AMM* publishes the scrap Index on the 10th of each month, unless that falls on a weekend or public holiday, in which case the Index is published on the following working day.

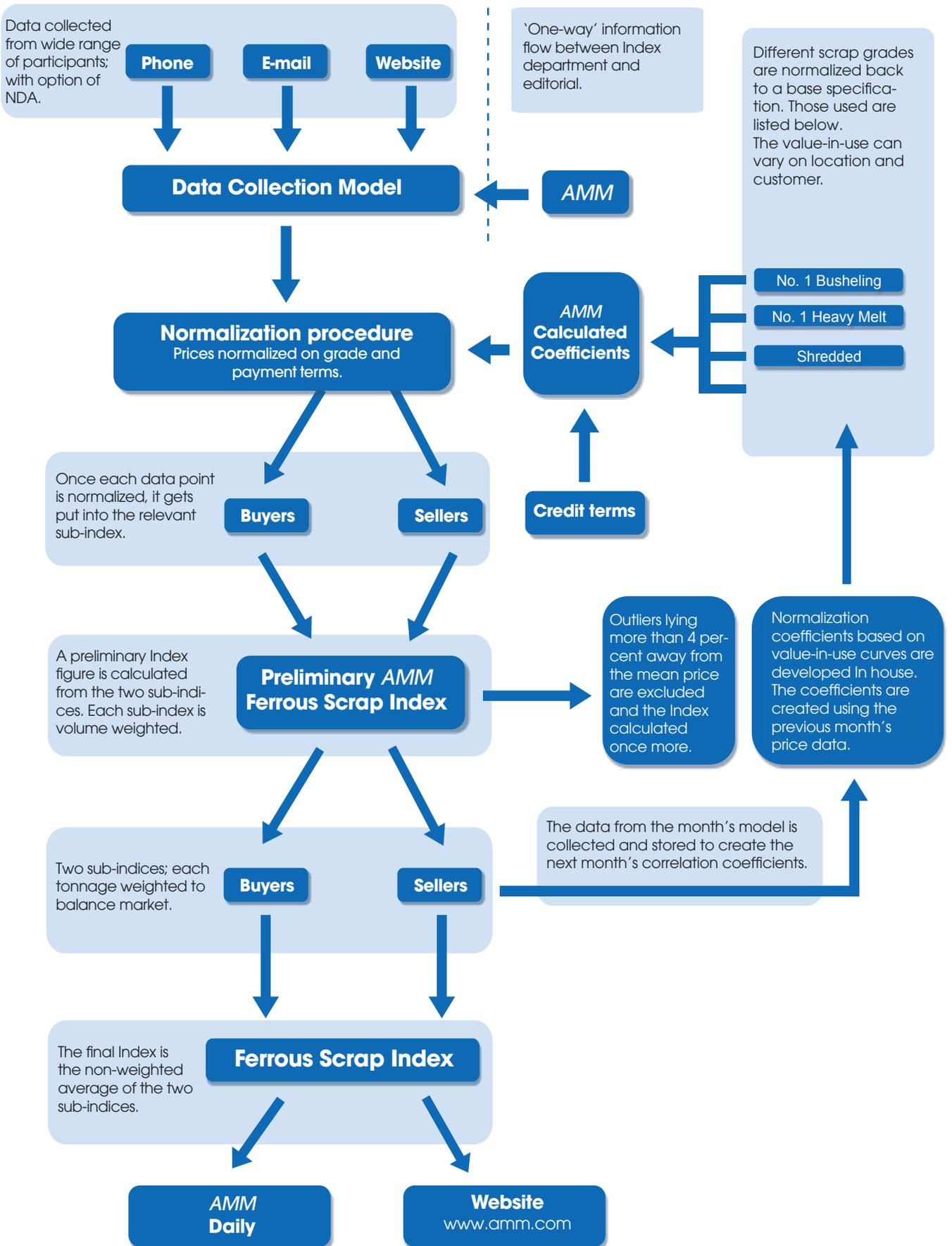
## **Security of Publication**

*AMM* utilizes secure off-site servers for the whole of its operations, calculations and publication. In the event of breakdown or damage to the systems, emergency and disaster planning procedures are in place to ensure continual and timely publication of the Index. These systems can be implemented from any of the offices in New York, Pittsburgh or London.

## ***AMM's* Scrap Prices Portfolio - Indices and Assessments**

*AMM* publishes a comprehensive list of scrap market prices including indices and assessments. The assessments are designed to provide a clear and fair representation of the spot price in the various regional markets. The *AMM* Midwest Scrap Index aims to reflect scrap prices for the entire Midwest region. The Index price differs from the assessment figure due to a difference in the methodologies.

However, we expect both price series to correlate strongly due to the overlapping nature of many of the data points.



## Specification for US Scrap Midwest No. 1 Heavy Melting Scrap Index

<b>Price</b>	US\$ per gross ton
<b>Pricing Point</b>	Delivered Midwest mill
<b>Delivery Points</b>	Any mill in Illinois, Indiana, Michigan, Wisconsin, Iowa and NW Ohio
<b>Specifications</b>	<p><b>ISRI Grade 200</b>  <b>No. 1 heavy melting steel.</b>                      Wrought iron and/or steel scrap 1/4 inch and over in thickness. Individual pieces not over 60 x 24 inches (charging box size) prepared in a manner to insure compact charging.</p>
<b>Other Grades Normalized</b>	<p><b>ISRI Grade 201</b>  <b>No. 1 heavy melting steel 3 feet x 18 inches.</b>                      Wrought iron and/or steel scrap 1/4 inch and over in thickness. Individual pieces not over 36 x 18 inches (charging box size) prepared in a manner to insure compact charging.</p> <p><b>ISRI Grade 202</b>  <b>No. 1 heavy melting steel 5 feet x 18 inches.</b>                      Wrought iron and/or steel scrap 1/4 inch and over in thickness. Individual pieces not over 60 x 18 inches (charging box size) prepared in a manner to insure compact charging.</p>
<b>Material Origin</b>	All origins
<b>Trade Size</b>	Minimum 1,000 gross tons
<b>Delivery Window</b>	Within 30 days
<b>Delivery Method</b>	Any permitted according to ISRI specifications 2012
<b>Payment Terms</b>	Net 30 days post delivery. Other terms normalized
<b>Publication Date</b>	10 <sup>th</sup> of each month (or following working day)
<b>Publication Time</b>	5 p.m. EST

## Specification for US Scrap Midwest No. 1 Busheling Index

<b>Price</b>	US\$ per gross ton
<b>Pricing Point</b>	Delivered Midwest mill
<b>Delivery Points</b>	Any mill in Illinois, Indiana, Michigan, Wisconsin, Iowa and NW Ohio
<b>Specifications</b>	<p><b>ISRI Grade 207</b>  <b>No. 1 busheling.</b>                      Ferrous busheling. Compliant to ISRI Specifications 7 No. 1 busheling. Clean steel scrap, not exceeding 12 inches in any dimensions, including new factory busheling (sheet clippings, stampings, etc.). May not include old auto body and fender stock. Free of metal coated, limed, vitreous enamelled, and electrical sheet containing over 0.5-percent silicon.</p>
<b>Material Origin</b>	All origins
<b>Trade Size</b>	Minimum 1,000 gross tons
<b>Delivery Window</b>	Within 30 days
<b>Delivery Method</b>	Any permitted according to ISRI specifications 2012
<b>Payment Terms</b>	Net 30 days post delivery. Other terms normalized
<b>Publication Date</b>	10 <sup>th</sup> of each month (or following working day)
<b>Publication Time</b>	5 p.m. EST

**Specification for US Scrap Midwest Shredded Index**

<b>Price</b>	US\$ per gross ton
<b>Pricing Point</b>	Delivered Midwest mill
<b>Delivery Points</b>	Any mill in Illinois, Indiana, Michigan, Wisconsin, Iowa and NW Ohio
<b>Specifications</b>	<p><b>ISRI Grade 211</b>  <b>Shredded scrap.</b>                      Homogeneous iron and steel scrap magnetically separated, originating from automobiles, unprepared No. 1 and No. 2 steel, miscellaneous baling and sheet scrap. Average density 70 pounds per cubic foot.</p>
<b>Other Grades Normalized</b>	<p><b>ISRI Grade 210</b>  <b>Shredded scrap.</b>                      Homogeneous iron and steel scrap, magnetically separated, originating from automobiles, unprepared No. 1 and No. 2 steel, miscellaneous baling and sheet scrap. Average density 50 pounds per cubic foot.</p> <p><b>ISRI Grade 212</b>  <b>Shredded clippings.</b>                      Shredded 1000 series carbon steel clippings or sheets. Material should have an average density of 60 pounds per cubic foot.</p>
<b>Material Origin</b>	All origins
<b>Trade Size</b>	Minimum 1,000 gross tons
<b>Delivery Window</b>	Within 30 days
<b>Delivery Method</b>	Any permitted according to ISRI specifications 2012
<b>Payment Terms</b>	Net 30 days post delivery. Other terms normalized
<b>Publication Date</b>	10 <sup>th</sup> of each month (or following working day)
<b>Publication Time</b>	5 p.m. EST

## Appendix:

### About AMM

American Metal Market (AMM), founded in 1882, over its long history has established itself as the unrivaled leader in metals news and pricing in North America.

AMM and sister publication Metal Bulletin are part of the Euromoney Institutional Investor Plc group, a £1-billion (\$1.6-billion) business publisher that is publicly listed on the London Stock Exchange and is majority owned by Daily Mail & General Trust Plc.

With around 7,500 subscribers, AMM covers the full array of metals, although its particular strengths are in steel and ferrous scrap.

AMM disseminates its information through a daily electronic newspaper, its website amm.com and a monthly magazine. In all, more than 10,000 stories are published every year and more than 1,000 different prices are assessed regularly across a range of metals, grades and locations.

### A Strong History in Pricing

AMM has built a reputation as a trusted source in pricing assessment. Its prices are used as benchmarks in contracts between buyers and sellers in a variety of markets, but perhaps have the strongest traction in ferrous scrap.

### Ferrous Scrap

For the past several decades, AMM has assessed and published prices for up to 30 different grades of ferrous scrap in 20 different cities. Some of these are export yard or broker buying prices, but the majority are assessments of the prices paid by consumers—steel mills and, for certain grades, steel foundries.

AMM's price assessments are based on the reporting staff's regular interaction with scrap buyers and sellers. The assessments consider actual transactions, although the calculation of the price depends to a great extent on the experience and expertise of AMM's editorial team.

The prices have become widely used by the industry and the assessments in certain cities, most notably Chicago, are recognized as the undoubted benchmarks used for establishing contract prices and surcharges.

### The Ferrous Scrap Market

The ferrous scrap market in the United States is quite different from many other commodity markets. The vast majority of business is done on a monthly contract basis, with the bulk of the negotiations typically taking place during the first week of the month and the vast majority of business completed in the first 10 days of the month.

AMM assesses the market throughout the month, but typically updates the prices once or twice and usually completes a final revision by the 10th of the month.