

Silicon Carbide



Methodology and price
specifications – February 2019

Mission statement

Fastmarkets is a leading commodity price reporting agency (PRA) covering the metals, mining, minerals and forest products industries. Our products include Fastmarkets MB, Fastmarkets AMM, Fastmarkets IM, Fastmarkets RISI, Fastmarkets FOEX and Random Lengths. For more than 100 years we have been providing commodities price reporting services for use by market participants in their day-to-day commercial activities. These services include assessments and indices of commodity prices as well as news, research and commentary on the underlying markets.

Our mission is to meet the market's data requirements honestly and independently, acting with integrity and care to ensure that the trust and confidence placed in the reliability of our pricing methodologies is maintained. We do not have a vested interest in the markets on which we report.

Introduction

Fastmarkets IM is the leading global provider of information and prices for the industrial minerals markets, and has been producing price assessments since the 1980s.

Fastmarkets IM employs a team of reporters located in Europe, Asia and North America to cover a wide variety of markets across the world.

The reporters are required to abide by a code of conduct and clear pricing procedures during their market reporting and pricing activities. Fastmarkets IM is completely independent and has no vested commercial interest in any of the markets it prices.

The aim of this document is to provide a clear overview of the Fastmarkets IM Silicon Carbide methodology and the specifications of the prices it assesses.

If you have any questions, please contact Fastmarkets IM Editor Davide Ghilotti at davide.ghilotti@fastmarkets.com

Price discovery and methodology

Methodology rationale

Fastmarkets IM produces independent, fair and representative price assessments of industrial minerals prices on a weekly, fortnightly or monthly basis.

The Fastmarkets IM rationale is to adopt and develop the price discovery process and the methodology described in the present guide to produce assessments that are a consistent and representative indicator of the value of the market to which they relate, for the trading period they measure.

During the price discovery process, the goal of the price reporters is to discover at what representative level market participants have concluded business, made offers or received bids over a certain defined trading period – generally the period since the conclusion of the previous price quotation (for instance, if data is submitted to a weekly price after 4pm on the day of the assessment, it will be included in the following week's assessment). The time period, or window, identified to assess a market (eg, daily, bi-weekly, weekly) is determined by Fastmarkets IM after considering the number of data points that Fastmarkets IM can reasonably expect to collect on a consistent basis over the selected period to support the price assessment process.

Data collection

Data collection and quality

Fastmarkets IM reporters aim to talk to a broad sample of market participants specifically involved in the buying and selling of the mineral of interest, with a good representation of both sides of the market, including producers and consumers, as well as traders.

Data is collected from market participants directly involved in spot and contract business primarily by telephone, but also by email, digital messaging or direct submission. All input data received is kept confidential and stored in a secure network.

Fastmarkets IM encourages organisations to submit all their pricing data, especially all the concluded transactions. Depending on market liquidity Fastmarkets IM reserves the right to base its prices also on bids, offers, deals heard and market participant assessments

or indications of prevailing values.

Fastmarkets IM's Data Submitter Policy provides guidelines to ensure the high level of data quality and integrity we expect from organisations providing pricing data.

Fastmarkets IM encourages data sources to provide data on all their concluded transactions and welcomes provision of data from employees in back office functions.

All data supplied to Fastmarkets IM is kept strictly confidential and Industrial Minerals may sign a Data Submitter Agreement (DSA) with any data provider, if requested to do so.

Our price reporters use a number of methods to collect data, including phone calls, email, and digital messenger service.

Fastmarkets IM has clear specifications for all the price points that it covers. All the reference units, such as currency and volume, are in line with recognised minerals and metals market trading conventions.

Fastmarkets IM specifications detail the material's characteristics or quality, location and the incoterm accepted. The specifications are determined in consultation with market participants and follow industry conventions. Reporters ensure the information they receive matches these specifications.

Pricing guidelines

The exercise of judgment by price reporters

To produce the price assessment greater weighting is given to actual concluded transaction data, bids/offers are second in order of importance, followed by data sources' own assessment of the market when they have no business to report. Yet, other considerations might also intervene such as, the trustworthiness of a data source, based on past data submissions or their willingness to provide data on a consistent basis.

Fastmarkets IM seeks price information for trades with a relevant minimum lot size. When volume information is available, this is also taken into consideration in the assessment process, for instance typically a deal with a bigger volume will carry more weight in the price reporter judgement than a smaller volume transaction. Yet, price reporters will also consider, for instance, to normalize or discard a price reported for a deal with an

abnormally large or small volume.

As commodity markets differ in liquidity levels at different periods, the methodology does not set any minimum number, or threshold, of transactions to be gathered on which to base the assessment.

A pricing session typically includes bids/offers, contributors' assessment as well as concluded transactions. This means that market data will typically be contributed by several separate sources and that there is no key submitter dependency. Yet, should a significant proportion of the data (defined as more than 50% of the data points) on which the assessment is based be provided by a single source, the reporter, peer reviewer and the senior editorial person signing-off the price prior to publication will analyse the data and consider, if it is the case, to publish an assessment based on the data collected or rather not to move the price and roll it over from the previous session.

Normalization

Occasionally Fastmarkets IM might receive price data for material where specifications differ in some element from our specifications – for instance, different material quality, delivery terms or delivery location, different cargo size or payment terms. In such cases, when appropriate, Fastmarkets IM normalizes data to our typical specification.

A typical example would be a price that is either net-back or net-forward due to delivery terms different from Fastmarkets IM's specification.

Criteria to discard pricing data

Fastmarkets IM will use its expert judgment to exclude outlying or unrepresentative numbers, and discount or discard prices that it believes may otherwise be questionable and unreliable.

When required, for instance when a transaction appears questionable or outside the range reported by other market participants, Fastmarkets IM may seek to confirm information on deals either by requesting a signed copy of the contract or other materials as evidence of claimed deals, or by checking the deal information with the counterparty. If no evidence of the deal is provided, Fastmarkets IM may discard the data from the pricing process.

Consistency in the price discovery procedures

All Fastmarkets IM price assessments are set by a first reporter who covers that specific market, peer reviewed by a second reporter, and always signed-

off and approved by a senior reporter or editor prior to publication. This peer review process ensures that pricing procedures and methodologies are correctly and consistently applied and to ensure integrity and quality of the published prices.

Price reporters are formally trained in the price discovery process and must abide by a written Code of Conduct and Pricing Procedures.

Publication

At the end of the pricing session, from the information that Fastmarkets IM receives and reviews it sets a price range, to reflect the representative spread of prices at which business has been transacted, offered or bid.

Methodology and price specifications review process

Fastmarkets IM continually develops and revises its methodologies in consultation with industry participants, aiming to adopt product specifications and trading terms and conditions that actually reflect and are representative of typical working practices in the industry.

Changes to the methodology and/or price specification are implemented following a consultation process which starts with Fastmarkets IM posting on its website an advance pricing notice providing clear details and a timeframe for the change proposed. The objective of the consultation process is to give market participants sufficient time and opportunity to provide feedback and views about the change proposed.

Price correction policy

Publication of price errors can occasionally happen for reasons that may include technical, input errors or incorrect application of the methodology.

To minimise as much as possible the inconvenience to our subscribers, Fastmarkets IM aims to investigate each error immediately as it becomes aware of it and to publish a correction promptly on its website through a pricing notice with an explanation of the reason for the correction.

Fastmarkets IM will publish a correction of a price only

where it has established that undeniably there has been an error. Fastmarkets IM price assessments are produced based on the best data available at the time of the assessment. It will not retroactively change a price based on new information or additional submission of data received after a respective pricing session has closed.

Become a contributor to the price discovery process
Fastmarkets IM continually seeks to increase the number of market sources willing to take part in the price discovery process. The main condition Fastmarkets IM requires from contributors is to be active participants in the spot market. Fastmarkets IM's Data Submitter Policy provides guidelines defining the high level of data quality and integrity that Fastmarkets IM expects from a contributing organisation providing pricing data. The policy can be found on Fastmarkets IM's website or upon request.

All data sources are subject to review before their data submitted is fully taken into account in the pricing process. The aim is to make sure that submitters are trustworthy and have sufficient visibility and understanding of the market to be able to provide viable price data.

If you want to become a contributor to Fastmarkets IM pricing, or have questions or comments about the methodology and price specifications, please contact Fastmarkets IM Editor Davide Ghilotti at davide.ghilotti@fastmarkets.com.

Price specifications

Silicon Carbide

EUROPE

Assessment: **Silicon Carbide FEPA 8-220 Black min 99% SiC Acid wash DDP Europe €/tonne**

Quality: FEPA 8-220 Black, min 99% acid wash

Quantity: Minimum 20 tonnes

Location: Delivered Duty Paid Europe

Timing: Contract delivered within a year

Unit: €/tonne

Publication: Monthly, last Tuesday of month between 3pm and 4pm London time

Assessment: **Silicon Carbide, FEPA 8-220 Black, min 99% SiC, Water wash, ddp Europe, € per tonne**

Quality: FEPA 8-220 Black, 99% Water Wash

Quantity: Minimum 20 tonnes

Location: Delivered Duty Paid Europe

Timing: Contract delivered within a year

Unit: €/tonne

Publication: Monthly, last Tuesday of month between 3pm and 4pm London time

Assessment: **Silicon Carbide, FEPA 8-220 Green, min 99.5% SiC, ddp Europe, € per tonne**

Quality: FEPA 8-220 Green, min 99.5%

Quantity: Minimum 20 tonnes

Location: Delivered Duty Paid Europe

Timing: Contract delivered within a year

Unit: €/tonne

Publication: Monthly, last Tuesday of month between 3pm and 4pm London time

Assessment: **Silicon Carbide, Refractory grade, min 95% SiC, ddp Europe, € per tonne**

Quality: Min 95%

Quantity: Min 20 tonnes

Location: Delivered Duty Paid Europe

Timing: Contract delivered within a year

Unit: €/tonne

Publication: Monthly, last Tuesday of month between 3pm and 4pm London time

Assessment:	Silicon Carbide, Refractory grade, min 98% SiC, ddp Europe, € per tonne
Quality:	Min 98%
Quantity:	Min 20 tonnes
Location:	Delivered Duty Paid Europe
Timing:	Contract delivered within a year
Unit:	€/tonne
Publication:	Monthly, last Tuesday of month between 3pm and 4pm London time

Contacts

Davide Ghilotti

Industrial Minerals Editor

+44 207 827 6444

davide.ghilotti@fastmarkets.com

Martim Facada

Price Reporter

+44 207 779 8363

martim.facada@fastmarkets.com

DISCLAIMER - IMPORTANT PLEASE READ CAREFULLY

This Disclaimer is in addition to our Terms and Conditions as available on our website and shall not supersede or otherwise affect these Terms and Conditions. Prices and other information contained in this publication have been obtained by us from various sources believed to be reliable. This information has not been independently verified by us. Those prices and price indices that are evaluated or calculated by us represent an approximate evaluation of current levels based upon dealings (if any) that may have been disclosed prior to publication to us. Such prices are collated through regular contact with producers, traders, dealers, brokers and purchasers although not all market segments may be contacted prior to the evaluation, calculation, or publication of any specific price or index. Actual transaction prices will reflect quantities, grades and qualities, credit terms, and many other parameters. The prices are in no sense comparable to the quoted prices of commodities in which a formal futures market exists.

Evaluations or calculations of prices and price indices by us are based upon certain market assumptions and evaluation methodologies, and may not conform to prices or information available from third parties. There may be errors or defects in such assumptions or methodologies that cause resultant evaluations to be inappropriate for use.

Your use or reliance on any prices or other information published by us is at your sole risk. Neither we nor any of our providers of information make any representations or warranties, express or implied as to the accuracy, completeness or reliability of any advice, opinion, statement or other information forming any part of the published information or its fitness or suitability for a particular purpose or use. Neither we, nor any of our officers, employees or representatives shall be liable to any person for any losses or damages incurred, suffered or arising as a result of use or reliance on the prices or other information contained in this publication, howsoever arising, including but not limited to any direct, indirect, consequential, punitive, incidental, special or similar damage, losses or expenses.

We are not an investment adviser, a financial advisor or a securities broker. The information published has been prepared solely for informational and educational purposes and is not intended for trading purposes or to address your particular requirements. The information provided is not an offer to buy or sell or a solicitation of an offer to buy or sell any security, commodity, financial product, instrument or other investment or to participate in any particular trading strategy. Such information is intended to be available for your general information and is not intended to be relied upon by users in making (or refraining from making) any specific investment or other decisions.

Your investment actions should be solely based upon your own decisions and research and appropriate independent advice should be obtained from a suitably qualified independent adviser before any such decision is made.