

PIX Packaging GCC Price Indices



Methodology and specifications – June 2026

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Mission statement

Fastmarkets Metals, Minerals & Mining is the leading global provider of pricing intelligence for the non-ferrous metal, steel, steelmaking raw materials, industrial minerals, ferrous and non-ferrous scrap markets, producing price assessments since 1882. Fastmarkets Forest Products is the leading global provider of pricing intelligence for the global forest products industry. Fastmarkets Agriculture Products has delivered pricing transparency to opaque agriculture and energy markets in the form of market-moving reporting and commentary, trusted pricing and price forecasting since 1865. And from 2025 Fastmarkets has sought to bring greater transparency to the nascent Voluntary Carbon Market via clear benchmarks and price signals, giving more confidence to the entire value chain.

Our mission is to meet our markets' 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' reporters are required to abide by a code of conduct and clear pricing procedures during their market reporting and pricing activities. Fastmarkets is completely independent and has no vested commercial interest in any of the markets it prices. We are the world's largest dedicated price-reporting team for metals and minerals, agricultural products and forest products. We have hubs in London, Brussels, Sofia, Helsinki, Kyiv, New York, Boston, Eugene, Memphis, Houston, Sao Paulo, Shanghai, Hong Kong and Singapore.

The aim of this document is to provide a clear overview of Fastmarkets methodology and the specifications for the prices it assesses. If you have any questions, please contact paperpackaging@fastmarkets.com or pricing@fastmarkets.com

Price discovery process and methodology

1.1 Methodology Rationale

Fastmarkets FOEX produces independent, fair and representative price indices for packaging paper and board in the Gulf Cooperation Council (GCC) countries on a monthly basis. The GCC countries include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Fastmarkets FOEX's rationale is to adopt and develop the price discovery process and the methodology described in the present guide to produce indices that are a consistent and representative indicator of value of the market to which they relate for the trading period they measure, as well as for the change in prices from one month to the next.

The PIX packaging paper and board benchmark indices are calculated and confirmed by Fastmarkets FOEX based on confidential price information of actual, physical trades of packaging paper and board, collected on a monthly basis by email or phone from companies trading in packaging paper and board. It represents the net price agreed for packaging paper and board. The method of index calculation is fixed. The index has a large market coverage and a stable group of price providers.

The time period, or window, identified to assess a market (e.g., daily, weekly, monthly) is determined by Fastmarkets FOEX after considering the number of data points that Fastmarkets FOEX can reasonably expect to collect on a consistent basis over the selected period to support the price assessment process.

1.2 Data collection criteria

Fastmarkets FOEX staff aim to canvas a broad sample of market participants specifically involved in the buying and selling of the packaging grade of interest, with a good representation of both sides of the market. Packaging paper and board producers, traders and consumers qualify as price providers.

Price data is collected monthly from price providers, typically by email or phone. Possibilities to use other alternative ways of submitting data will be followed-up whenever deemed useful.

Reported price data will be stored at Fastmarkets FOEX for a period of seven years.

Fastmarkets FOEX has the discretionary right to decide whether to include price data received after noon on the working day preceding publication in the index calculation that month.

Price providers designate a person and a deputy for the price reporting task. Each price provider shall report their prices each month or provide a note of how long the last reported price is valid, or report "no transactions" if a provider has no eligible transactions in a given month.

Price providers agree to report their prices according to the methodology described in this document and based on all transactions meeting the specifications and to consult with Fastmarkets FOEX if they have any doubts as to the validity of a price to be reported.

Fastmarkets FOEX encourages organizations to submit all their pricing data, especially all the concluded transactions. Fastmarkets FOEX welcomes organizations to submit transaction data from authorized back-office functions.

Company-specific data received from the price providers is accessible only to Fastmarkets personnel involved with PIX in pricing, technical or compliance roles.

Fastmarkets FOEX commits to compile the price data, to calculate the index values and to publish the index values in accordance with the rules and specifications set forth in this document.

1.3 What price data providers submit

Data providers submit prices reflecting all eligible transactions, to the extent possible with reasonable efforts, taking into account the practical tasks in the administrative work to collect all required transactions. "Transaction" is defined as follows:

1. Final agreement on price for delivery of a specific quantity of containerboard during the data month. An "eligible transaction" is a transaction that meets the specifications outlined in the Price Specifications section below.

Providers have the option to submit prices in one of three ways:

1. Average price per market (country)
2. Transaction price per supplier/customer
3. Single weighted average price: Providers submit a single price reflecting the weighted average price of all eligible transactions.

This weighted average can be calculated based on actual monthly volumes or from an annual estimate. The way each data submitter reports prices is mutually agreed with Fastmarkets FOEX before they become formal contributors to the PIX indices. The method should be consistently used to the extent possible with reasonable efforts.

Transactions with prices fixed in advance for a longer period than six months do not count as eligible transactions and shall not be reported to the index.

If the pricing structure includes a cap and floor, the price shall be reported only as long as it remains between the cap and floor. After the price has hit either of the limits, the price within the cap and floor should not be reported.

1.4 Price specifications and reference units

Fastmarkets FOEX has clear specifications for all the price points that it covers. All the reference units, such as currency and volume, are in line with recognized containerboard markets' trading conventions.

Fastmarkets FOEX specifications detail the material's characteristics or quality, location, incoterm, payment terms and the minimum volume accepted. These specifications are determined in consultation with market participants and following industry convention. Fastmarkets FOEX staff ensure that the information they receive matches these specifications.

All Fastmarkets FOEX pulp and paper price specifications define the minimum lot size accepted.

1.5 Criteria to discard pricing data

The testliner and fluting should be produced in and delivered to the GCC countries. Prices reflected only include those with a final agreement for the month, i.e., without a retroactive adjustment clause.

The following types of transactions are typically excluded:

- Indexed-price transactions: transactions whose prices are, according to the supply contract, tied to the PIX Packaging GCC Price Indices.
- Imports: deliveries from outside of the GCC countries.
- Integrated sales: deliveries between affiliated parties. However, Fastmarkets FOEX reserves the right to include these if the prices are in line with other open-market transactions reported by data submitters and as long as they include no premium of any sort in the interests of maintaining a more robust index.

Some contracts stipulate that prices are negotiated between a buyer and seller but that PIX or another index can be used as a fall-back mechanism to settle prices if the buyer and seller can't agree on a price. Transactions under these contracts are not considered indexed and thus shall be submitted to the index.

1.6 Providing prices of non-benchmark grade

Some buyers and sellers trade in containerboard products that do not exactly match the benchmark specifications but have a very high price correlation with the benchmark. These include grades with different basis weights, strength characteristics, or delivery terms. The possibilities of reporting such data need to be discussed with Fastmarkets FOEX before joining PIX. If included, this data must be normalized to the equivalent index grade according to industry standards or alternative measures discussed with Fastmarkets FOEX.

1.7 Data validation

Fastmarkets FOEX reviews the incoming price data in order to check its consistency with the reporting rules. If there are any doubts or questions about the price data, Fastmarkets FOEX contacts the price provider.

1.8 Weighting of Data

Weighting between price providers is achieved by assigning more price points to larger buyers/sellers than to smaller ones. The number of price points assigned to each provider is scaled by the annual volume of sales or purchases of containerboard (testliner and fluting). Each price provider's weight is kept constant through the year, if no major changes occur in production capacity or purchasing/sales volumes. Volumes are checked in January to define the weighting for that year.

Fastmarkets FOEX aims to achieve an even split between buyers and sellers each month.

The weighting scales for testliner and fluting (separate scales for sellers and buyers), based on the total annual volumes of the previous calendar year, are shown in Appendix 1.

The weighting of data providers is limited so that no single data provider or group of data providers can dominate the index. For the PIX Packaging GCC indices, the influence of any single data provider is capped at 25% in the index calculation.

1.9 Aggregation of weighted average prices

If data providers submit a single weighted average price (see Section 1.3 above), that price point is included in the month's collected price points multiple times, according to the number of price points the data provider is allowed. For instance, if a seller of testliner is allowed 4 price points and submits a single weighted average price of \$X in a given month, then \$X is included 4 times in that month's collected price points.

1.10 Calculation procedure

The highest and lowest 10% of the number of price points are removed before calculating the average. This is done to eliminate clerical errors in the price reporting and to dampen any possible attempts to manipulate the PIX index value in one direction or the other.

1.11 Validity time of price points

Price providers can report prices on a monthly or quarterly schedule. If a price provider temporarily discontinues to report prices (e.g., a company may not have sales or purchases during that month), Fastmarkets FOEX may use the previous price received for one additional month.

1.12 Fall-back procedure

Fastmarkets FOEX does not set a minimum number of price points for calculating the index. In the unlikely event that there are not enough eligible price points in a given month, and the lack of price points is threatening to distort the index development, Fastmarkets FOEX reserves the right to roll forward previous price data beyond the limits mentioned above. Fastmarkets FOEX may also state that because there is an insufficient number of new price points, the previous month's index value will be republished.

1.13 Procedure to ensure consistency in the price discovery procedures

All Fastmarkets FOEX price reporters are formally trained in the price discovery process and must abide by a written Code of Conduct and pricing procedures.

On a regular basis, Fastmarkets FOEX staff review markets and methodologies to ensure that index methodologies and the indices they produce are appropriate for the market. Fastmarkets FOEX has also committed to conducting one external audit per year of one key index.

Methodology review and consultation process

Fastmarkets' editorial teams carry out a formal review of its methodologies on an annual basis.

The process starts with an open consultation in which feedback is invited from users. Further consultation follows should any material change to the methodology be proposed. Material changes are those that change the way price is formed, and, once implemented, may result in fundamental changes to the published price.

At the end of the consultation process, the editorial teams review any feedback received and decide on whether a change should be made before announcing and explaining that decision to the market via a pricing notice.

The editorial teams may also suggest changes or additions to methodologies on an ad-hoc basis to reflect market developments, in which case they will follow the same process as outlined for formal reviews.

For more details, please refer to Fastmarkets' Methodology Review and Change Consultation Process document available on the Fastmarkets website.

Queries and complaints

Fastmarkets FOEX encourages engagement from the market on its pricing principles and methodology. The company promotes understanding of its pricing procedures and is committed to responding to requests for further information and clarification on a timely basis.

There are multiple channels for interaction with the pricing team including email and telephone.

If a user has an issue with the published prices, then they may contact the pricing team. In the event that the response is not satisfactory, the issue may be escalated to the internal compliance department. For more details refer to Fastmarkets' Complaint Handling Policy available on the Fastmarkets website.

Fastmarkets takes all queries and complaints seriously and will seek to provide an explanation of the prices wherever possible. It is important to note, however, that input data remain confidential and cannot be provided to third parties.

Price correction policy

Price errors may occasionally happen for reasons that include technical input errors or incorrect application of the methodology. Fastmarkets will rectify and republish any incorrectly published price as soon as possible and will publish a pricing notice to subscribers and non-subscribers alike informing them of the change.

No prices will be amended due to the emergence of new data or market activity after the initial publication. Retrospective changes to the published values will only be made in cases of administrative or calculation error leading to a material change in price.

Become a contributor to the price discovery process

Fastmarkets FOEX continually seeks to increase the number of market sources willing to take part in the price discovery process. The main condition Fastmarkets FOEX requires from contributors is for them to be active participants in the market. Fastmarkets Data Submitter Policy provides guidelines defining the high level of data quality and integrity that Fastmarkets expects from contributing organization providing pricing data. Market participants that wish to provide pricing data and be part of the price discovery process should first read the Data Submitter Policy available on the Fastmarkets website.

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 PIX Packaging GCC pricing or have questions or comments about the methodology and price specifications, please contact Fastmarkets at paperpackaging@fastmarkets.com.

Price specifications

Description: **PIX Testliner GCC**

Basis weight: 125 g/m²+

Unit: Metric ton

Quantity: Minimum 25 metric tons of prime quality in reels

Typical furnish: Recovered paper, primarily old corrugated containers (OCC)

Location: Produced in and delivered to: Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Imports from outside of the GCC countries are excluded.

Incoterm: Delivered to a buyer's corrugated box/converting plant or warehouse. Most commonly DAP (delivered at place), i.e., the seller handles export and transit country formalities, while the buyer is responsible for import formalities.

Timing: Final price agreed for trades intended for delivery during the data month.

Currency: USD

Payment terms: Net payment terms.

Duties: Customs and other duties paid. Excluding VAT.

Price type: Net price.

Publication: Monthly. At noon Helsinki time (EET/EEST) on the first Tuesday of the following month. (E.g.: The March index is published on the first Tuesday of April.) If Tuesday falls on a public holiday in Finland, the index will be published on the first working day thereafter. Major holidays in the GCC region may impact the publishing schedule. Please see the PIX publishing calendar at foex.fi.

Strength characteristics: The Testliner covered is defined as having a typical value within either the Burst or SCT-CD index range below.

Burst index (ISO 2758): <200 g/m²: 2.2-2.8

Burst index (ISO 2759): <200 g/m²: 2.5-3.0

SCT-CD index (ISO 9895): 15.5-17.5

Moisture content: 6.0-9.0%

Cobb (60 sec) (ISO 535): 25-45 g/m²

Market symbol: FP-CTB-0189

Description: **PIX Fluting GCC**

Basis weight: 125 g/m²+

Unit: Metric ton

Quantity: Minimum 25 metric tons of prime quality in reels

Typical furnish: Recovered paper, primarily old corrugated containers (OCC)

Location: Produced in and delivered to: Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. Imports from outside of the GCC countries are excluded.

Incoterm: Delivered to a buyer's corrugated box/converting plant or warehouse. Most commonly DAP (delivered at place), i.e., the seller handles export and transit country formalities, while the buyer is responsible for import formalities.

Timing: Final price agreed for trades intended for delivery during the data month.

Currency: USD

Payment terms: Net payment terms

Duties: Customs and other duties paid. Excluding VAT.

Price type: Net price.

Publication: Monthly. At noon Helsinki time (EET/EEST) on the first Tuesday of the following month. (E.g.: The March index is published on the first Tuesday of April.) If Tuesday falls on a public holiday in Finland, the index will be published on the first working day thereafter. Major holidays in the GCC region may impact the publishing schedule. Please see the PIX publishing calendar at foex.fi.

Strength characteristics: The Fluting covered is defined as having a typical value above either the CMT 30 or SCT-CD index below.

CMT 30 index (ISO 7263): 1.6

SCT-CD index (ISO 9895): 15.0

Moisture content: 6.5-9.5%

Market symbol: FP-CTB-0190

Notes: Actual transaction prices in Saudi Arabia are typically higher than in other GCC countries due to the import duty in Saudi Arabia on testliner and fluting produced elsewhere in the GCC area.

PIX indices are price averages that aim to reflect the market trend in the GCC region overall and should not be interpreted as specific to any one country.

Revision History

Changes to methodology and specifications will be tracked here.

May 2026- Annual review of the methodology completed

Following an open consultation, no material changes were made to the methodology.

May 2025 – Annual review of the methodology. Following an open consultation, no material changes were made to the methodology.

July 2024 – Updates index naming convention

This methodology was amended to reflect the index names PIX Testliner GCC and PIX Fluting GCC currently used on the Fastmarkets FOEX website and Fastmarkets RISI Intelligence Center.

May 2024 – Annual review of the methodology completed; no material changes made.

September 2023 – Amends wording of 1.2 Data Collection Criteria: clarifies the accessibility of data at Fastmarkets.

June 2023 – PIX Packaging GCC indices launched

After market consultation, Fastmarkets FOEX launches the PIX Packaging GCC indices for containerboard, along with this methodology and specifications document.

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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.

Appendix 1 – The weighting scale

PIX GCC Containerboard									
Weighting scale since September 2022									
Categories based on annual supply or consumption of testliner and fluting									
SELLERS				Price points	BUYERS				Price points
over	300 000	tonnes		8	over	200 000	tonnes		8
up to	300 000			6	up to	200 000			6
up to	150 000			4	up to	100 000			4
up to	100 000			3	up to	50 000			3