



Excel Add-in
User's Manual
V1.2.612
24<sup>th</sup> June 2019



## **INTRODUCTION**

#### WELCOME!

Thank you for choosing to use Fastmarkets' Excel Add-in! As part of Fastmarkets' data platform strategy, we will provide customers with richer, more flexible mechanisms to securely access our data. This tool will allow you to pull our pricing data directly into Excel, thereby enabling you to embed our prices into your workflow.

This user guide will help you get the most out of Fastmarkets' Excel Add-in to support your business needs. Please refer to the accompanying Technical Guide to install and log in for the first time to Fastmarkets' Excel Add-in.

Example templates of all functions included in this website and how to work with them are available on the **Excel Add-In Support website** for your specific data license subscription. Please visit <a href="https://fastmarkets.com/support/customer-support-homepage/excel-add-in-support">https://fastmarkets.com/support/customer-support-homepage/excel-add-in-support.</a>

If after reading these instructions you have further questions about how to use Fastmarkets' Excel Add-in, please contact your Account Manager.

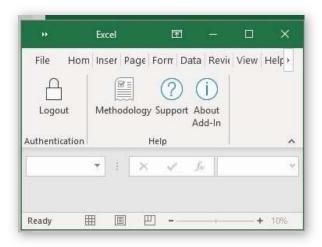
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For more information on Fastmarkets' products and services, please click on the Fastmarkets Excel Add-In ribbon buttons atop your spreadsheet or use the following links:



Pricing data: https://www.fastmarkets.com/what-we-do/pricing-data

Pricing notices: https://www.metalbulletin.com/about-us/methodology/pricing-notices

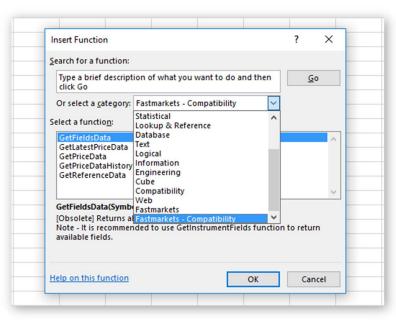
➤ Methodology: https://www.fastmarkets.com/about-us/methodology



## **WHAT'S NEW?**

Version 1.2.612 of the Fastmarkets Excel Add-in features several enhancements and changes offering increased functionality and clarity.

➤ New functions. This version enables you to retrieve more fields and data, and we advise you to use the functions being introduced as opposed to existing functions. While existing functions will continue to work, they have been moved, as shown below, to the Fastmarkets – Compatibility functions folder. They will eventually be removed. This user guide will focus on the new functions, so please refer to earlier versions of this document for existing functions.



#### New price calculation parameters

- Actual price
- Weekly average
- Weekly average (Friday to Thursday)
- Monthly average
- Yearly average

#### New fields

- Date
- Commodity
- Price Type
- Frequency
- Status
- Correction (revision flag)
- Appraisal Price



- Pricing Rationale
- Source
- Net Change (Low, Mid, High)
- Percent Change (as decimal; Low, Mid, High)
- Currency field change. This will now display a three-letter currency code (EUR instead of Euro, for example).
- New "Fill Setting" parameter for Price History
  - "ValueOnly" assessment-only dates and prices
  - "CarryForward" carry over/repeat previous values for all week days
  - "Null" displays value only on assessment date; blank otherwise
- Improved support materials
  - Templates and videos
  - User guide/technical installation guide/security FAQ
  - Excel ribbon buttons links to Fastmarkets.com for pricing notices and methodology pages, providing transparency on how averages are calculated
- Currency and unit conversion parameters. These are being introduced now as "unsupported" but will be available in the next release of Fastmarkets' Excel Add-in.

# **THE EXCEL FUNCTIONS**

Fastmarkets' Excel Add-in enables you to easily obtain rich data around the commodities you follow. The table below summarizes the functions and pricing data available to you in version 1.2.612. Remember, we recommend that you use these new functions instead of the existing functions, as the existing ones will be removed.

| FUNCTION                  | VERSION           | DESCRIPTION  |
|---------------------------|-------------------|--|
| GetInstruments( )         | v1.2.612 or above | Returns all Symbols and corresponding reference data that the user is authorised to access     |
| GetPriceCalculationType() | v1.2.612 or above | Returns the price calculation types for the specified symbol                                   |
| GetInstrumentFields()     | v1.2.612 or above | Returns all available fields for a given symbol and price calculation type                     |
| GetLatestPrice()          | v1.2.612 or above | Returns the latest price data for the specified Symbol, Field and Price Calculation Type       |
| GetPriceHistory()         | v1.2.612 or above | Returns price data history for the selected symbol   |
| GetPrice()                | v1.2.612 or above | Returns the latest price data for the specified Symbol, Field, Price Calculation Type and Date |



New "unsupported" parameters – including the ability to convert currencies and units of measure – have been introduced in this version for the GetPrice, GetLatestPrice and GetPriceHistory functions. These parameters, labeled as "COMING SOON," will be available in the next version of Fastmarkets' Excel Add-In. They may be left blank when using the new functions in version 1.2.612.

Let's explore the functions individually to see how you can make Fastmarkets' Excel Add-in work best for you.

#### **GET INSTRUMENTS**

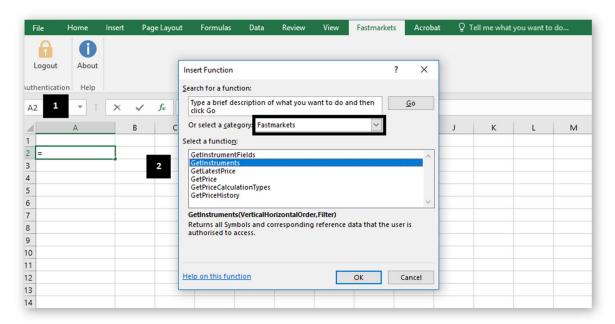
The GetInstruments() function enables you to view a list of all symbols and their corresponding reference data to which you're entitled in your data package. **Each Fastmarkets price has a symbol – an alphanumeric code unique to that price.** The table below provides a summary of this function.

| Function summary        | The GetInstruments() function fetches all symbols and corresponding reference data that the user is authorized to access.   |
|-------------------------|---|
| Input parameters        | VerticalHorizontalOrder; Filter   |
| Output for the function | Inserts fields of data for each price, including Symbol,<br>Currency, Unit of measure, Product, Location, Incoterm,<br>Commodity, Price Type, Frequency, Source, Status and<br>Description. |
| Example                 | =GetInstruments("V","steel")  |

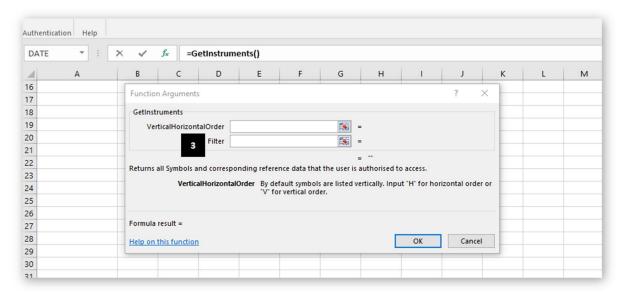
#### Get the list of prices and their symbols

- 1. Select a cell where you want the prices to be displayed (for example, A2)
- 2. Click on the "function wizard" icon ( $f_x$ ). Choose the "Fastmarkets" category, select the "GetInstruments" function and click OK.



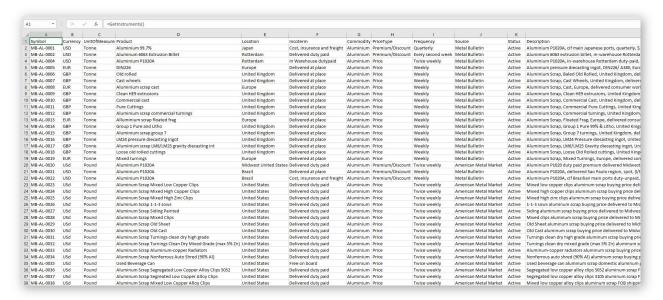


3. To display the full list of symbols and prices available for the data package you have chosen, leave the parameters blank and click OK. If you wish to filter the list so that you only see, say, aluminium symbols and prices, type "aluminium" in the "Filter" field.



The list of all available prices will be inserted in the sheet (see following table). The first column contains the symbol unique to each price. The remaining columns contain the corresponding reference data (currency, unit of measure, product, location, incoterm, commodity, price type, frequency, source, status and description).





Please review the Appendix for a complete description of what each field displays.

#### **GET PRICE CALCULATION TYPES**

The GetPriceCalculationTypes() function will identify the price calculation types that are available for each symbol. Use this function as a starting point to determine the type of data you wish to return – whether it is "Actuals" for assessed physical prices or an average price for a particular frequency – "WeeklyAverage", "MonthlyAverage" or YearlyAverage. NOTE: London Metal Exchange averages are not yet available through Fastmarkets' Excel Add-in.

The parameters will enable you to easily populate a table to compare actual physical pricing and corresponding averages for a symbol across the same row or column.

The price calculation methodology for Fastmarkets averages may differ depending on the source of the data. Learn more at: <a href="https://www.fastmarkets.com/about-us/methodology">https://www.fastmarkets.com/about-us/methodology</a>

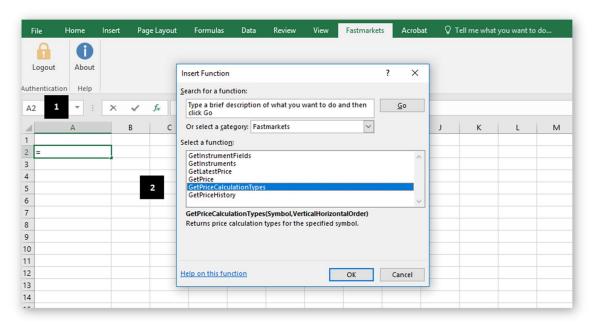
The table below provides a summary of this function.

| Function summary        | The GetPriceCalculationTypes( ) function fetches the price calculation types for a specified symbol.                                       |
|-------------------------|--|
| Input parameters        | Symbol; VerticalHorizontalOrder  |
| Output for the function | Inserts price calculation types for each symbol – for example, Actuals, WeeklyAverage, WeeklyAverageFriThur, MonthlyAverage, YearlyAverage |
| Example                 | =GetPriceCalculationTypes("MB-AL-0004","H")  |

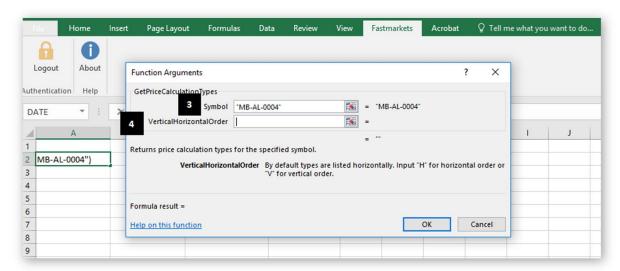


#### Get a list of Price Calculation Types for your specified symbol(s)

- 1. Select a cell where you want the prices to be displayed (for example, A2).
- 2. Click on the "function wizard" icon ( $f_x$ ). Choose the "Fastmarkets" category, select the "GetPriceCalculationTypes" function and click OK.

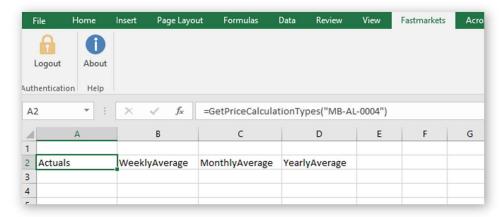


- 3. Enter the symbol. In this example we're using MB-AL-0004
- 4. For the "VerticalHorizontalOrder" field, enter "V" if you want the Price Calculation Types to appear vertically or "H" if you want the Price Calculation Types to appear horizontally. This field is optional, if you leave it blank the values will return horizontally by default. In this example we will leave it blank. Then click OK.

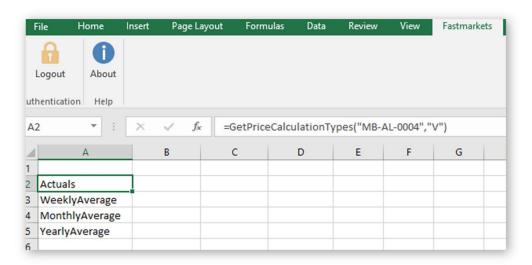




The Price Calculation Types will return as in the screenshot below.



The screenshot below shows how the Price Calculation Types return if the "VerticalHorizontalOrder" field is set to "V".



#### **GET INSTRUMENT FIELDS**

The GetInstrumentFields() function can be used to identify the fields that are available for each symbol and price calculation type. Remember, each Fastmarkets price has a symbol – an alphanumeric code unique to that price.

Some fields provide reference data, such as currency and unit of measure. But in this version of Fastmarkets' Excel Add-In, other pivotal data fields have been added, including:

- **Source:** This shows the source of the instrument.
- ➤ **Correction:** A TRUE/FALSE flag to show if a value has been corrected. This will update automatically in your spreadsheet.



- ➤ **Period:** This will only display for average pricing to denote the period selected. This field will be blank for actual physical pricing.
- ➤ Appraisal Price: A TRUE/FALSE flag to denote that an appraisal or interim price has been published between assessment dates and values.
- ➤ **Pricing Rationale:** This field provides insight into how our price reporters and editors have determined the pricing for the instrument(s) selected. If no pricing rationale is provided, this field will remain blank.

A full description for all fields can be found in the Appendix.

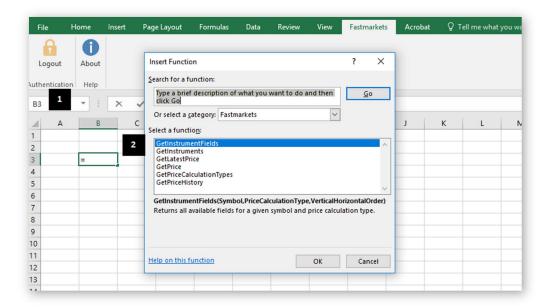
The table below provides a summary of this function.

| Function summary        | The GetInstrumentFields( ) function may be used      |
|-------------------------|--|
|                         | to fetch the data fields that are available for a    |
|                         | given symbol and price calculation type. For         |
|                         | example, exchange prices (to be introduced in        |
|                         | later phases) will have different price fields from  |
|                         | physical prices.                                     |
| Input parameters        | Symbol; PriceCalculationType;                        |
|                         | VerticalHorizontalOrder                              |
| Output for the function | Inserts an array displaying the available data       |
|                         | fields. The fields available for actual and physical |
|                         | prices are: Date, AssessmentDate, Period, Low,       |
|                         | Mid, High, Currency, UnitOfMeasure, Product,         |
|                         | Location, Source, Incoterm, Commodity,               |
|                         | PriceType, Frequency, Status, Correction,            |
|                         | AppraisalPrice, PricingRationale, LowChange,         |
|                         | LowChangeProportion, MidChange,                      |
|                         | MidChangeProportion, HighChange,                     |
|                         | HighChangeProportion and Description.                |
| Example                 | =GetInstrumentFields("FM-AL-                         |
|                         | 0002","MonthlyAverage","V")                          |

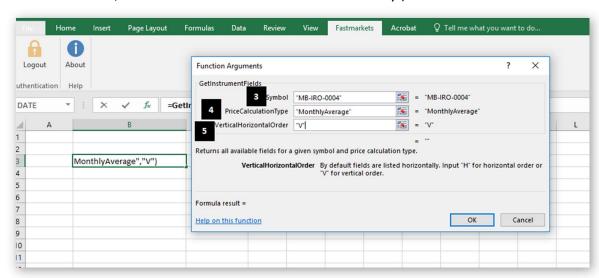
### Get the data fields available for a particular price

- 1. Select the cell where you want the data fields to be inserted (for example, B3).
- 2. Click on the "function wizard" icon (  $f_x$  ), choose the "Fastmarkets" category, select the "GetInstrumentFields" function and click OK.



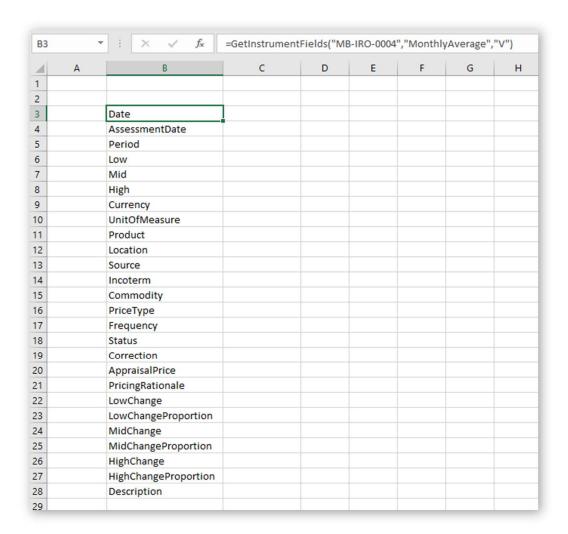


- 3. Enter the symbol. For this example, we're using MB-IRO-0004.
- 4. Enter the PriceCalculationType. This field is optional; if left blank, it will return fields for "Actuals" (actual physical prices). If you know the PriceCalculationType, enter it in speech marks (for example, "MonthlyAverage"). You can also cell reference it if you have used the GetPriceCalculationType function.
- 5. For the "VerticalHorizontalOrder" field, enter "V" if you want the data fields to appear vertically or "H" if you want the data fields to appear horizontally. (This field is optional; if left blank, it will return instrument fields horizontally.) Then click OK.

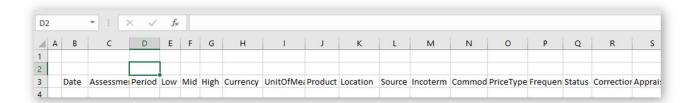


The data fields available for the symbol will appear in the spreadsheet as shown in the following screenshot if you select "V" for Vertical order.





The screenshot below shows how the data fields would appear horizontally if "H" were typed into the "VerticalHorizontalOrder" field instead of "V" as referenced in Step 4. (Note: Several fields are cut off for the viewability of this screenshot.





#### **GET LATEST PRICE**

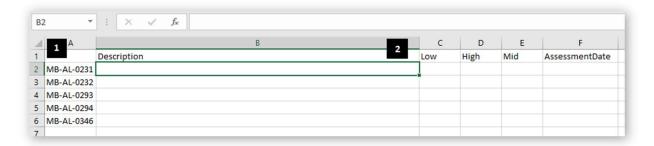
The GetLatestPrice() function enables you to view the latest price information for your chosen symbols and their price calculation types. The table below provides a summary of this function.

| Function summary        | The GetLatestPrice() function fetches the latest price for a symbol and price calculation type. It can be used to get fields such as Low, Mid and Currency for actual physical prices or averages. Because the function applies to an individual cell, it gives the user control over the layout of the workbook. Once the table is laid out, the formula may be dragged or copied to populate all cells. |
|-------------------------|---|
| Input parameters        | Symbol; PriceCalculationType; Field (Note: TargetCurrency & TargetUnitOfMeasure parameters are unsupported/coming soon. These fields may be left blank.)  |
| Output for the function | The result is inserted in a single cell; it represents the most recent price or average price data depending on your chosen price calculation type. For example, if a price is updated every Monday and the user requests a price for Tuesday, Wednesday, Thursday or Friday, the function will return Monday's price.  |
| Example                 | =GetLatestPrice("MB-AL-0346","Actuals",<br>"Low")   |

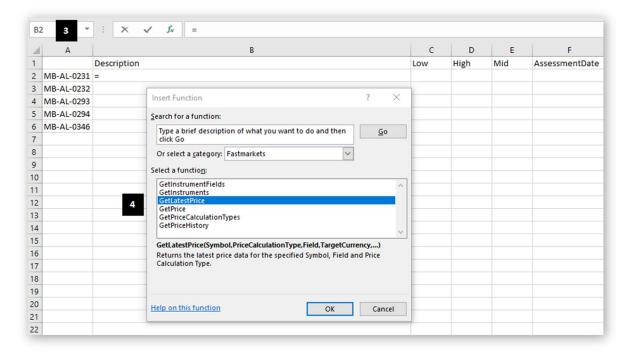
## View the latest "Actuals" - physical price data for one or more symbols

- 1. Copy the symbols for which you want to get the latest prices and paste them into a new sheet. For this example, we've chosen five aluminium premiums.
- 2. Fill in the column headers with the required price fields. Fastmarkets' Excel Add-in supports the fields outlined in the table in the Appendix. For the example shown in the following screenshot, we've chosen Description, Low, High, Mid and AssessmentDate for our fields.





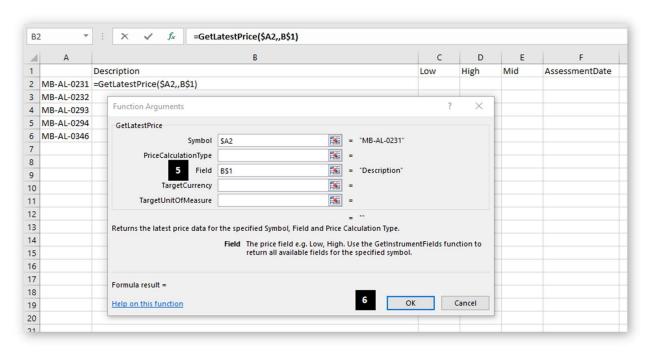
- 3. Select the cell where you want the first price to be inserted (for example, B2).
- 4. Click on the "function wizard" icon (f). Choose the "Fastmarkets" category and select the "GetLatestPrice" function.



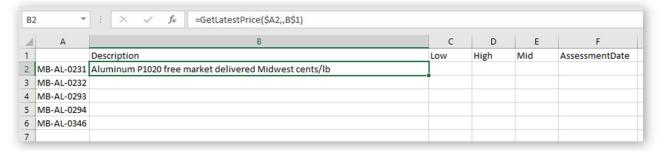
- 5. Fill in the following parameters as shown:
  - > **Symbol:** Type the cell reference where the first price symbol has been inserted and apply the dollar sign (\$) to the column (for this example, type \$A2, since that's where symbol MB-AL-0231 has been inserted). Applying the \$ will allow you to copy the formula over to other cells to fill out the table.
  - ➤ **PriceCalculationType:** This parameter enables you to determine the type of data to return for the symbol (physical pricing or averages). The parameter is optional; if left blank, it will return "Actuals" for physical pricing. In this example, we will leave it blank.



- Field: Type the cell reference where the first price field has been inserted and apply the dollar sign (\$) to the row (for this example, type B\$1, since that's where "Description" has been inserted). Applying the \$ will allow you to copy the formula over to other cells.
- > TargetCurrency: This parameter is coming soon. It can be left blank.
- > TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
- 6. Click OK.

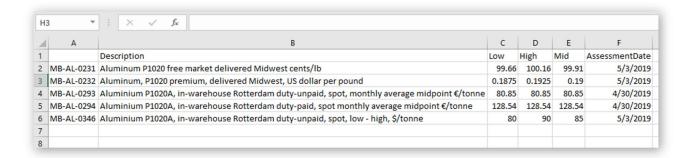


The description of the instrument has now been inserted into cell B2 (see screenshot below).



7. Copy the formula over to get the information for all of the data fields you're seeking (see following screenshot). You can either grab the little square in the corner of the cell with the function in it and drag it across and down to highlight your entire table; or you can copy and paste the cell with the function in it into your entire table. Because you applied the dollar sign (\$) in the formula, all retrieved data will point to one of the price symbols in Column A and to one of the fields in Row 1.





Note - the date format returned (mm/dd/yyyy versus dd/mm/yyyy) will be recognized based on your regional date and time settings.

#### Refreshing the latest pricing data

Depending on your Excel settings, your pricing data may update automatically. If your Excel is set to update calculations automatically, you may simply refresh the data. To change this setting, go to Options → Formulas → Calculation options and change Workbook Calculation from Automatic to Manual. If Workbook Calculation is set to manual, the keystrokes are as follows:

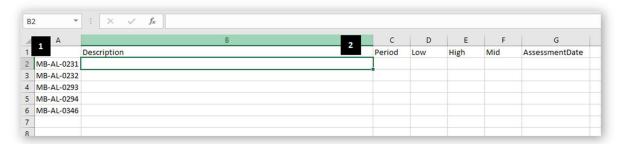
- > F2 and Enter to update a specific cell
- Ctrl + Alt + F9 to update the entire spreadsheet

#### View the latest monthly average price data for one or more symbols

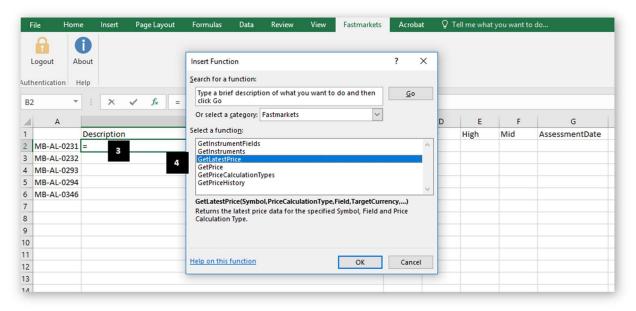
Fastmarkets produces independent, fair and representative price assessments and indexes of ferrous, non-ferrous and scrap metal prices on a daily, bi-weekly, weekly, bi-monthly or monthly basis. Fastmarkets calculates and publishes monthly averages based on these independent, proprietary assessments and indexes in two distinct ways: simple averages and rolling averages. For details on how these monthly averages are calculated, as well as which monthly average applies to specific prices, please review our methodology documentation at https://www.fastmarkets.com/about-us/methodology.

- 1. Copy the symbols for which you want to get the latest monthly average prices and paste them into a new sheet. For this example, we've chosen the same five aluminium premiums from the example above.
- 2. Fill in the column headers with the required price fields. Fastmarkets' Excel Add-in supports the fields outlined in the table in the Appendix for averages AND actual physical prices. For this example, we've chosen Description, Period, Low, High, Mid and AssessmentDate. Period is a useful new field that allows you to view the week date range, month/year or year for the average data you specify.





- 3. Select the cell where you want the first price to be inserted (for example, B2).
- 4. Click on the "function wizard" icon (f). Choose the "Fastmarkets" category and select the "GetLatestPrice" function.

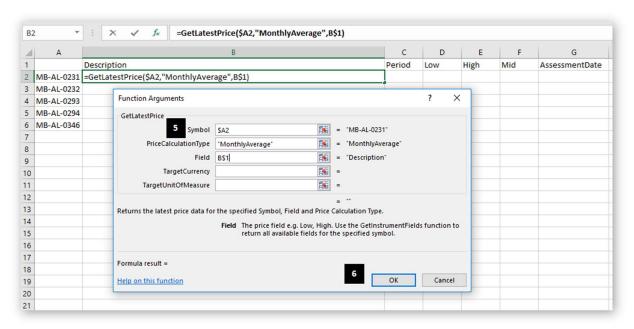


- 5. Fill in the parameters as shown below:
  - > **Symbol:** Type the cell reference where the first price symbol has been inserted and apply the dollar sign (\$) to the column (for this example, type \$A2, since that's where symbol MB-AL-0231 has been inserted). Applying the \$ will allow you to copy the formula over to other cells to fill out the table.
  - ➤ PriceCalculationType: To retrieve averages, this field needs to have a value entered. If you are unsure of what to enter, please refer to the earlier section on the GetPriceCalculationType function. For this example, enter "MonthlyAverage".
  - Field: Type the cell reference where the first price field has been inserted and apply the dollar sign (\$) to the row (for this example, type B\$1, since that's

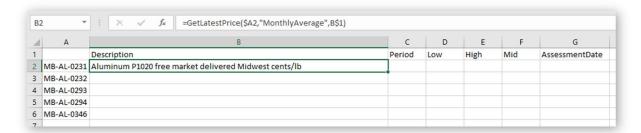


where "Description" has been inserted). Applying the \$ will allow you to copy the formula over to other cells.

- TargetCurrency: This parameter is coming soon. It can be left blank.
- TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
- Click OK.



The description of the instrument has now been inserted into cell B2 (see screenshot below).



7. Copy the formula over to get the information for all of the data fields you're seeking (see following screenshot). You can either grab the little square in the corner of the cell with the function in it and drag it across and down to highlight your entire table; or you can copy and paste the cell with the function in it into your entire table. Because you applied the dollar sign (\$) in the formula, all retrieved data will point to one of the price symbols in Column A and to one of the fields in Row 1.





#### An important note on monthly averages

### Why am I not able to retrieve monthly average prices for US weekly scrap composites?

The following weekly scrap composite prices are an average of the daily composite prices calculated for the week from Friday to Thursday. Published monthly averages are not available for these prices. The corresponding daily composite price should be used to retrieve monthly average prices, since the methodology used for the average calculation is a rolling daily basis (see table below). Please review our methodology documentation at <a href="https://www.fastmarkets.com/about-us/methodology">https://www.fastmarkets.com/about-us/methodology</a>

| Daily Composite |  | Weekly Composite - FriThurs weekly average |   |
|-----------------|--|--|---|
| ymbol           | Description  | Symbol                                     | Description   |
| /B-STE-0217     | Alabama Shredded auto scrap consumer buying price \$/gross ton         | MB-STE-0519                                | Alabama shredded auto scrap consumer buying price US\$/gross ton weekly composite         |
| /IB-STE-0228    | Chicago No. 1 heavy melt scrap consumer buying price \$/gross ton      | MB-STE-0528                                | Chicago no. 1 heavy melt consumer buying price US\$/gross ton weekly composite            |
| /IB-STE-0232    | Chicago No. 1 busheling scrap consumer buying price \$/gross ton       | MB-STE-0524                                | Chicago no. 1 busheling scrap consumer buying price US\$/gross ton weekly composite price |
| /B-STE-0233     | Chicago Shredded auto scrap consumer buying price \$/gross ton         | MB-STE-0520                                | Chicago shredded auto scrap consumer buying price US\$/gross ton weekly composite         |
| /IB-STE-0257    | Cleveland No. 1 busheling scrap consumer buying price \$/gross ton     | MB-STE-0525                                | Cleveland no. 1 busheling scrap consumer buying price US\$/gross ton weekly composite     |
| ИВ-STE-0285     | Philadelphia No. 1 heavy melt scrap consumer buying price \$/gross ton | MB-STE-0529                                | Philadelphia no. 1 heavy melt consumer buying price US\$/gross ton weekly composite       |
| ИВ-STE-0289     | Philadelphia Shredded auto scrap consumer buying price \$/gross ton    | MB-STE-0521                                | Philadelphia shredded auto scrap consumer buying price US\$/gross ton weekly composite    |
| /IB-STE-0303    | Pittsburgh No. 1 heavy melt scrap consumer buying price \$/gross ton   | MB-STE-0530                                | Pittsburgh no. 1 heavy melt consumer buying price US\$/gross ton weekly composite         |
| /IB-STE-0306    | Pittsburgh No. 1 busheling scrap consumer buying price \$/gross ton    | MB-STE-0526                                | Pittsburgh no. 1 busheling consumer buying price US\$/gross ton weekly composite          |
| /IB-STE-0308    | Pittsburgh Shredded auto scrap consumer buying price \$/gross ton      | MB-STE-0522                                | Pittsburgh shredded auto scrap consumer buying price US\$/gross ton weekly composite      |
| /B-STE-0426     | No. 1 heavy melt scrap daily composite \$/gross ton                    | MB-STE-0531                                | No. 1 heavy melt consumer buying price US\$/gross ton weekly composite                    |
| /IB-STE-0427    | Shredded auto scrap daily composite \$/gross ton                       | MB-STE-0523                                | Shredded auto scrap consumer buying price US\$/gross ton weekly composite                 |
| 1B-STE-0428     | No. 1 busheling scrap daily composite \$/gross ton                     | MB-STE-0527                                | No. 1 busheling scrap consumer buying price US\$/gross ton weekly composite               |



## **GET PRICE HISTORY**

The GetPriceHistory() function enables you to view historical prices for a symbol. The table below provides a summary of this function.

| Function summary        | The GetPriceHistory() function can be used to fetch the price history for a given symbol. The user can specify the price calculation type to determine whether to return physical price or average price history, start and end date, fill setting to determine how to fill gaps between data points, horizontal or vertical layout, ascending or descending dates, and whether to retrieve specific or all fields.   |
|-------------------------|---|
| Input parameters        | Symbol; PriceCalculationType; StartDate; EndDate; FillSetting; VerticalHorizontalOrder; AscendingDescending; Field1 Field 8. NOTE: Nesting volatile Microsoft Excel functions such as =TODAY() or =NOW() into date parameter inputs is not recommended.   |
| Output for the function | Inserts a series table displaying historical dates and corresponding price fields. The PriceCalculationType parameter specifies if the function should return actual physical pricing or a type of average. The FillSetting parameter determines how to handle non-assessment days in the historical time series. If the FillSetting parameter is not specified, the default data will display "ValueOnly" (these are assessment-only dates and values). The next table explains the choices available with this parameter. |
| Example                 | =GetPriceHistory("MB-AL-0001", "Actuals", "7/25/2014", "2/27/2018", "ValueOnly", "V", "A", "Low", Mid", "High", "Location", "Currency", "UnitOfMeasure", "AssessmentDate")  |



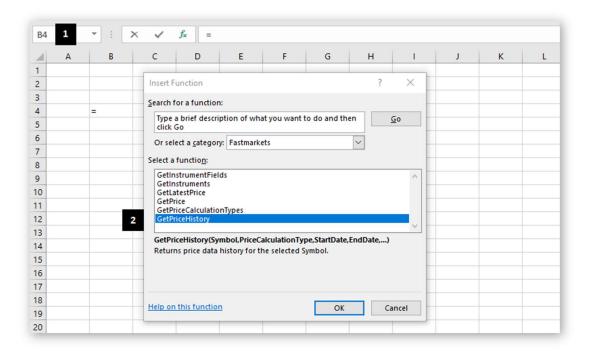
The table below explains how the historical prices return with each Fill Setting within the parameter, enabling you to fully customize the time series data you work with.

| FILL SETTING | DESCRIPTION   |
|--------------|---|
| ValueOnly    | The dates and prices returned will only display when assessed or published prices are available. For example, for a MonthlyAverage, the field will display dates and values once per month.   |
| CarryForward | If there is no updated price for a given day, the function will "carry forward" – or repeat – the last available price for <b>ALL WEEKDAYS</b> until the price is updated again. NOTE: public holidays will not be excluded. For example, a price is assessed weekly, on Monday. For the subsequent Tuesday, Wednesday, Thursday and Friday, the function will return Monday's price. |
| Null         | ALL WEEKDAYS INCLUDING HOLIDAYS will be displayed in the Date column. If there is no updated price for a given date, the corresponding row will be blank.   |

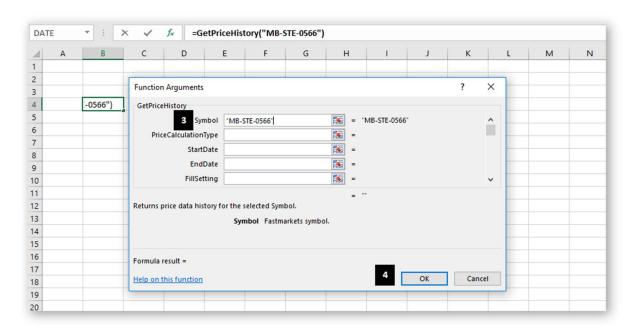
# View the physical price history for a particular symbol

- 1. Select the cell where you want the price history to be inserted (for example, B4).
- 2. Click on the "function wizard" icon ( $f_x$ ), choose the "Fastmarkets" category, select the "GetPriceHistory" function and click OK.



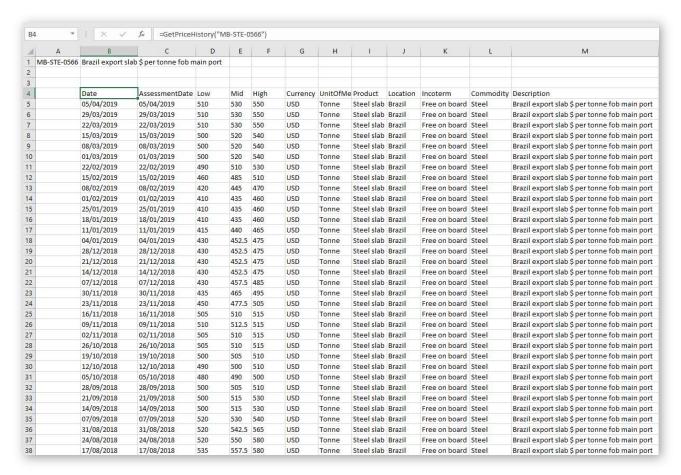


- 3. Fill in the Symbol field ONLY. This is the quickest way to get the full physical price history for assessment-only dates. You may fill in the StartDate and EndDate fields if you wish to narrow the price history to a specific range. The date format (mm/dd/yyyy versus dd/mm/yyyy) will be recognized based on your regional date and time settings. For this example, we will use the symbol "MB-STE-0566".
- 4. Click OK.





The price data history has now been inserted into the sheet.



The GetPriceHistory() function also allows you to customize the way the price history is displayed in your spreadsheet. The following three, step-by-step examples show how the FillSetting parameter can be used to customize your returned data. The second and third examples ("CarryForward" and "Null") are particularly useful if you plan to align, in your spreadsheet, the returned data with your own data or other sources of daily published data.

- "ValueOnly": returns prices on their assessment dates
- "CarryForward": returns prices for every weekday which are "carried forward" or repeated between assessment dates
- "Null": returns all weekdays but displays prices only on their assessment date; other dates are blank

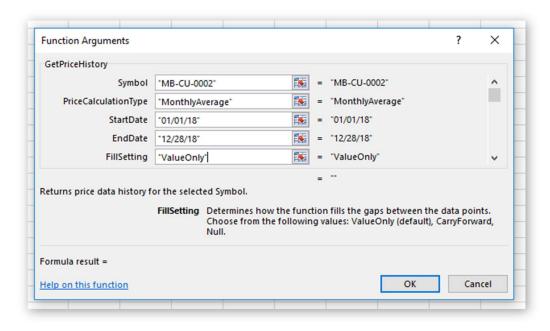
**NOTE: PUBLIC HOLIDAYS ARE NOT EXCLUDED.** Fill Settings "Null" and "CarryForward" will return **ALL WEEKDAYS**. This is important to note if manually calculating an average period and comparing to published monthly average prices when entering "MonthlyAverage".



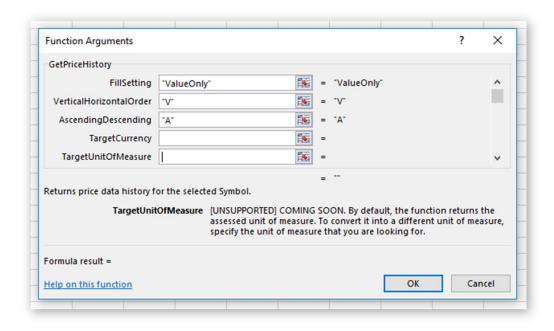
#### "ValueOnly": Return monthly average prices for assessment dates with specific data fields

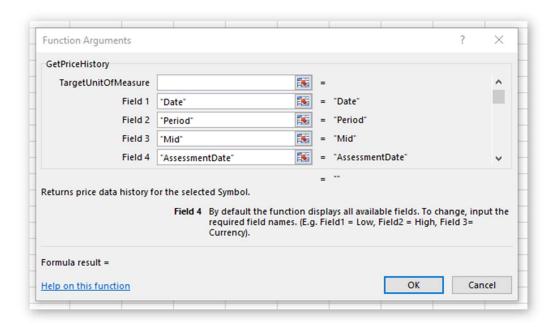
- 1. Select the cell where you want the price history to be inserted (for example, B4).
- 2. Click on the "function wizard" icon ( $f_x$ ), choose the "Fastmarkets" category, select the "GetPriceHistory" function and click OK just as you did before.
- 3. Fill in the parameters as below:
  - > **Symbol:** For this example, we'll use the symbol "MB-CU-0002".
  - PriceCalculationType: "MonthlyAverage"
  - > StartDate: "01/01/18" (January 1, 2018)
  - > EndDate: "12/28/18" (December 28, 2018)
  - > FillSetting: "ValueOnly"
  - VerticalHorizontalOrder: "V"
  - AscendingDescending: "A"
  - > TargetCurrency: This parameter is coming soon. It can be left blank.
  - > TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
  - Field1: "Date"
  - > Field2: "Period"
  - Field3: "Mid"
  - Field4: "AssessmentDate"

The following three screenshots show all of the parameters entered into the function arguments as outlined above.



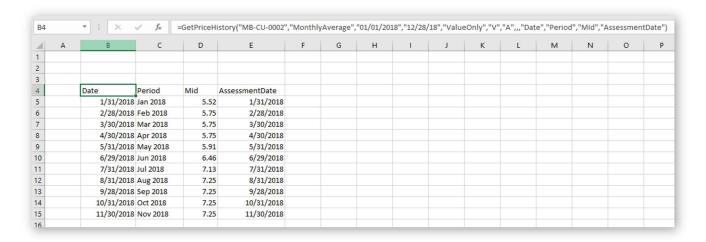






4. Once you have finished populating the fields, click OK. The historical price table will flow into the sheet according to the specified parameters, as shown in the following screenshot. NOTE: These are average values on their published/assessed dates (holidays are factored in). This is the official Fastmarkets average for the instrument.



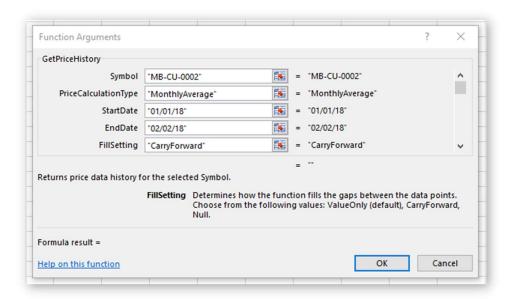


# "CarryForward": Return monthly average prices with specific data fields that are rolled forward on non-assessment dates

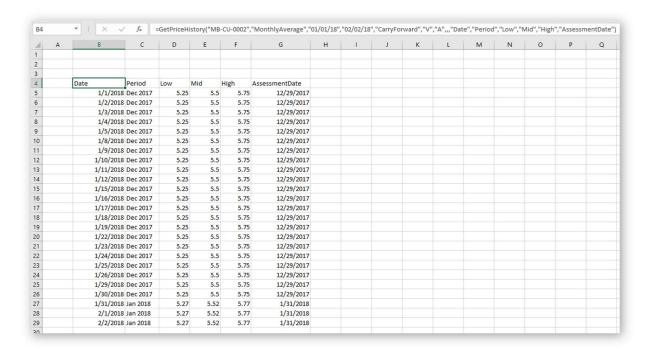
- 1. Select the cell where you want the price history to be inserted (for example, B4).
- 2. Click on the "function wizard" icon (f), choose the "Fastmarkets" category, select the "GetPriceHistory" function and click OK just as you did before.
- 3. Fill in the parameters as below:
  - > Symbol: For this example, we'll use the symbol "MB-CU-0002".
  - PriceCalculationType: "MonthlyAverage"
  - > StartDate: "01/01/18" (January 1, 2018)
  - > EndDate: "02/02/18" (February 2, 2018)
  - > **FillSetting:** "CarryForward"
  - VerticalHorizontalOrder: "V"
  - AscendingDescending: "A"
  - > TargetCurrency: This parameter is coming soon. It can be left blank.
  - > TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
  - > Field1: "Date"
  - > Field2: "Period"
  - > Field3: "Low"
  - > Field4: "Mid"
  - > Field5: "High"
  - Field10: "AssessmentDate"

The following screenshot shows the same example with the FillSetting parameter set to "CarryForward".





4. Once you have finished populating the fields, click OK. The historical price table will flow into the sheet according to the specified parameters, as shown in the following screenshot. These are published average values that are carried forward, and they are the official Fastmarkets averages for the instrument. Holidays are factored in; if this format is used to calculate the average, the user must manually remove holidays from the calculation.

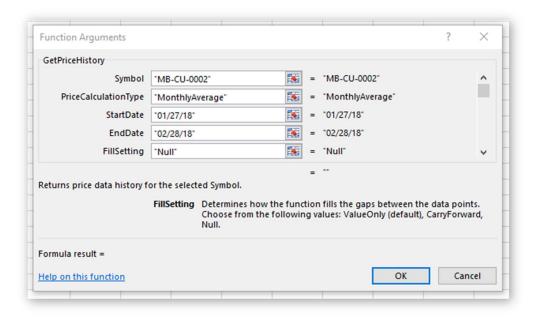




# "Null": Return monthly average prices with specific data fields filled on their assessment dates but blank on non-assessment dates

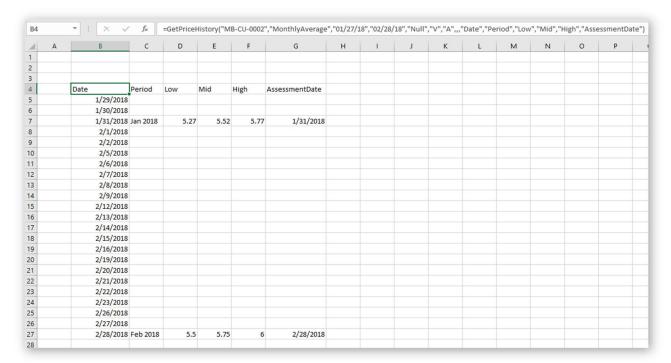
- 1. Select the cell where you want the price history to be inserted (for example, B4).
- 2. Click on the "function wizard" icon ( $f_x$ ), choose the "Fastmarkets" category, select the "GetPriceHistory" function and click OK just as you did before.
- 3. Fill in the parameters as below:
  - > Symbol: For this example, we'll use the symbol "MB-CU-0002".
  - PriceCalculationType: "MonthlyAverage"
  - > StartDate: "01/27/18" (January 27, 2018)
  - > EndDate: "02/28/18" (February 28, 2018)
  - > FillSetting: "Null"
  - VerticalHorizontalOrder: "V"
  - > AscendingDescending: "A"
  - TargetCurrency: This parameter is coming soon. It can be left blank.
  - TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
  - > Field1: "Date"
  - > Field2: "Period"
  - > Field3: "Low"
  - > Field4: "Mid"
  - > Field5: "High"
  - Field6: "AssessmentDate"

The below screenshot shows the same example with the FillSetting parameter set to "Null".





4. Once you have finished populating the fields, click OK. The historical price table will flow into the sheet according to the specified parameters, as shown below.



#### Historic pricing data: frequently asked questions

- 1. What is the longest time series I can download?
  - All historical pricing data is available through Fastmarkets' Excel Add-in. The length of the history will vary depending on when the price was launched.
- 2. Can I choose between daily/weekly/monthly average prices?

  Daily physical pricing ("Actuals") and weekly, monthly and yearly prices are available for all metals instruments from version 1.2.612 and above.
- 3. How can I see if a price was corrected?
  - In case of a price correction, the function returns the latest available version of the price (the latest corrected value). A correction flag field "Correction" is available in Fastmarkets' Excel Add-In version 1.2.612 and above. An output of "TRUE" denotes a price that has been corrected; an output of "FALSE" denotes a price not requiring a correction.
- 4. Are non-assessment days excluded/included from the time series?
  - The FillSetting parameter enables you to customize how time series data returns using the GetPriceHistory() function. Select from "ValueOnly" for assessment-only dates and prices; "CarryForward" to have the function roll the last available price forward if there is no updated price for a given day; or "Null" to display prices on their assessment dates and empty cells if there is no updated price for a given day.



- 5. Are holiday calendars taken into account when displaying price history?

  No. At present, Fastmarkets' Excel Add-in displays all weekdays (including public holidays) between the start and end dates of the period if the FillSetting parameter is set to "CarryForward" or "Null". For any manual calculation of averages using actual assessment prices, it is important to note and remove any public holidays as appropriate for that instrument. Alternatively, retrieving published average prices by specifying the Price Calculation Type (for example, MonthlyAverage) will already have public holidays removed in the calculation. Please refer to Fastmarkets' methodology for more information on holiday calendars for specific ferrous and non-ferrous market prices and averages: <a href="https://www.fastmarkets.com/about-us/methodology">https://www.fastmarkets.com/about-us/methodology</a>.
- 6. Can I use other Microsoft Excel functions such as =TODAY() or =NOW() to calculate or automate a specific date or number of days/periods in the GetPriceHistory() function? No. It is not recommended to nest or use volatile Microsoft Excel functions such as =TODAY() or =NOW() with Fastmarkets functions. For advice or assistance with this, please contact our Customer Success team: <a href="mailto:customersuccess@fastmarkets.com">customersuccess@fastmarkets.com</a>.

#### **GET PRICE**

The GetPrice() function enables you to view the price for one or more symbols and price calculation types as of a given date. The table below provides a summary of this function.

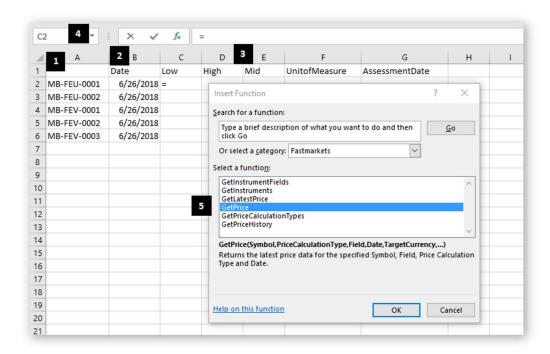
| Function summary        | The GetPrice() function fetches the price for a symbol and price calculation type as of a given date. It can be used to get the High, Mid and Currency fields, among others. Because the function applies to an individual cell, it gives the user control over the layout of the workbook. Once the table is laid out, the formula may be dragged or copied to fill other cells. |
|-------------------------|---|
| Input parameters        | Symbol; PriceCalculationType; Field; Date (Note: The TargetCurrency and TargetUnitOfMeasure parameters are unsupported/coming soon. You can leave these blank.) NOTE: Nesting volatile Microsoft Excel functions such as =TODAY() or =NOW() into date parameter inputs is not recommended.  |
| Output for the function | Inserts a single field (for instance, High, Low, Mid, Currency) into the selected cell that   |



|         | represents the most recent price data as of<br>the given date. The Excel Add-in rolls the last<br>available price forward. For example, a price<br>is updated on Monday. For the subsequent<br>Tuesday, Wednesday, Thursday and Friday,<br>the function will return Monday's price. |
|---------|---|
| Example | =GetPriceData("MB-AL-0001",<br>"Low","07/02/2018")  |

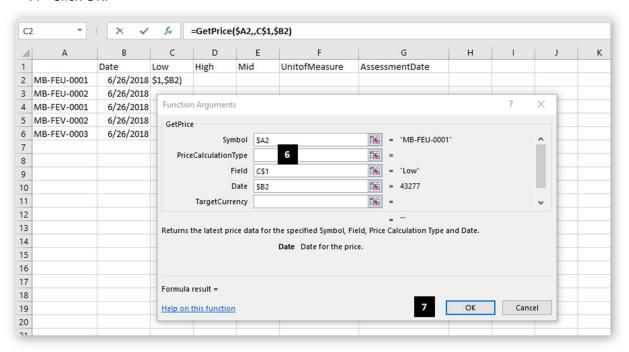
#### Get the price(s) for a specific date

- Copy and paste the required symbol(s) into a new sheet. For this example, we're using symbols "MB-FEU-0001," MB-FEU-0002," "MB-FEV-0001," "MB-FEV-0002" and "MB-FEV-0003."
- 2. Insert the date for which you want to display the price(s). For this example, we're using June 26, 2018.
- 3. Fill in the column headers with the required price fields. **Fastmarkets' Excel Add-in supports the fields outlined in the table in the Appendix.** For this example, we're using Low, High, Mid, UnitOfMeasure and AssessmentDate.
- 4. Select the cell where you want the first price to be inserted (for example, C2).
- 5. Click on the "function wizard" icon (  $f_x$  ), choose the "Fastmarkets" category and select the "GetPrice" function. Then click OK.

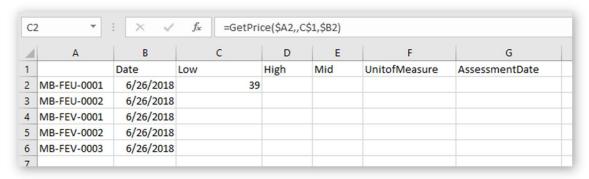




- 6. Fill in the parameters as below:
  - > **Symbol:** Click on the cell where the first price symbol has been inserted (in this example, A2). Apply the dollar sign (\$) sign to the column (\$A2). This will allow you to copy the formula to other cells.
  - Field: Click on the cell where the first price field "Low" has been inserted (in this example, C1). Apply the dollar sign (\$) sign to the row (C\$1). This will allow you to copy the formula to other cells.
  - ➤ Date: Click on the cell where the date has been inserted (in this example, B2). Apply the dollar sign (\$) sign to the row (\$B2). This will allow you to copy the formula to other cells.
  - TargetCurrency: This parameter is coming soon. It can be left blank.
  - > TargetUnitOfMeasure: This parameter is coming soon. It can be left blank.
- 7. Click OK.

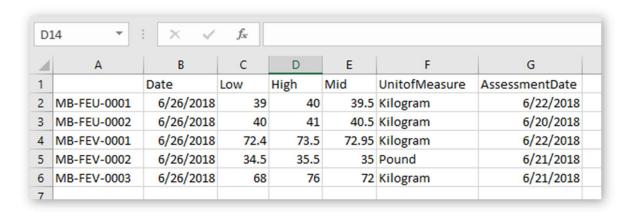


8. The low price for the first symbol – "MB-FEU-0001" – will appear in cell C2, as shown in the following screenshot.





9. Copy the formula over to get the information for all of the data fields you're seeking (see following screenshot). You can either grab the little square in the corner of the cell with the function in it and drag it across and down to highlight your entire table; or you can copy and paste the cell with the function in it into your entire table. Because you applied the dollar sign (\$) sign in the formula, all retrieved data will point to one of the price symbols in Column A and to one of the fields in Row 1.



**NOTE:** If you are retrieving Monthly average prices for a specific period, it is recommended that you **request the last date of the month**. Monthly average prices are published and stored historically on the last working day of each month. For example, to retrieve the monthly average for April 2019, enter 04/30/2019 in the date parameter – not 04/01/2019. Entering 04/01/2019 will return the monthly average for March (the latest average value for that date).



# **APPENDIX: ERROR MESSAGES**

The following table summarizes the error messages that may appear for Fastmarkets Excel Addin users, along with a description/examples for each. All of these error messages are cell-based – they indicate an error with the formula entered in the given cell.

| ERROR MESSAGE  | DESCRIPTION / EXAMPLE   |
|--|---|
| #N/A Server error: Instrument <symbol> does not exist</symbol>   | An invalid symbol was entered in the formula (for example, MB-AL-000000001).  |
| #N/A Server error: The date '01-01-2030' represents future time. | The StartDate or EndDate represents future time.  |
| #N/A Invalid field: (field name)                                 | An invalid field was entered in the formula. For example, the user enters the following:  =GetPriceData("MB-AL-0001","Open", "07/03/2018"), which specifies the field "Open" that is not among the supported fields for physical prices. In this example, the error message will display: #N/A Invalid field: Open. |
| #N/A Invalid parameter: (parameter name)                         | A parameter is missing in the formula. For example, the user tries to create the GetPriceData function without specifying the date. In this instance, the error message will display: #N/A Invalid parameter: Date.   |
| #N/A Invalid parameter:<br>VerticalHorizontalOrder               | An invalid value was entered for the VerticalHorizontalOrder parameter (something other than "H" or "V").   |
| #N/A Invalid parameter: AscendingDescending                      | An invalid value was entered for the AscendingDescending parameter (something other than "D" or "A").   |
| #N/A Invalid parameter: PriceCalculationType                     | Price calculation type cannot be found in the database.   |
| #N/A Invalid parameter: FillSetting                              | The value entered for "FillSettings" is other than "ValueOnly", "CarryForward", "Null".   |
| #N/A No Price available for selected calculation type            | There is no price available for the selected price calculation type.  |
| #N/A Invalid parameter: End Date                                 | An invalid End Date parameter was entered (for example, the user specified an End Date that comes before the Start Date).   |



| #N/A Invalid parameter: Filter  | An invalid Filter was entered in the GetReferenceData() function that doesn't return any results. |
|---|---|
| #N/A Log in required  | You are not logged in.  |
| #N/A Server error: You do not have access to instrument <symbol></symbol> | You are not authorized to see the given price.  |
| #N/A Update required  | The user's version is below the minimum supported version.  |
| #N/A Timeout  | A network error occurred.   |
| #N/A Server error   | A server error occurred.  |
| #N/A No data for given date   | No prices are available for the requested symbol and date.  |
| #N/A N/A  | Any other error case that is not covered above.   |

# **APPENDIX: FIELD DESCRIPTIONS**

| FIELD          | DESCRIPTION  | RESULT  |
|----------------|--|---|
| Date           | Date stamp for returned data.  | dd/mm/yyyy or mm/dd/yyyy –<br>Excel date value that defaults to<br>user's local date format                       |
| AssessmentDate | Date and time of most recent or specified assessment   | dd/mm/yyyy or mm/dd/yyyy –<br>Excel date value that defaults to<br>your local date format                         |
| Period         | Text field providing a description of the period where PriceCalculationType selected is an average | Note this will be blank if<br>PriceCalculationType = Actuals<br>e.g. 17-23 Nov 2018 for a weekly<br>average value |
| Low            | Low price  | e.g. 88   |
| Mid            | Mid price  | e.g. 89   |
| High           | High price   | e.g. 90   |
| Currency       | Currency description   | e.g. 3 letter ISO Currency Code<br>EUR  |
| UnitOfMeasure  | Unit of measure description  | e.g. Tonne  |
| Product        | Commodity product name   | e.g. Aluminium 99.7%  |
| Location       | Instrument location of origin  | e.g. Japan  |
| Source         | Data source of the assessed value  | e.g. American Metal Market or<br>Metal Bulletin   |
| Incoterm       | Incoterm description   | e.g. Cost, insurance and freight  |
| Commodity      | Commodity  | e.g. Copper   |



| Price Type        | The type of published price  | e.g. Index  |
|-------------------|--|---|
| Frequency         | Frequency of assessment  | e.g. Weekly   |
| Status            | Status description of symbol   | e.g. Active, Discontinued   |
| Correction        | Revision flag indicating a price value has been corrected  | e.g. TRUE (price value has been corrected) or FALSE (price value has not been corrected)                  |
| Appraisal price   | Flag indicating a price is undergoing an appraisal process prior to final assessment.  Note – this may not be available for every symbol | e.g. TRUE (price is undergoing appraisal process) or FALSE (price is not undergoing appraisal process)    |
| Pricing rationale | Text information providing editorial rationale behind an assessment price. Note – this may not be available for every symbol             | e.g. Premium unchanged with majority of participants out of the market due to year-end holidays.          |
| LowChange         | Difference between low price of previous assessment and low price of latest assessment   | e.g1.0  |
| LowChange%        | Difference between low price of previous assessment and low price of latest assessment expressed as a decimal value                      | e.g. 0.01 = 1%, -0.01 = -1%   |
| MidChange         | Difference between mid price of previous assessment and mid price of latest assessment   | e.g1.0  |
| MidChange%        | Difference between mid price of previous assessment and mid price of latest assessment expressed as a decimal value                      | e.g. 0.01 = 1%, -0.01 = -1%   |
| HighChange        | Difference between high price of previous assessment and high price of latest assessment   | e.g1.0  |
| HighChange%       | Difference between high price of previous assessment and high price of latest assessment expressed as a decimal value                    | e.g. 0.01 = 1%, -0.01 = -1%   |
| Description       | Full description of instrument   | e.g. Aluminium Scrap,<br>Commercial turnings, United<br>Kingdom, delivered consumer<br>works, £ per tonne |
|                   |  |   |

# **APPENDIX: HOLIDAY CALENDAR**

A link to the latest Fastmarkets pricing holiday calendar can be found at the bottom of the Fastmarkets methodology website here - <a href="https://www.fastmarkets.com/about-us/methodology">https://www.fastmarkets.com/about-us/methodology</a>.