

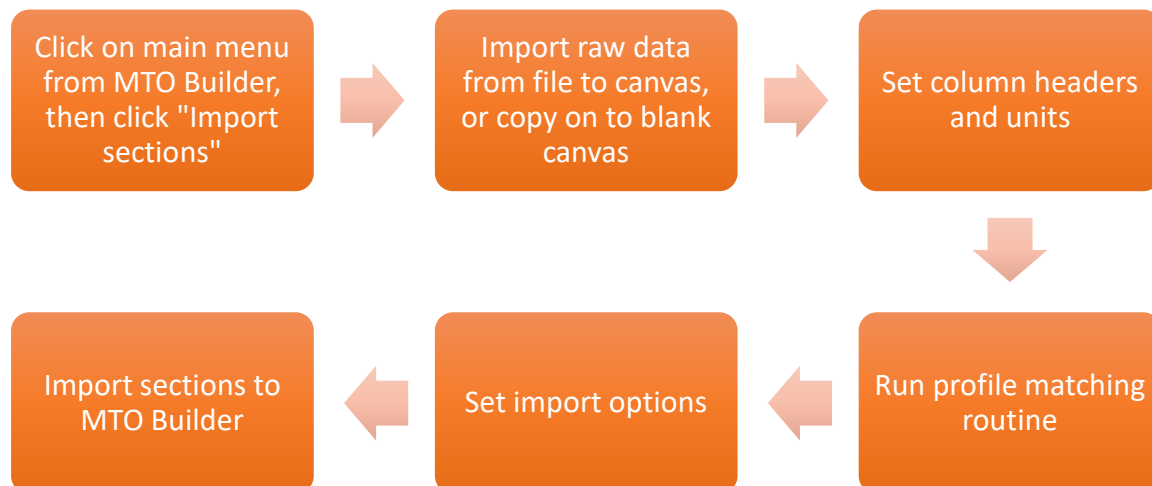


QUICK START GUIDE 2: THE IMPORT CANVAS

This note guide users on how to import sections quickly from a raw data file provided by a client.

1. OVERVIEW

The process followed when importing data is as follows:

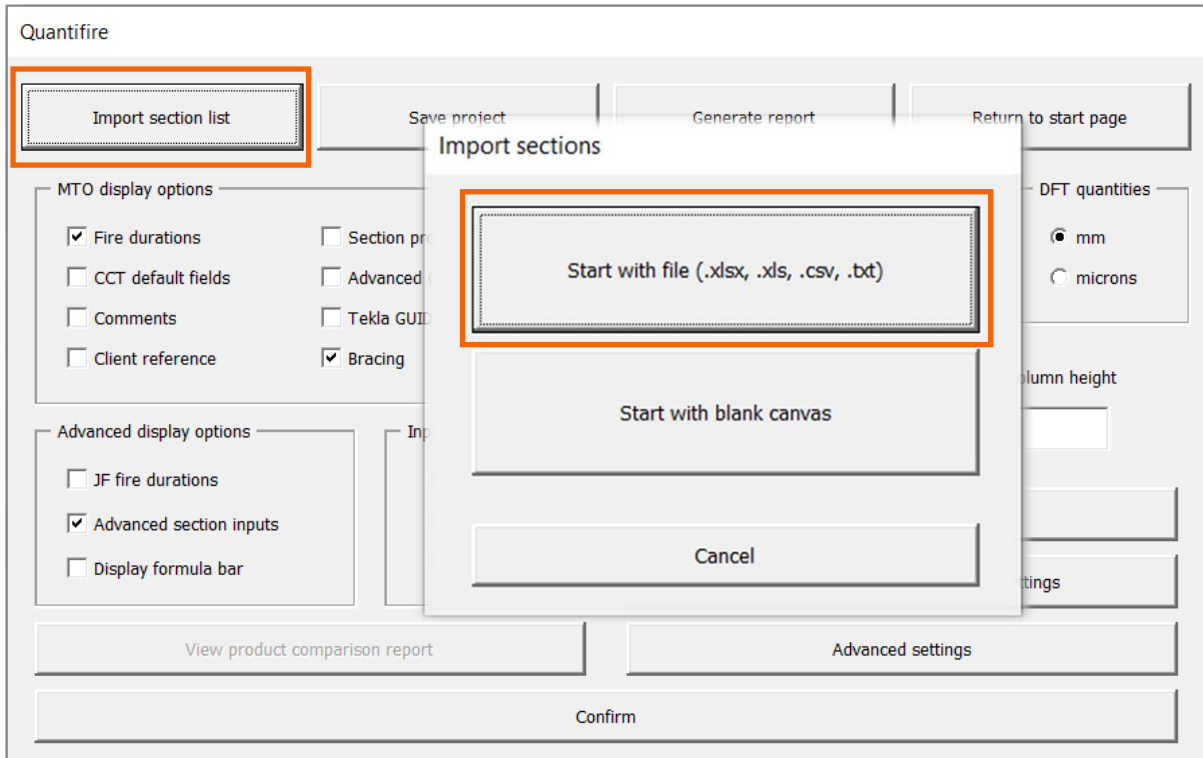


2. ACCESSING THE IMPORT FEATURE

From the MTO Builder page click the Quantifire logo to open the main menu. The import feature is accessed via the top-left button. The user then has the choice of selecting a raw-data file to import, or they can start with a blank canvas. Compatible raw-data file types include .xlsx, .xls, .xlsm, .csv, and .txt files.

Use a blank canvas if the raw data is in a format not compatible with Quantifire's built-in recognition routines. When writing or pasting sections note that column A is reserved for the Quantifire matched section. Do not enter information into this column manually.

Note: the import routine is compatible with cellular beams, but only for a single design of hole shape, size and spacing.



The canvas consists of three main parts as shown below. Note: Quantifire must match each section on the canvas with a corresponding built-in section before it can be imported into MTO Builder. This is explained further below.

| Quantifire section | profile | sides | use | rating | length | area | zone |
|--------------------------|------------------|-------|------|--------|--------|----------|--------------------------|
| | Designation | Cell | Exp | Use | F/R | Length | Area m2 |
| 8 PFC (UK) 150x75x18 | 1 150x75x18 | N | 45 / | Beam | 60 min | 588.91 | |
| 9 SHS (EU) 250x250x12.0 | 2 5H5250x250x12 | N | 45 / | Beam | 60 min | 28.8 | |
| 10 SHS (UK) 90x90x4.0 | 3 SH590x90x4 | N | 45 / | Brace | 60 min | 1868.63 | |
| 11 JB (UK) 152x89x16 | 4 152x89x16 | N | 45 / | Beam | 60 min | 6.46 | |
| 12 JB (UK) 203x102x23 | 5 203x102x23 | N | 45 / | Beam | 60 min | 304.37 | |
| 13 JB (UK) 254x146x43 | 6 254x146x43 | N | 45 / | Beam | 60 min | 1886.92 | |
| 14 JB (UK) 356x171x57 | 7 356x171x57 | N | 45 / | Beam | 60 min | 4116.26 | |
| 15 JB (UK) 406x178x67 | 8 406x178x67 | N | 45 / | Beam | 60 min | 845.28 | |
| 16 JB (UK) 457x152x74 | 9 457x152x74 | N | 45 / | Beam | 60 min | 153.72 | |
| 17 JB (UK) 457x191x89 | 10 457x191x89 | N | 45 / | Beam | 60 min | 1982.11 | |
| 18 UC (UK) 203x203x60 | 11 203x203x60 | N | 45 / | Beam | 60 min | 59.92 | |
| 19 UC (UK) 254x254x73 | 12 254x254x73 | N | 45 / | Beam | 60 min | 647.44 | |
| 20 JB (UK) 610x178x92 | 13 610x178x92 | N | 45 / | Beam | 60 min | 2650.78 | 4977.1 Roof Steel |
| 21 UC (UK) 152x152x51 | 14 152x152x51 | N | 45 / | Beam | 60 min | 215.43 | 201.42 Roof Steel |
| 22 SHS (UK) 90x90x5.0 | 15 SH590x90x5 | N | 45 / | Brace | 60 min | 3827.9 | 1312.33 Roof Steel |
| 23 JB (UK) 127x76x13 | 16 127x76x13 | N | 45 / | Column | 60 min | 0.93 | 0.5 Column |
| 24 JB (UK) 152x89x16 | 17 152x89x16 | N | 45 / | Beam | 60 min | 31.83 | 20.3 Column |
| 25 UC (UK) 152x152x51 | 18 152x152x51 | N | 45 / | Beam | 60 min | 0.93 | 0.87 Column |
| 26 JB (UK) 254x146x31 | 19 254x146x31 | N | 35 / | Beam | 60 min | 374.338 | 397.6 Secondary Beams |
| 27 JB (UK) 254x146x31 | 19 254x146x31 | N | 35 / | Beam | 60 min | 104.382 | 110.87 Primary Beams |
| 28 JB (UK) 305x165x40 | 20 305x165x40 | N | 35 / | Beam | 60 min | 1048.29 | 1299.38 Secondary Beams |
| 29 JB (UK) 356x171x57 | 21 356x171x57 | N | 35 / | Beam | 60 min | 19108.49 | 26199.44 Secondary Beams |
| 30 JB (UK) 356x171x57 | 21 356x171x57 | N | 35 / | Beam | 60 min | 9242.29 | 12672 Primary Beams |
| 31 JB (UK) 406x178x67 | 22 406x178x67 | N | 35 / | Beam | 60 min | 765.258 | 1147.03 Secondary Beams |
| 32 JB (UK) 406x178x67 | 22 406x178x67 | N | 35 / | Beam | 60 min | 1020.762 | 1530.01 Primary Beams |
| 33 JB (UK) 457x152x74 | 23 457x152x74 | N | 35 / | Beam | 60 min | 14.4 | 21.67 Primary Beams |
| 34 JB (UK) 457x191x89 | 24 457x191x89 | N | 35 / | Beam | 60 min | 980.635 | 1623.82 Secondary Beams |
| 35 JB (UK) 457x191x89 | 24 457x191x89 | N | 35 / | Beam | 60 min | 5481.843 | 9077.22 Primary Beams |
| 36 JB (UK) 457x191x89 | 24 457x191x89 | N | 35 / | Beam | 60 min | 25.162 | 48.29 Other steel |
| 37 JB (UK) 610x229x125 | 25 610x229x125 | N | 35 / | Beam | 60 min | 11722.21 | 24555.62 Primary Beams |
| 38 JB (UK) 610x305x149 | 26 610x305x149 | N | 35 / | Beam | 60 min | 89.86 | 214.95 Secondary Beams |
| 39 JB (UK) 610x305x149 | 26 610x305x149 | N | 35 / | Beam | 60 min | 192.88 | 461.38 Primary Beams |
| 40 UC (UK) 356x368x133 | 27 356x368x133 | N | 35 / | Beam | 60 min | 254.98 | 549.57 Other steel |
| 41 JB (UK) 610x178x92 | 28 610x178x92 | N | 35 / | Beam | 60 min | 194.397 | 364.99 Secondary Beams |
| 42 JB (UK) 610x178x92 | 28 610x178x92 | N | 35 / | Beam | 60 min | 100.803 | 189.27 Primary Beams |
| 43 UC (UK) 305x305x97 | 29 305x305x97 | N | 35 / | Beam | 60 min | 169.99 | 304.48 Other steel |
| 44 SHS (UK) 150x150x10.0 | 30 SH5150x150x10 | N | 35 / | Beam | 60 min | 1610.2 | 910.83 Other steel |
| 45 SHS (UK) 200x200x10.0 | 31 SH5200x200x10 | N | 35 / | Beam | 60 min | 81.75 | 62.59 Other steel |
| 46 SHS (EU) 250x250x12.0 | 32 SH5250x250x12 | N | 35 / | Beam | 60 min | 86.46 | 82.9 Other steel |
| 47 JB (UK) 305x165x40 | 33 305x165x40 | N | 35 / | Beam | 60 min | 30.5 | 57.8 Other steel |
| 48 JB (UK) 356x171x57 | 34 356x171x57 | N | 35 / | Beam | 60 min | 44.59 | 61.69 Other steel |
| 49 JB (UK) 457x191x89 | 35 457x191x89 | N | 35 / | Beam | 60 min | 299.76 | 496.36 Other steel |
| 50 UC (UK) 152x152x37 | 36 152x152x37 | N | 35 / | Beam | 60 min | 133.88 | 122.12 Other steel |
| 51 UC (UK) 203x203x60 | 37 203x203x60 | N | 35 / | Beam | 60 min | 441.58 | 532.58 Other steel |
| 52 SHS (UK) 90x90x5x137 | 38 90x90x5x137 | N | 35 / | Beam | 60 min | 78.8 | 57.53 Other steel |

3. SETTING COLUMN HEADERS AND UNITS

Correct setting of the column headers is critical for the import function to work. After importing a raw data file or manually entering the section list, the column headers are set by clicking *Edit columns*. A menu will open where the user can select the columns that are present and set the corresponding canvas column.

Note that Quantifire will automatically attempt to detect the columns present when a raw data file is imported. This process can be manually initiated via the *Edit columns* button.

Click *Accept* and the import canvas will update, showing the headers in rows 5 to 7. Up to three headers can be assigned to the same column.

If the profile name is split across columns click this box and set the last column as well. Quantifire will combine the contents of all columns specified when searching within the profile text

Auto-detects column headers present in data (by searching for recognised text terms). Deletes any previous header settings

Click to use the original profile reference as the client reference (uses the combined reference if multiple profile columns are selected)

Import Manager

Mandatory profile column(s)

Profile column: C :

Reset column headers (automatically detect headers)

Use the original profile designation as the client reference

Optional columns

| | Column: | | Column: |
|---------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------|
| <input checked="" type="checkbox"/> Zone name | J | <input type="checkbox"/> Comment | |
| <input type="checkbox"/> Tekla GUID | | <input type="checkbox"/> Client reference/ID | |
| <input checked="" type="checkbox"/> Total fire duration | G | <input type="checkbox"/> Jet fire duration | |
| <input checked="" type="checkbox"/> Use | F | <input checked="" type="checkbox"/> Sides | E |
| <input type="checkbox"/> Section factor | | <input type="checkbox"/> Quantity | |
| <input checked="" type="checkbox"/> Length | H | <input checked="" type="checkbox"/> Surface area | I |
| <input type="checkbox"/> Weight | | <input type="checkbox"/> Bracing | |
| <input type="checkbox"/> Utilisation | | <input type="checkbox"/> Tcrit | |
| <input type="checkbox"/> Steel grade | | <input type="checkbox"/> Show cell beam import columns | |

Cancel

Accept and update canvas

Cellular beam column headers can be defined. The designation text for the cellular beam must still be entered in the *Profile* column. Attributes associated with the beam's geometry and failure criteria can be set by the user in their respective columns. Where these are not provided by the user, the conservative defaults in the settings will be adopted.

Check this box to display the cellular beam optional column headers. When checked, the dialogue box will extend downwards to show the relevant inputs.

Import Manager

Mandatory profile column(s)

Profile column: :

Use the original profile designation as the client reference

Optional columns

| | Column: | | Column: |
|----------------------------------------------|----------------------|-------------------------------------------------------------------|----------------------|
| <input type="checkbox"/> Zone name | <input type="text"/> | <input type="checkbox"/> Comment | <input type="text"/> |
| <input type="checkbox"/> Tekla GUID | <input type="text"/> | <input type="checkbox"/> Client reference/ID | <input type="text"/> |
| <input type="checkbox"/> Total fire duration | <input type="text"/> | <input type="checkbox"/> Jet fire duration | <input type="text"/> |
| <input type="checkbox"/> Use | <input type="text"/> | <input type="checkbox"/> Sides | <input type="text"/> |
| <input type="checkbox"/> Section factor | <input type="text"/> | <input type="checkbox"/> Quantity | <input type="text"/> |
| <input type="checkbox"/> Length | <input type="text"/> | <input type="checkbox"/> Surface area | <input type="text"/> |
| <input type="checkbox"/> Weight | <input type="text"/> | <input type="checkbox"/> Bracing | <input type="text"/> |
| <input type="checkbox"/> Utilisation | <input type="text"/> | <input type="checkbox"/> Tcrit | <input type="text"/> |
| <input type="checkbox"/> Steel grade | <input type="text"/> | <input checked="" type="checkbox"/> Show cell beam import columns | |

Cellular beam optional columns

| | | | |
|------------------------------------------------------------------|----------------------|------------------------------------------------|----------------------|
| <input type="checkbox"/> Cell beams are cut from serial sections | | <input type="checkbox"/> Total depth | <input type="text"/> |
| Top tee size | <input type="text"/> | <input type="checkbox"/> Hole shape | <input type="text"/> |
| Bottom tee size | <input type="text"/> | <input type="checkbox"/> Hole diameter (width) | <input type="text"/> |
| <input type="checkbox"/> Hole spacing | <input type="text"/> | <input type="checkbox"/> Hole height | <input type="text"/> |
| <input type="checkbox"/> Web post width | <input type="text"/> | <input type="checkbox"/> Minimum endpost | <input type="text"/> |
| <input type="checkbox"/> Web Tcrit | <input type="text"/> | <input type="checkbox"/> Flange Tcrit | <input type="text"/> |
| <input type="checkbox"/> Web section factor | <input type="text"/> | <input type="checkbox"/> Flange section factor | <input type="text"/> |

If the serial section (top and bottom tee) columns are shown, do not put anything in them. They will be filled automatically during the profile matching, based on the given profile designation.

Only one of either (a) web post width, or (b) spacing, can be selected.

4. QUANTIFIRE SECTION MATCHING

Before sections/profiles can be imported into Quantifire, they must be matched with the equivalent section in the Quantifire database, or entered as Quantifire custom sections. Quantifire will attempt to match the sections automatically when a raw data file is imported. If working from a blank canvas this must be initiated manually via the *Profile matching* button. This opens the options as shown below.

The section matching routine will attempt to match or build sections in the following order:

- 1) Custom section builder for non-serial types (plate girders, cell beams, concrete filled tubes, built up boxes)
- 2) Serial section match for the types selected
- 3) Serial section match without a category code text match, if enabled
- 4) Custom section builder for serial types when an ideal match is not found (CHS, SHS, RHS, T, L, Channel and Flat sections). Note: serials sections typically have better properties and so are prioritised.

Select the serial types to include in the serial section match. Toggle quickly between all types and only those loaded on MTO Builder using the buttons at the bottom

Tick to enable building of custom sections and enter the text that must be matched to trigger custom section creation.
Note: this feature finds numeric values in the profile name and uses them to build a section if the number of dimensions found matches with expected (e.g. a CHS section requires 2 dimensions only). Other text is ignored.

Profile Match Settings

Select the serial sections to include

Note including unnecessary sections may affect performance.

- UK
- North America (Imperial)
- North America (Metric)
- Europe
- Australia
- India
- Russia
- Pipe
- Plate
- New Zealand
- China

Enable serial search without category match (slower)

Toggle: all serials Toggle: loaded serials Cancel Match sections

Set custom section builder options

Enable custom section builder

Plate girders I,PG,F/W Cellular beams cb,fab,westok

Built-up-box Built up box min outstand: 0 mm

SHS/RHS rhs,shs CHS chs,Ø

SHS/RHS c.f.t CHS c.f.t cft,c.f.t

Solid square Solid round Ø

Plate/Flats fl,p,bl Channels

Angles Tees

Custom section builder notes:

Enter text to search for (separated by commas only)

Serial sections typically have lower section factors due to the influence of root radius. Section types with serials sections available will attempt to match a serial size before building a custom section.

Text other than the 'matched' text will be ignored. The number of dimensions given must match that expected or no match will be returned.

The following assumptions are made: depth>width, flange thickness>web thickness, wider and/or thicker flanges on the bottom. If incorrect, the matched dimensions should be changed manually.

Options

Ignore profiles including: nut,washer,bolt,anchor

Ignore integer-only values in the profile column BUP sections BF width greater than depth

Enabling this option will search even when category code text is not found (e.g. 406x178x60 will be found as UB 406x178x60). Note this will slow the matching routine

If these are enabled, the section matching routine will ignore any line with text or integer-only values before attempting to match serials or build customs.

By default the largest dimension is depth. For BUP's enable to use as bottom flange width

5. MANUALLY MATCHING SECTIONS

The automatic matching routines may give an incorrect result or no result. To correct or remove a matched section, click on any row in column A. In the window that pops-up the user can select an alternative section, enter a custom section, or remove the section entirely.

| | | |
|----|--------------------|--------------|
| 9 | | |
| 10 | | PROFILE |
| 11 | CHS (EU) 101.6x4 | CHS101,6X4 |
| 12 | CHS (EU) 114.3x5 | CHS114,3X5 |
| 13 | CHS (EU) 139.7x6.3 | CHS139,7X6,3 |
| 14 | CHS (EU) 60.3x4 | CHS60,3X4 |
| 15 | CHS (EU) 88.9x4 | CHS88,9X4 |
| 16 | CHS (EU) 88.9x5 | CHS88,9X5 |
| 17 | HE (EU) 140 A | HEA140 |
| 18 | HE (EU) 220 A | HEA220 |
| 19 | HE (EU) 260 A | HEA260 |
| 20 | HE (EU) 240 A | HEA240 |
| 21 | HE (EU) 280 B | HEB280 |
| 22 | IPE (EU) 160 | IPE160 |
| 23 | L (EU) 80x80x8 | L80/8 |
| 24 | UPN (EU) 240 | UPN240 |
| 25 | UPN (EU) 280 | UPN280 |
| 26 | | |
| 27 | Plate 10mm | PL10 |
| 28 | Plate 12mm | PL12 |
| 29 | Plate 15mm | PL15 |
| 30 | Plate 20mm | PL20 |
| 31 | Plate 8mm | PL8 |
| 32 | Plate 4mm | PL4 |
| 33 | | |
| 34 | | Grand Total |
| 35 | | |
| 36 | | |
| 37 | | |
| 38 | | |

Select Quantifire section

Search section size

- UB (UK)
- UC (UK)
- UBP (UK)
- J (UK)
- RHS (UK)
- SHS (UK)
- CHS (UK)
- EHS (UK)
- PFC (UK)
- T (UK)
- L (UK)
- Slimflor beam (UK)

Enter a custom section. If a sides column is shown you can also set the sides at next to the custom section.

Apply change to:

This section only

All original ref: 'CHS101,6X4'

Custom Remove from sections

Cancel Insert

Choose whether to change the single profile selected, or whether to change all identical profiles (uses the original reference, not column A)

Deletes any profile from column A. The import routine will then ignore these lines.

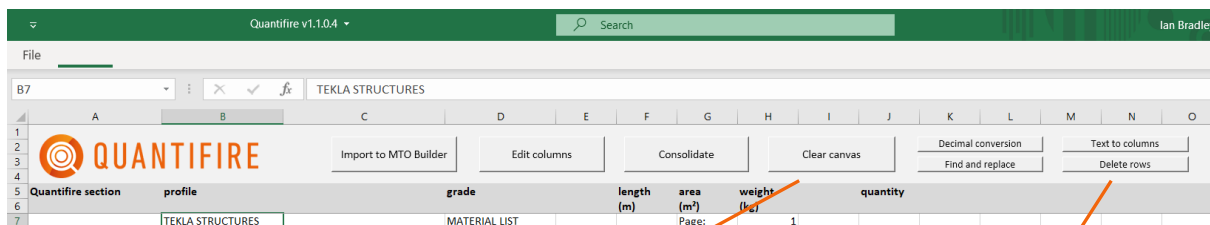
6. CANVAS FEATURES

Length, area and weight columns have units displayed underneath. Click on the units directly to change them as appropriate.

| de | | length | area | weight | quantity |
|---------------|--|--------|--------------------|-----------|----------|
| | | (m) | (m ²) | (kg) | |
| MATERIAL LIST | | | (m ²) | 1 | |
| | | | (ft ²) | 244.00 | Platinum |
| | | | (mm ²) | 07,2018 | R60 |
| | | | (in ²) | | |
| | | | Time: | 0.7368287 | T550C & |

There are further features to help the user manipulate data they load or copy/paste onto the canvas:

- Text to columns allows users to break text across columns
- Find and replace allows the user to swap unrecognised text for text understood by Quantifire (e.g. "Compression member" for "Column")
- Decimal conversion will swap all points for commas and vice-versa (note that regional setting may automatically alter what is displayed on-screen, however this does not matter if the number is correct).



Clears the canvas and gives the option of returning to the MTO builder screen

Delete rows, separated by commas or given as ranges (e.g. 1,2,3-4)

7. IMPORTING TO MTO BUILDER

Once the canvas is complete, click Import to MTO Builder. Only rows with a profile in column A are considered, regardless of whether there is text present in other columns.

The main import options are shown below. The length, area and weight columns must be set to either total or individual. Note that when multiple dimensioning columns are present (e.g. length and area) Quantifire considers length dominant, and calculates the surface area and weight per metre of the sections based on the imported length from in-built section dimensions. When multiple quantity columns are present (e.g. weight and area) this can lead to small discrepancies between the import and the original data. To force Quantifire to use the values on the canvas click the appropriate boxes.

If both length and area are given, the Quantifire heated perimeter may not match that used by the client.

By default length is dominant in Quantifire and the areas will be re-calculated.

To enforce use of client - given areas click this option.

It is common for areas to be reported as total surface areas, ignoring the reduction in fireproofed areas for beams due to the concrete slab. To convert areas of beams to account for a reduction from 4 sides to 3 sides click to use the canvas area values and then click the additional box that appears.

Some text columns (use, bracing) may be present as headers, not as entries for every section. Clicking *Text columns contain gaps* will retain the last detected value during import until an alternative value is found. Leaving this unchecked will cause Quantifire to revert to the default for that section type unless a specific value is found on every row. Note that the values must be in the same row as Quantifire profiles in column A, otherwise they will be ignored.

If not using Tcrit values from the canvas the user will be prompted which method to use, and then Quantifire will copy the sections to the MTO Builder.

8. ZONES

By default, all sections are entered into whatever zone was selected on the MTO Builder page when the import feature was initialised.



Sections can be imported directly into zones by enabling a zones column on the *Edit columns* form. This process will create the necessary zones if they do not exist.

Zone names should be entered in the zones column. Ensure they are either in the same row as a Quantifire matched section in column A (see below) or are above the zone (as headers) and select the appropriate option when importing. Note that zone names are always retained until an alternative name is detected, hence there is no need to copy zone names across all sections as shown below.

| | A | B | C | D | E | F |
|----|-----------------------|--------------|-------------|-------------------------|---------|--------------|
| 1 | | | | | | |
| 2 | Import to MTO Builder | | | | | Edit columns |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | Quantifire section | profile | weight (kg) | area (mm ²) | zone | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | PROFILE | WEIGHT | SURFACE | | |
| 11 | CHS (EU) 101.6x4 | CHS101,6X4 | | 11859.1 385.31 | 385.31 | Tubes |
| 12 | CHS (EU) 114.3x5 | CHS114,3X5 | | 5933.9 157.28 | 157.28 | |
| 13 | CHS (EU) 139.7x6.3 | CHS139,7X6,3 | | 9027.9 187.65 | 187.65 | |
| 14 | CHS (EU) 60.3x4 | CHS60,3X4 | | 8388 283.31 | 283.31 | |
| 15 | CHS (EU) 88.9x4 | CHS88,9X4 | | 8985.8 272.22 | 272.22 | |
| 16 | CHS (EU) 88.9x5 | CHS88,9X5 | | 6024.9 162.89 | 162.89 | |
| 17 | HE (EU) 140 A | HEA140 | | 2015.3 63.68 | 63.68 | Columns |
| 18 | HE (EU) 220 A | HEA220 | | 20048.5 488.83 | 488.83 | |
| 19 | HE (EU) 260 A | HEA260 | | 29435.3 628.99 | 628.99 | |
| 20 | HE (EU) 240 A | HEA240 | | 4739 79.1 | 79.1 | |
| 21 | HE (EU) 280 B | HEB280 | | 57493 904 | 904 | |
| 22 | IPE (EU) 160 | IPE160 | | 33785.5 1303.32 | 1303.32 | |
| 23 | L (EU) 80x80x8 | L80/8 | | 725.5 23.67 | 23.67 | |
| 24 | UPN (EU) 240 | UPN240 | | 2642.8 60.9 | 60.9 | |
| 25 | UPN (EU) 280 | UPN280 | | 508.8 10.8 | 10.8 | |
| 26 | | | | | | |
| 27 | Plate 10mm | PL10 | | 1975.8 55.05 | 55.05 | Plate |
| 28 | Plate 12mm | PL12 | | 2226.4 55.56 | 55.56 | |
| 29 | Plate 15mm | PL15 | | 1782.9 36.55 | 36.55 | |
| 30 | Plate 20mm | PL20 | | 5204.4 81.94 | 81.94 | |
| 31 | Plate 8mm | PL8 | | 389.7 13.76 | 13.76 | |
| 32 | Plate 4mm | PL4 | | 49.1 3.4 | 3.4 | |
| 33 | | | | | | |
| 34 | | Grand Total | | 213241.6 5258.21 | 5258.21 | |
| 35 | | | | | | |
| 36 | | | | | | |
| 37 | | | | | | |

Questions? Please refer to the main user guide or contact us at quantifire@pfp-specialists.co.uk