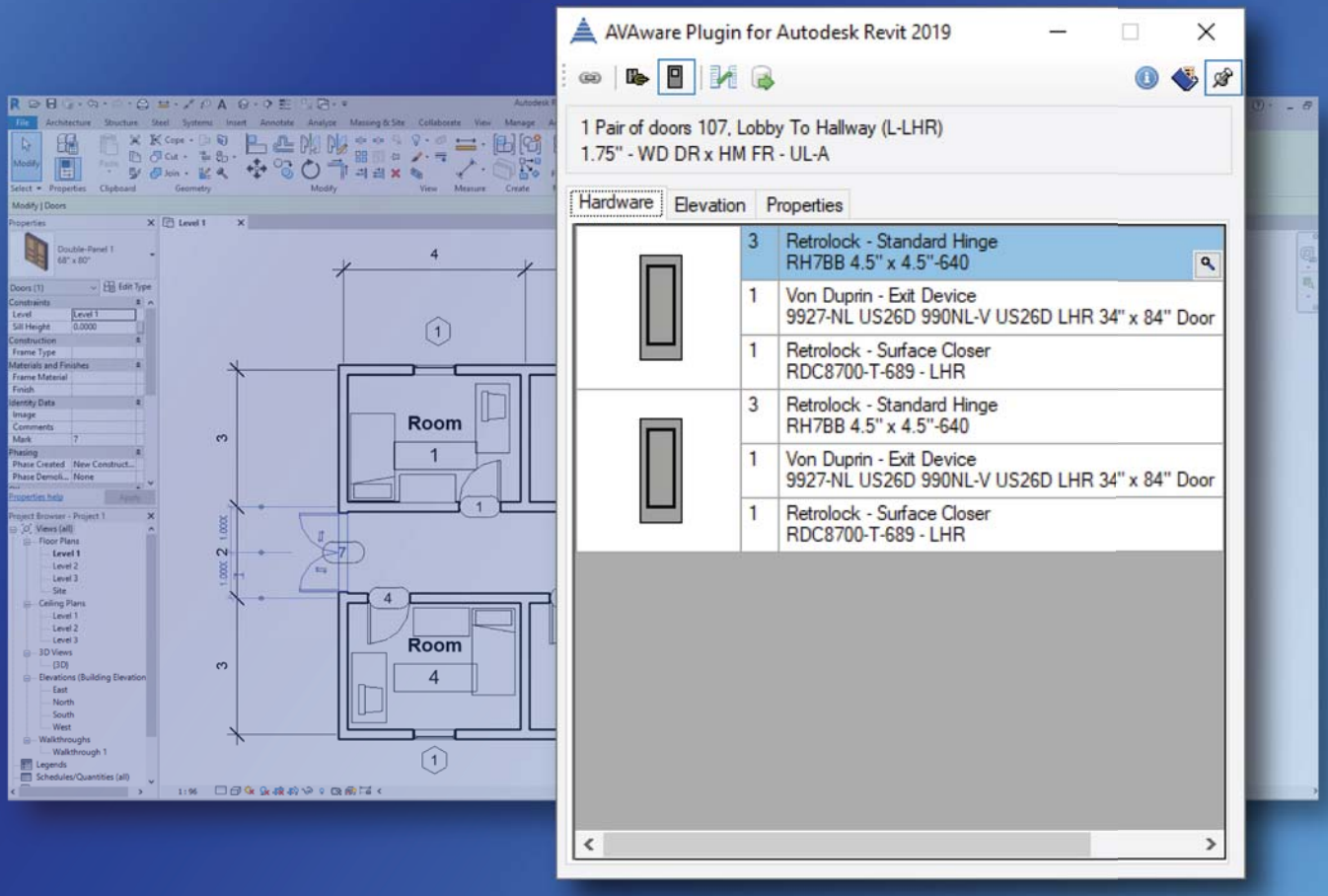
AVAware Plugin
for Autodesk® Revit®



AVAWARE

February 2019

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*The **AVAware Plugin for Autodesk® Revit®** document is meant to help familiarize you with **AVAware Technologies** software The following the practices and examples described in this Handbook is considered a condition of optimal usage However, nothing in this Handbook alters the fact that at the end of the day all information should be verified for accurateness. You are responsible for reading, understanding, and complying with the provisions of this guide. Our objective is to provide you with information for you to generate your own projects without assistance.*

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Designed by AVAware

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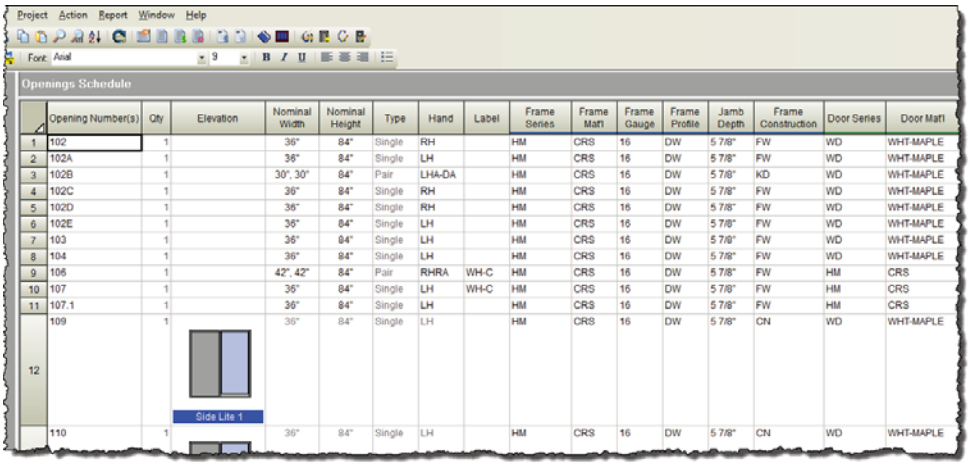
AVAware Plugin for Autodesk® Revit®

Introduced in Release 18.2, **AVAproject** features a module that facilitates the import of data extracted directly from **Autodesk Revit** building information modeling (BIM) software.



	Opening Number(s)	Qty	Elevation	Nominal Width	Nominal Height	Type	Hand	Label	Frame Series	Frame Matl	Frame Gauge	Frame Profile	Jamb Depth	Frame Construction	Door Series	Door Matl
1	102	1		36"	84"	Single	RH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
2	102A	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
3	102B	1		30", 30"	84"	Pair	LHA-DA		HM	CRS	16	DW	5 7/8"	KD	WD	WHT-MAPLE
4	102C	1		36"	84"	Single	RH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
5	102D	1		36"	84"	Single	RH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
6	102E	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
7	103	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
8	104	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	FW	WD	WHT-MAPLE
9	106	1		42", 42"	84"	Pair	RHRA	WH-C	HM	CRS	16	DW	5 7/8"	FW	HM	CRS
10	107	1		36"	84"	Single	LH	WH-C	HM	CRS	16	DW	5 7/8"	FW	HM	CRS
11	107.1	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	FW	HM	CRS
12	109	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	CN	WD	WHT-MAPLE
	110	1		36"	84"	Single	LH		HM	CRS	16	DW	5 7/8"	CN	WD	WHT-MAPLE

Background

Building Information Modeling (“BIM”) was a concept was first envisioned in the 1970s, and evolved over the next two decades through a series of industry papers and early software initiatives. It wasn’t until **Autodesk, Inc.** published a white paper in 2002 that BIM truly achieved the momentum it required to become the industry standard it is today.

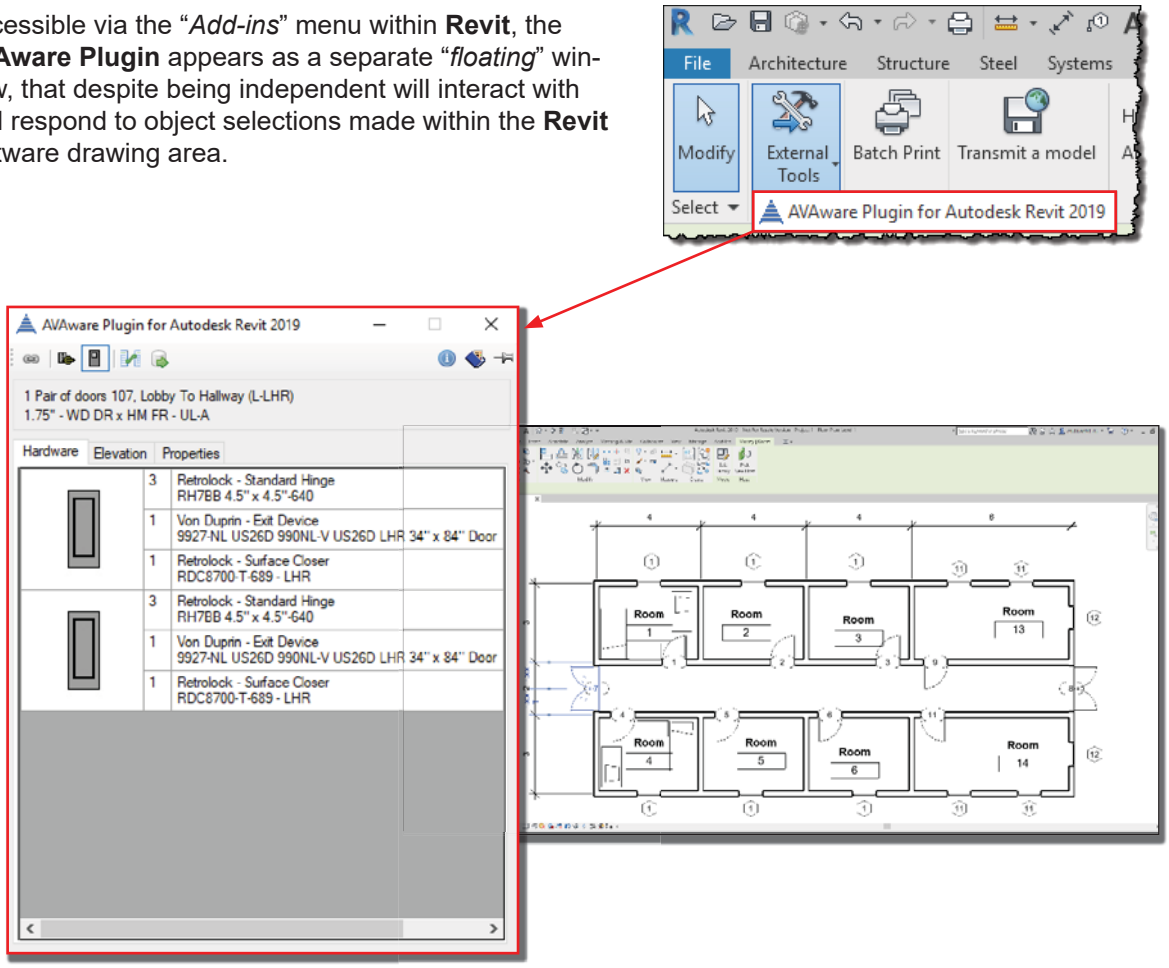
It’s not surprising therefore that an industry pioneer would create the most widely adopted architectural design package to embrace the benefits of this emergent standard – **Autodesk® Revit®**

This powerful software tool is used by countless architects, engineers and designers throughout the industry and the models created in it are the source for the critical information required by another industry leading software package **AVAproject** to estimate and detail complex projects.

Overview

The process of extracting data from a **Revit**® model is facilitated through the use of the **AVAware Plugin**, a software module that installs as a companion or "*Add-in*" to **Revit** software.

Accessible via the "*Add-ins*" menu within **Revit**, the **AVAware Plugin** appears as a separate "*floating*" window, that despite being independent will interact with and respond to object selections made within the **Revit** software drawing area.

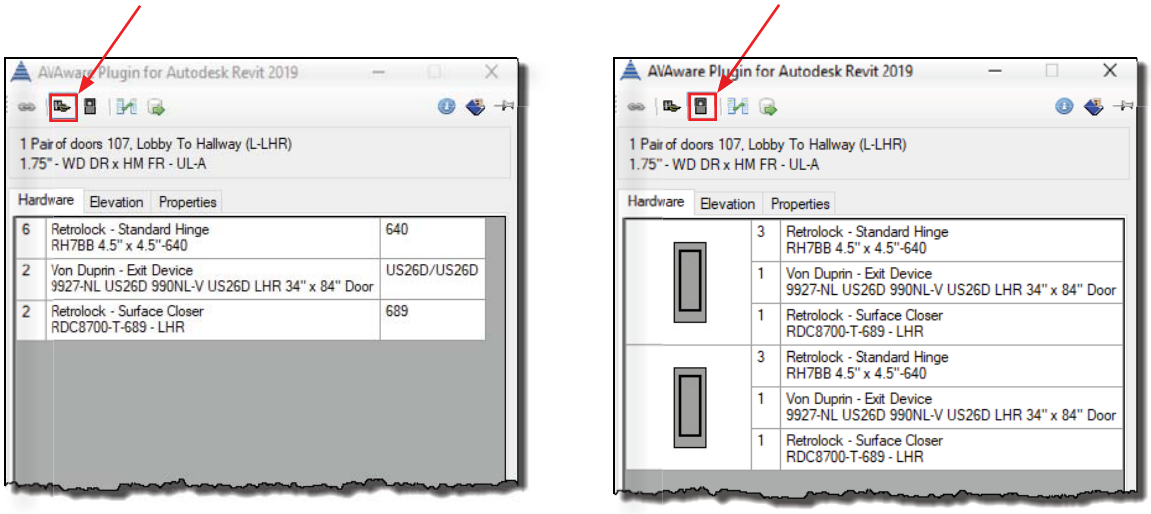


Each time a door object is selected in **Revit**, the corresponding data from **AVAproject** is displayed in the companion window.

Architectural Hardware

The **Hardware** tab contains all the hardware that has been specified for the selected opening. The hardware list appears as it would in a "*Hardware Schedule*" heading, but specific to the opening in question.

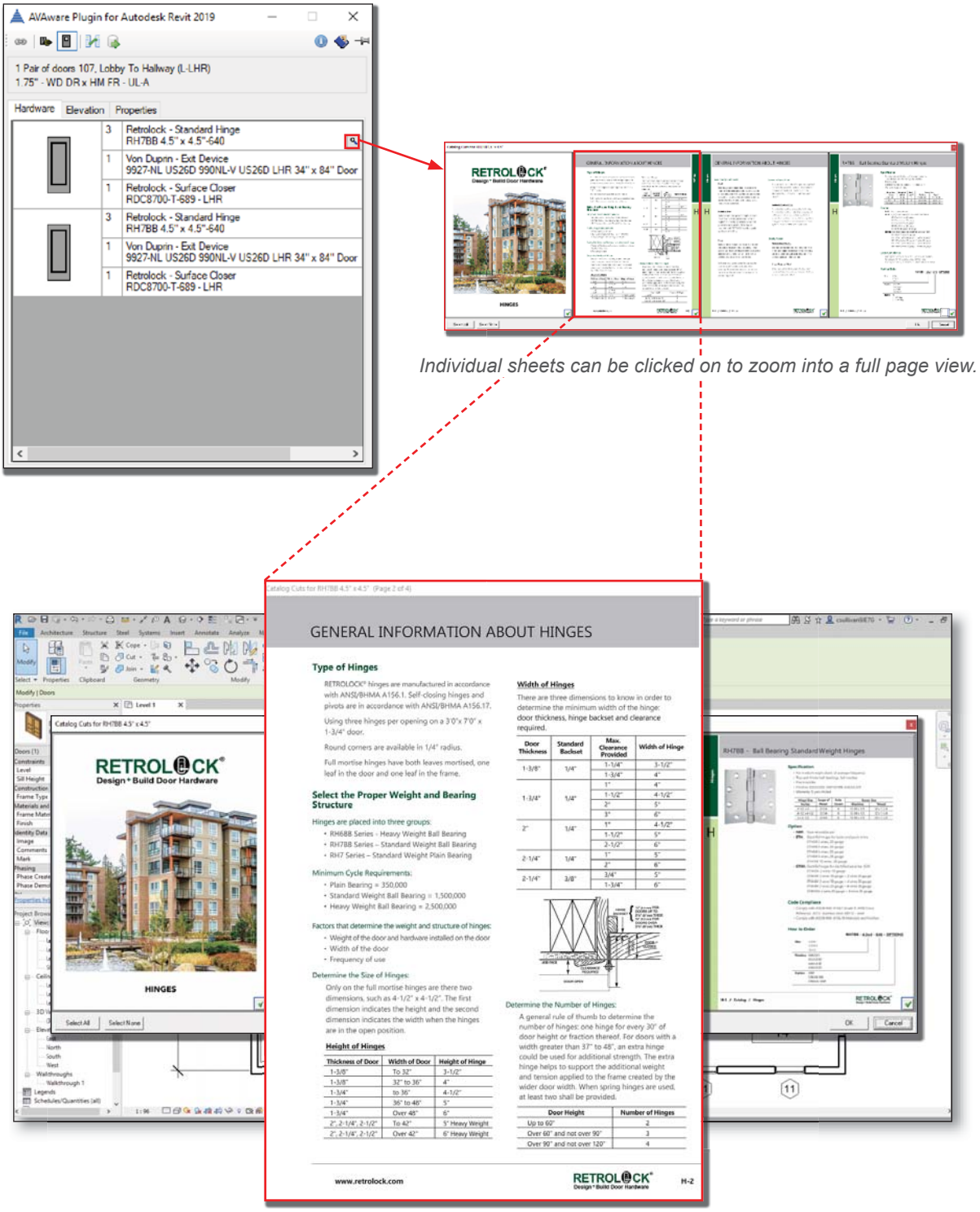
In the case of pairs and other multi-door openings, hardware can be displayed either as a total for the opening or separated by door leaf (see below).



The "by leaf" view also offers a thumbnail depicting any lite kits or louvers that may appear on each leaf.

Catalog Cuts

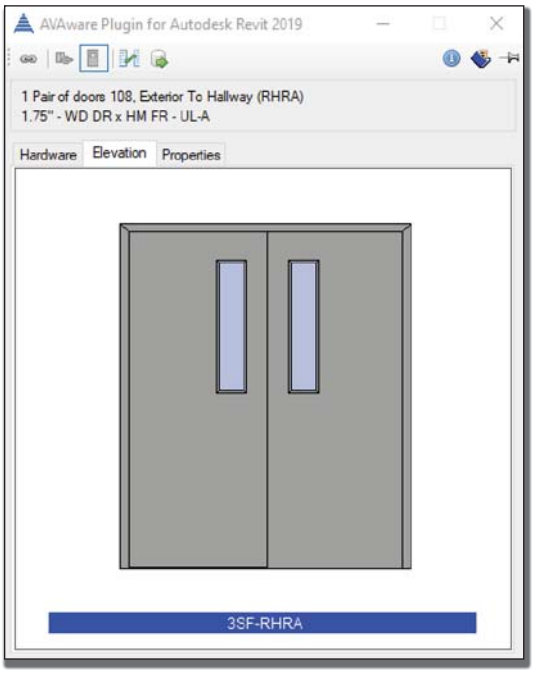
Where provided by the hardware manufacturers, product information sheets (“*catalog cuts*”) can be accessed directly from the hardware listing. Hovering the mouse cursor over a piece of hardware will cause a small magnifying glass to appear next it. Clicking on it will cause a thumbnail view of all the related cut sheets.

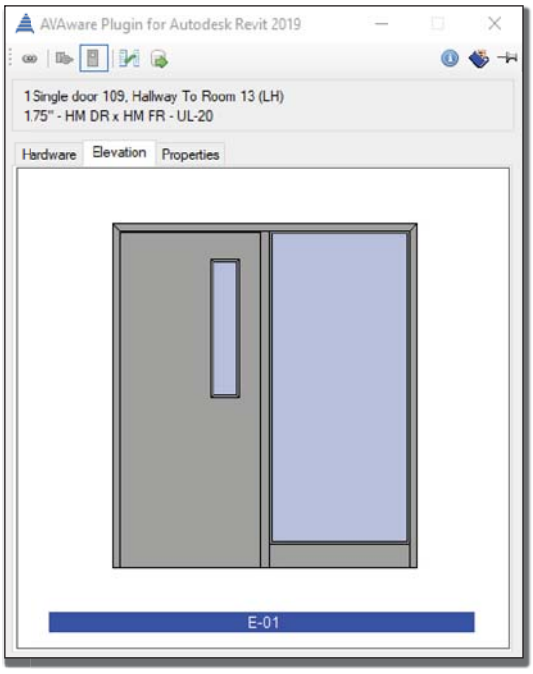


Individual sheets can be clicked on to zoom into a full page view.

Elevations

When provided by the **AVAproject** detailer, elevations representing a given opening are displayed in the **Elevation** tab. The door frame and each leaf is displayed to scale, along with a representation of its "*door type*". This includes any lite kits, louvers, panels or other fixtures specified for the door.





Properties

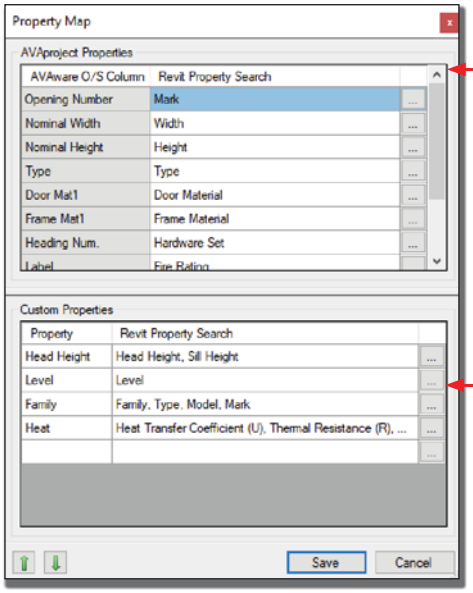
AVAproject will generally carry a great deal of additional information in respect of the doors, frames and hardware relating to an opening. This is in order to facilitate the estimating and ordering process, as product manufacturers will normally offer far more construction and configuration options than are specified in **Revit**®. For example, an opening may simply be defined as "*hollow metal*" in the **Revit** software, but the **AVAproject** user would have to specify the exact type (ie: "*CRS*", "*A40*", "*A60*", etc.).

For this reason, estimators and detailers need to interpret to data extracted from **Revit** software and build a detailed "*Openings Schedule*" that can be used to price and eventually order product. The Properties tab allows users to examine the detailed data contained with **AVAproject**. Data (properties) are organized based on columns that make up the **AVAproject** Openings Schedule.

Exporting Revit® Data to AVAproject

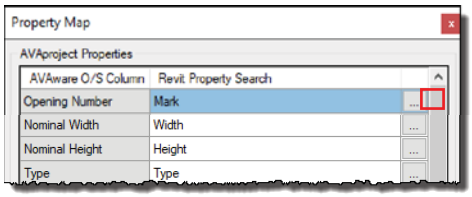
The process of extracting property data from a model in the **Revit** software and exporting it for use in **AVAproject** is extremely straightforward. It's simply a matter to identifying the relevant properties, standard or custom, prior to export.

Selecting the '*Property Map*' tool in the **AVAware PlugIn** will cause a window to be displayed containing areas in which the required properties can be identified and "*mapped*" to standard **AVAproject** columns.



The top box lists "standard" properties that can be directly linked to **AVAproject** *openings schedule columns.*

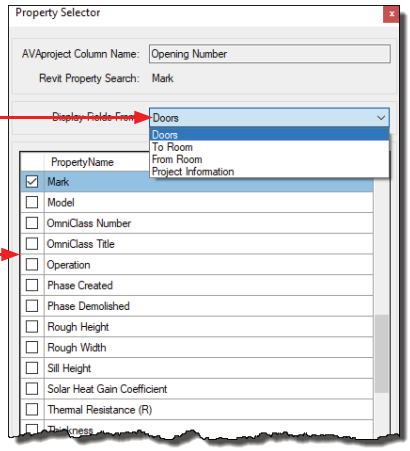
The bottom allows additional "custom" properties containing supplementary data and notations to be exported for each opening.



By default, the "*standard*" properties are populated with typical pre-defined **Revit** object properties that correspond to the various openings schedule columns. The property selections can be modified by clicking the button next to each one to access the "Property Selector" dialog.

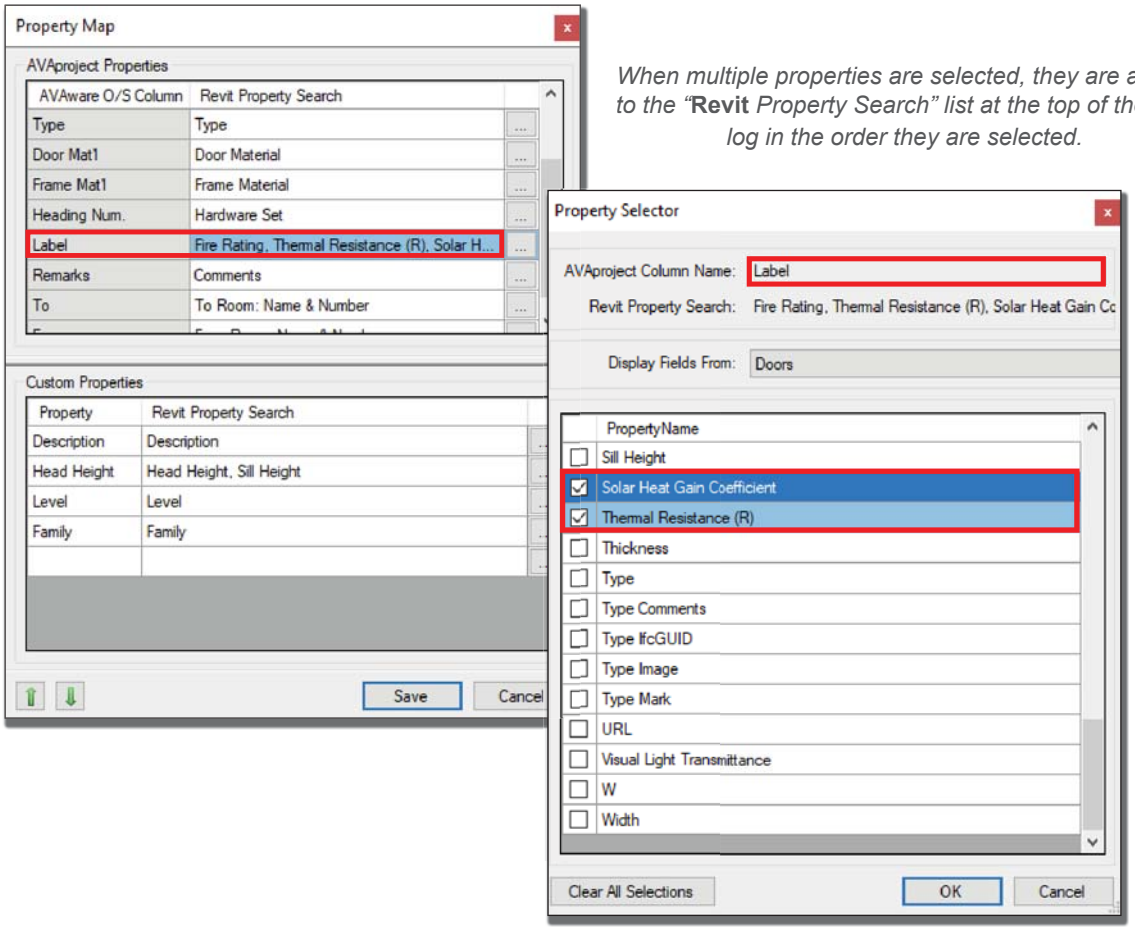
Property fields can be selected from any data source used in the **Revit** *model, just as one would when building a table in* **Revit** *itself.*

All Data fields within the selected table are listed for selection.



Mapping Multiple Properties

It's not uncommon, particularly when multiple users contribute to a project in the **Revit**® software, to have data contained in different properties from one opening to another. For additional flexibility, multiple properties can be mapped to each individual column.

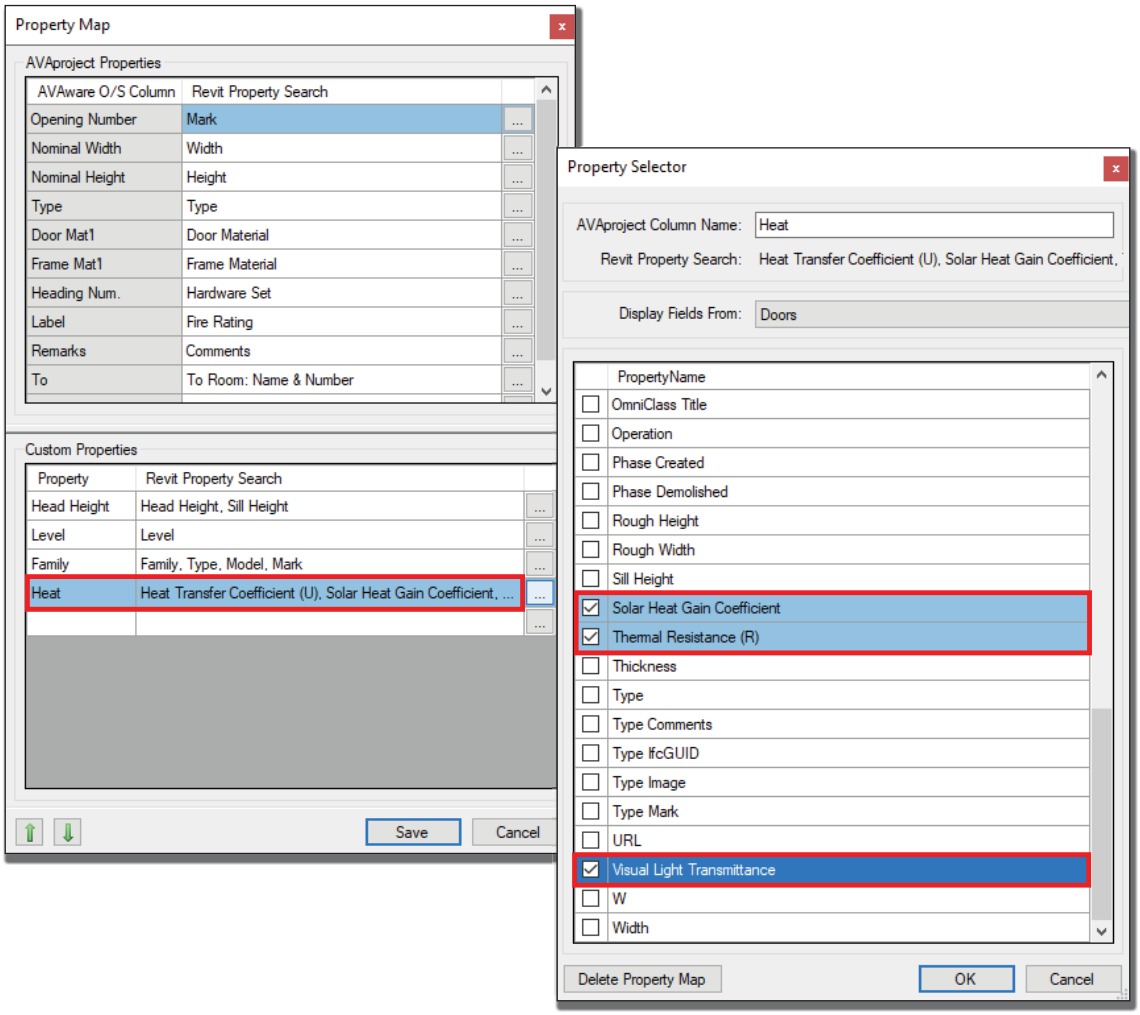


*When multiple properties are selected, they are added to the "***Revit** *Property Search" list at the top of the dialog in the order they are selected.*

During the export process, each of the properties selected for each individual opening are checked for data. Data is taken from the first non-blank property encountered for any given opening.

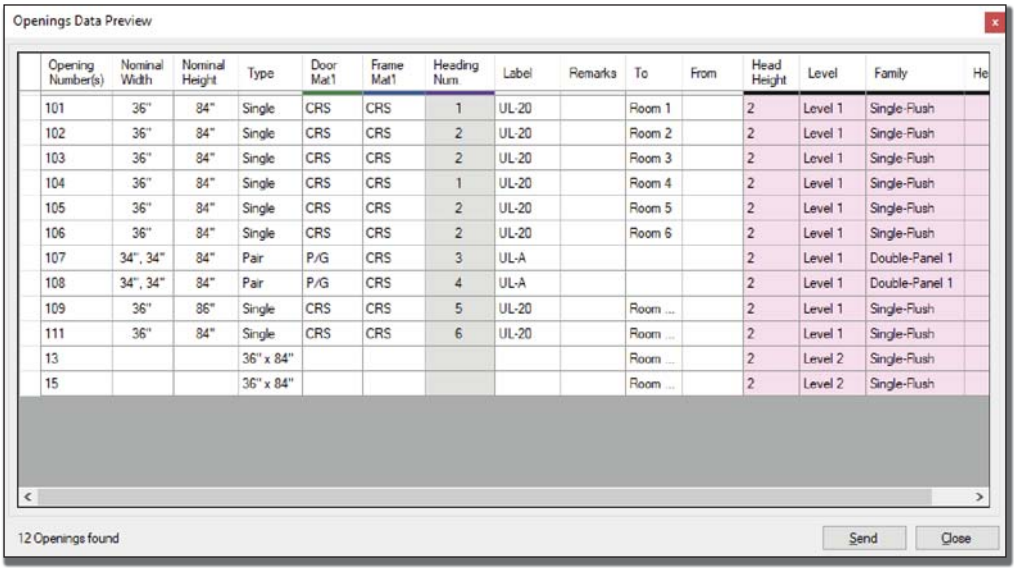
Mapping “Custom” Properties

“*Custom*” properties, for the purposes of the export process, refer to data properties that don’t necessarily map directly to columns within an opening schedule, but contain information necessary to the estimating/ detailing process.



The Export Process

With the field mapping established, the final step is to perform the actual export process. Once a file name has been chosen, the **AVAware Plugin** will gather data from the various door objects in the model and display a brief summary of them as shown below.



Opening Number(s)	Nominal Width	Nominal Height	Type	Door Mat1	Frame Mat1	Heading Num	Label	Remarks	To	From	Head Height	Level	Family	He
101	36"	84"	Single	CRS	CRS	1	UL-20		Room 1		2	Level 1	Single-Flush	
102	36"	84"	Single	CRS	CRS	2	UL-20		Room 2		2	Level 1	Single-Flush	
103	36"	84"	Single	CRS	CRS	2	UL-20		Room 3		2	Level 1	Single-Flush	
104	36"	84"	Single	CRS	CRS	1	UL-20		Room 4		2	Level 1	Single-Flush	
105	36"	84"	Single	CRS	CRS	2	UL-20		Room 5		2	Level 1	Single-Flush	
106	36"	84"	Single	CRS	CRS	2	UL-20		Room 6		2	Level 1	Single-Flush	
107	34", 34"	84"	Pair	P/G	CRS	3	UL-A				2	Level 1	Double-Panel 1	
108	34", 34"	84"	Pair	P/G	CRS	4	UL-A				2	Level 1	Double-Panel 1	
109	36"	86"	Single	CRS	CRS	5	UL-20		Room ...		2	Level 1	Single-Flush	
111	36"	84"	Single	CRS	CRS	6	UL-20		Room ...		2	Level 1	Single-Flush	
13			36" x 84"						Room ...		2	Level 2	Single-Flush	
15			36" x 84"						Room ...		2	Level 2	Single-Flush	

The summary contains a list of door objects along with the data extracted and mapped to "*standard*" properties. Once the data has been verified, it can be exported by clicking "*Send*."

The resulting export file, containing all the relevant door and opening information can then be sent to the **AVAproject** user.

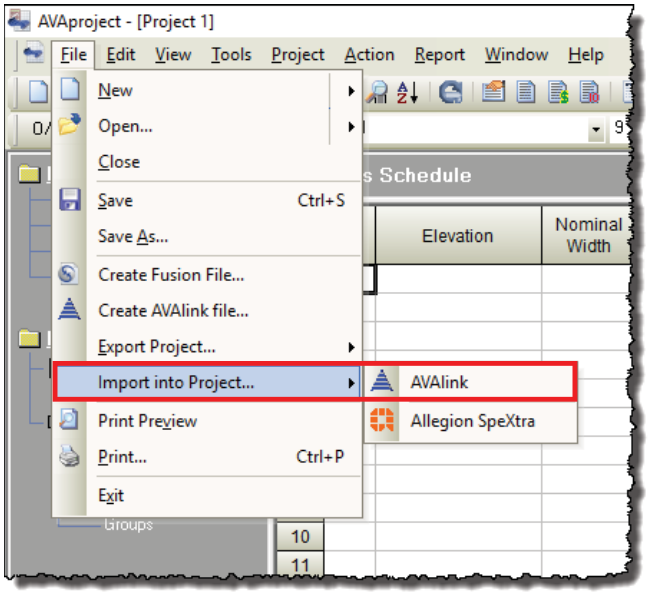
*It's important to note that at no time does the **AVAware Plugin** alter or modify the contents of the model itself. Specification data or "parameters" are copied from architectural component "objects" within the model and communicated to **AVAproject** users via an entirely separate file.*

Importing Data to AVAproject

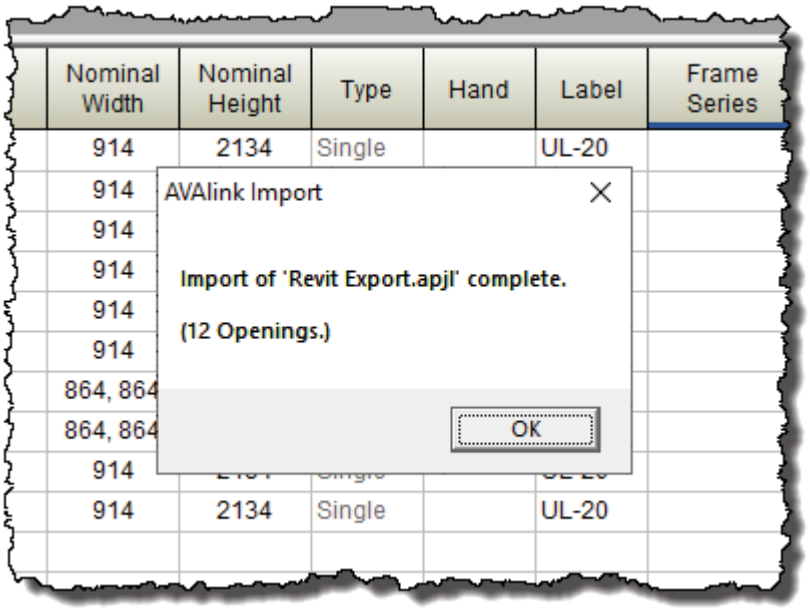
The actual process of importing information from the **AVAware Plugin** is very straightforward. It's simply a matter of selecting the **AVAlink** file provided and clicking a single button to commence the process.

The "**Import AVAlink**" feature is accessed through the "*File*" menu.

If no project is currently open in **AVAproject**, a new one is created using the default template (if so configured), otherwise the information in the **AVAlink** file will be imported into any currently open one. Imported openings will be appended to the end of the last schedule in the active project.

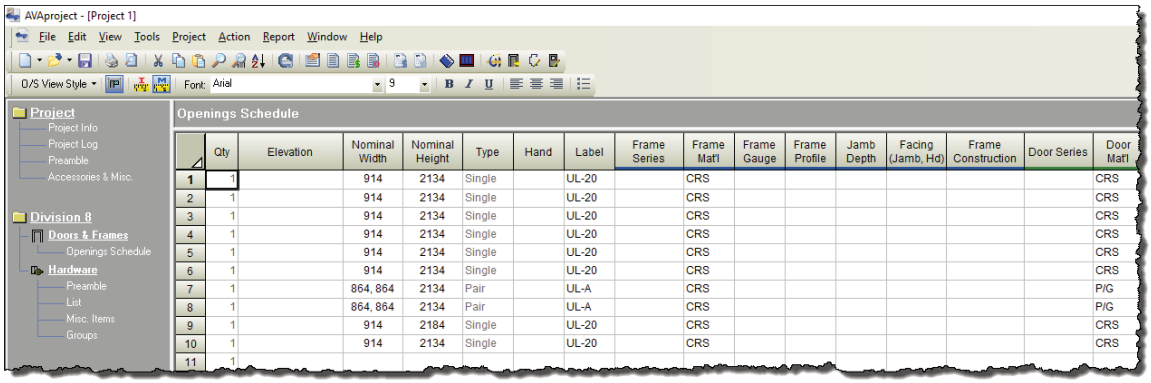


Once the desired **AVAlink** file has been chosen, the import process will begin. As data is imported, a dialog box will display its overall progress until it is completed.



The Openings Schedule: Imported Data

Opening information is brought into **AVAproject** and inserted into one or more Openings Schedules. The following image illustrates the various columns populated by the imported process.



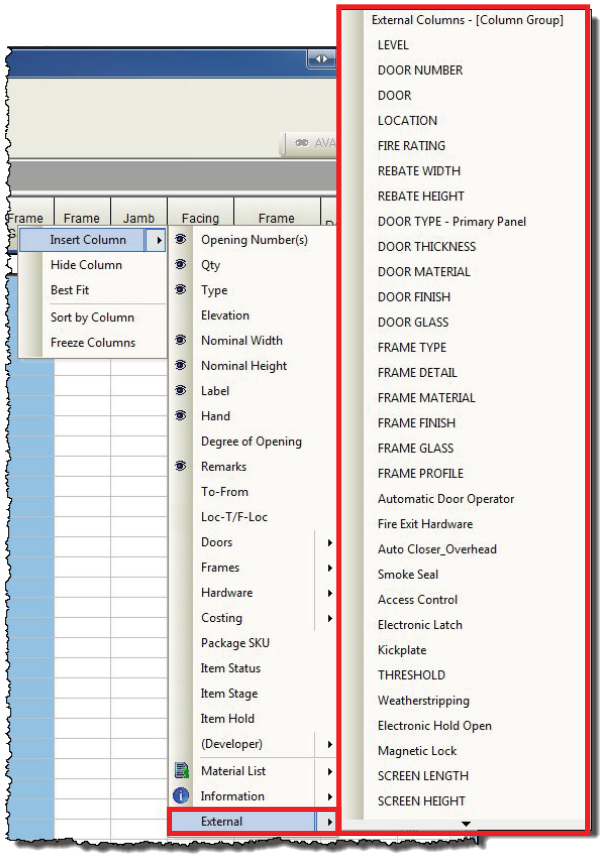
	Qty	Elevation	Nominal Width	Nominal Height	Type	Hand	Label	Frame Series	Frame Mat'l	Frame Gauge	Frame Profile	Jamb Depth	Facing (Jamb, Hd)	Frame Construction	Door Series	Door Mat'l
1	1		914	2134	Single		UL-20		CRS							CRS
2	1		914	2134	Single		UL-20		CRS							CRS
3	1		914	2134	Single		UL-20		CRS							CRS
4	1		914	2134	Single		UL-20		CRS							CRS
5	1		914	2134	Single		UL-20		CRS							CRS
6	1		914	2134	Single		UL-20		CRS							CRS
7	1		864, 864	2134	Pair		UL-A		CRS							P/G
8	1		864, 864	2134	Pair		UL-A		CRS							P/G
9	1		914	2184	Single		UL-20		CRS							CRS
10	1		914	2134	Single		UL-20		CRS							CRS
11	1															

Note: The actual appearance will be determined by the default ViewStyle as defined in **AVAproject**.

Object data exported from **Revit®** is mapped into various columns within the Openings Schedule. "*Standard*" properties (ie: "*nominal width*", "*nominal height*", "*handing*", etc.) are mapped directly into their corresponding columns, with "*Custom*" properties are available to be added to the schedule as supplementary columns.

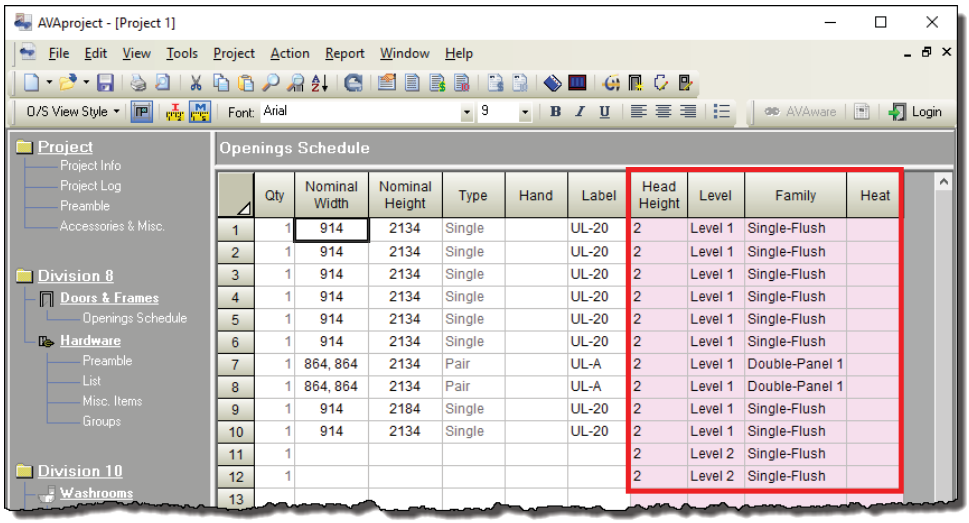
The Openings Schedule: Supplementary Data

"*Custom*" object properties exported from **Revit**® appear as "*supplementary*" information columns in the Openings Schedule. When data imported from an external source such as the **AVAware Plugin**, an additional pool of information columns becomes available when inserting additional columns in the Openings Schedule.



The "External" columns library contains all of the data mappings from **Revit**, now available as columns that can be inserted into the **AVAproject** Openings Schedule.

The background color identifies "*External*" columns and differentiates them from the other in the schedule

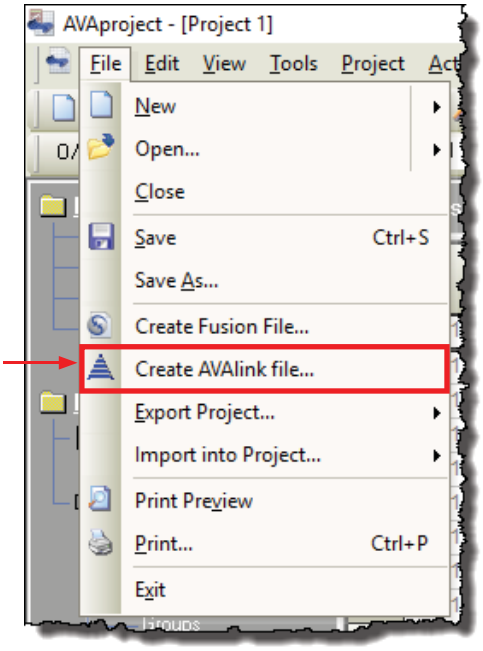


	Qty	Nominal Width	Nominal Height	Type	Hand	Label	Head Height	Level	Family	Heat
1	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
2	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
3	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
4	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
5	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
6	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
7	1	864, 864	2134	Pair		UL-A	2	Level 1	Double-Panel 1	
8	1	864, 864	2134	Pair		UL-A	2	Level 1	Double-Panel 1	
9	1	914	2184	Single		UL-20	2	Level 1	Single-Flush	
10	1	914	2134	Single		UL-20	2	Level 1	Single-Flush	
11	1						2	Level 2	Single-Flush	
12	1						2	Level 2	Single-Flush	
13										

Returning Data to Autodesk® Revit®

Returning the updated data along with any newly added details and specifications to the **Revit** users is as straightforward as the process for reveiving it.

Select “**Create AVAlink File**” from the **AVAproject** “*File*” menu to create a file that can then be sent back to the **Revit** user.



Once received, the **Revit** user need only select the newly received file from with the **AVAware Plugin** to access the product details associated with each opening.

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