TL SOLIDS

GUIDE (ENGLISH)

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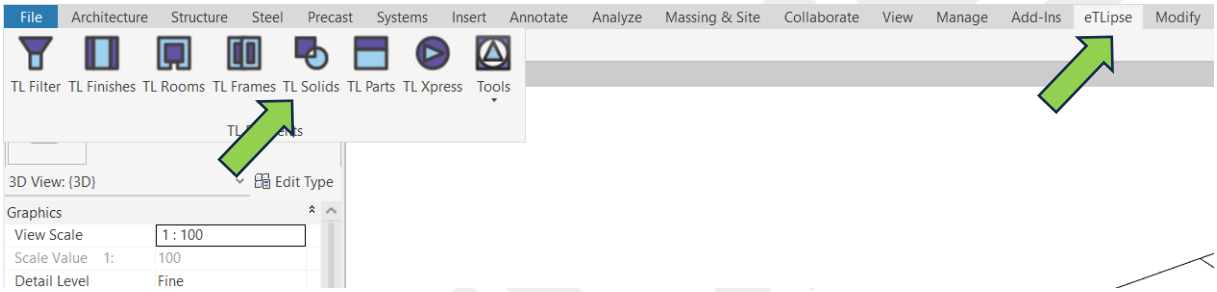
TL ELEMENTS: SOLIDS – INTERACTION TOOL \\ GUIDE

TL SOLIDS is a tool that performs checks for intersections, joined elements and cut possibilities, as well as automatic operations of join, cut and join order switching for multiple elements in Revit. You can use the core functionalities of the TL Elements lists to handle elements selection and visualization. The standard TL Elements integrated visualization tools are also available to improve this workflow.

This is a guide to get you started on the basics of the command. Please, keep in mind that, in addition to this and any other support material, TL Elements/TL Solids also provides helpful tooltips with descriptions of features that you may invoke by hovering your mouse over the buttons of the application.



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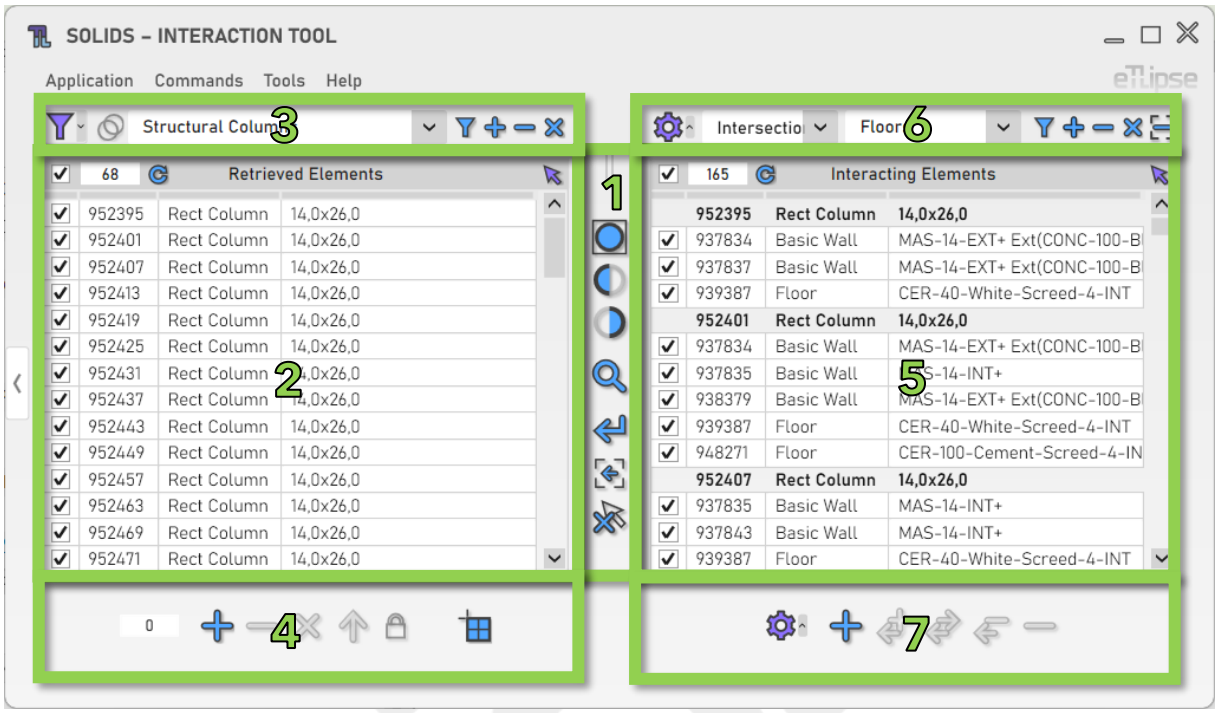
TL SOLIDS INTERFACE



As we can see in the image, the TL Solids user interface provides:

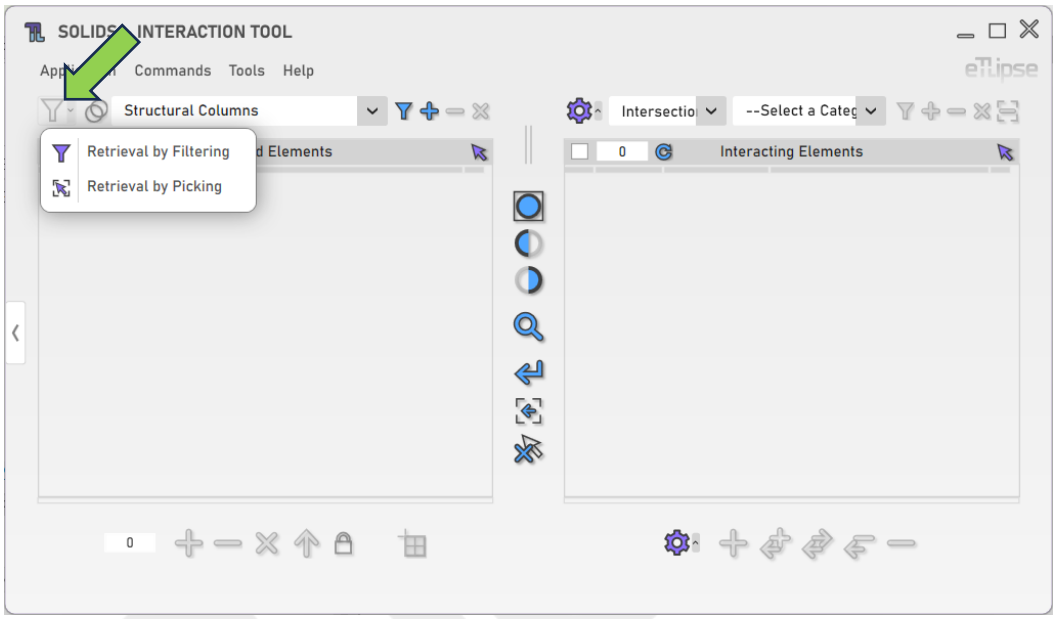
1. A set of visualization tools.
2. A list of elements by category (Elements Retrieval List).
3. A set of tools for elements filtering (to fill the Elements Retrieval List).
4. A set of tools for operations with the elements checked in the Elements Retrieval List.
5. A list of elements in interaction with the elements on the other list (Interacting Elements List).
6. A set of tools for elements interaction checks (to fill the Interacting Elements List).
7. A set of tools for solid operations with elements checked in the Interacting Elements List.

To learn how to use the controls in lists and the visualization tools, please, refer to the "TL List" and "TL Visualization Tools" guides.

ELEMENTS RETRIEVAL

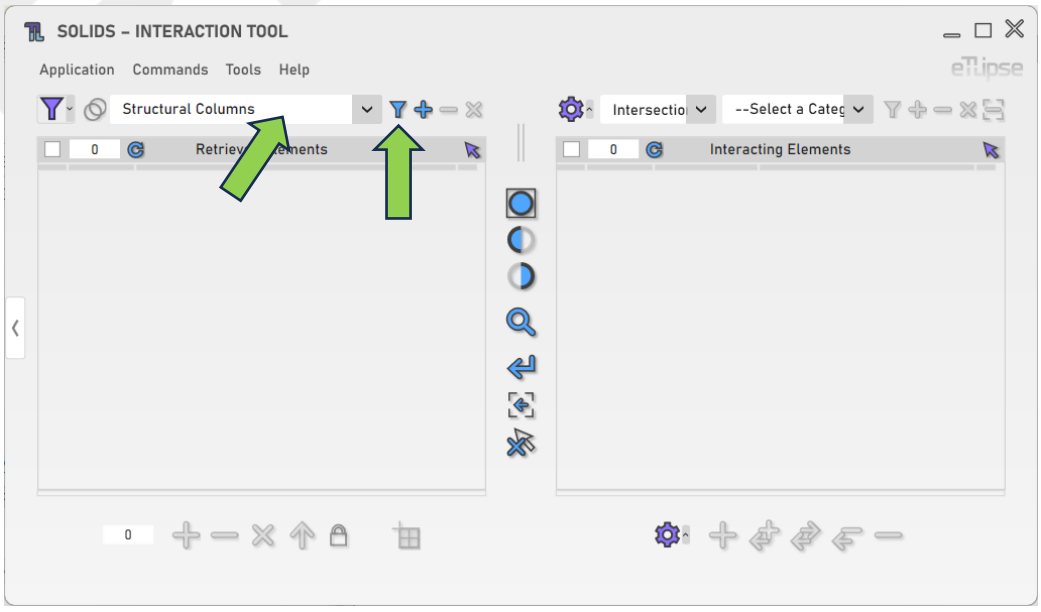
Retrieval Mode

You can retrieve elements in two ways: by filtering them by type ("Filtering") or by picking the ones you wish in the Revit active view ("Picking"). You can set the retrieval mode in the "Toggle Retrieval Mode" dropdown box.



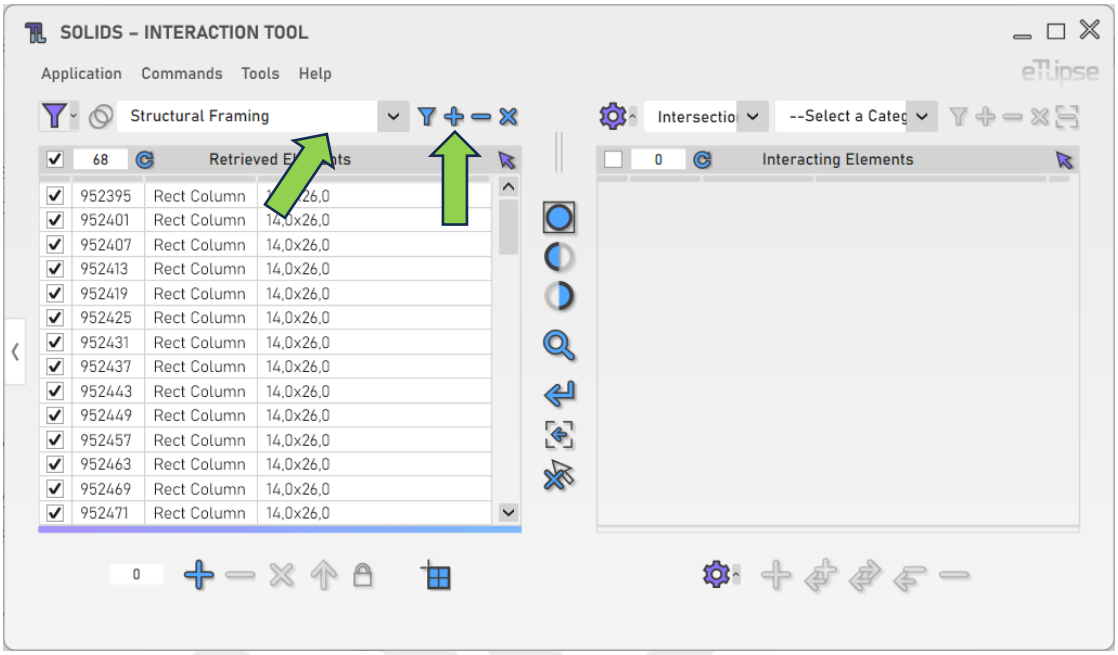
Retrieving Elements by Category

In order to retrieve and list elements of a category, you must choose a category in the "Retrieval Category" dropdown box and click the "Retrieve Elements" button. In Manual mode, you'll have to pick the elements of the chosen type in the Revit active view. Keep in mind that, if there are elements already selected in the Revit view, these elements are going to be listed, instead.



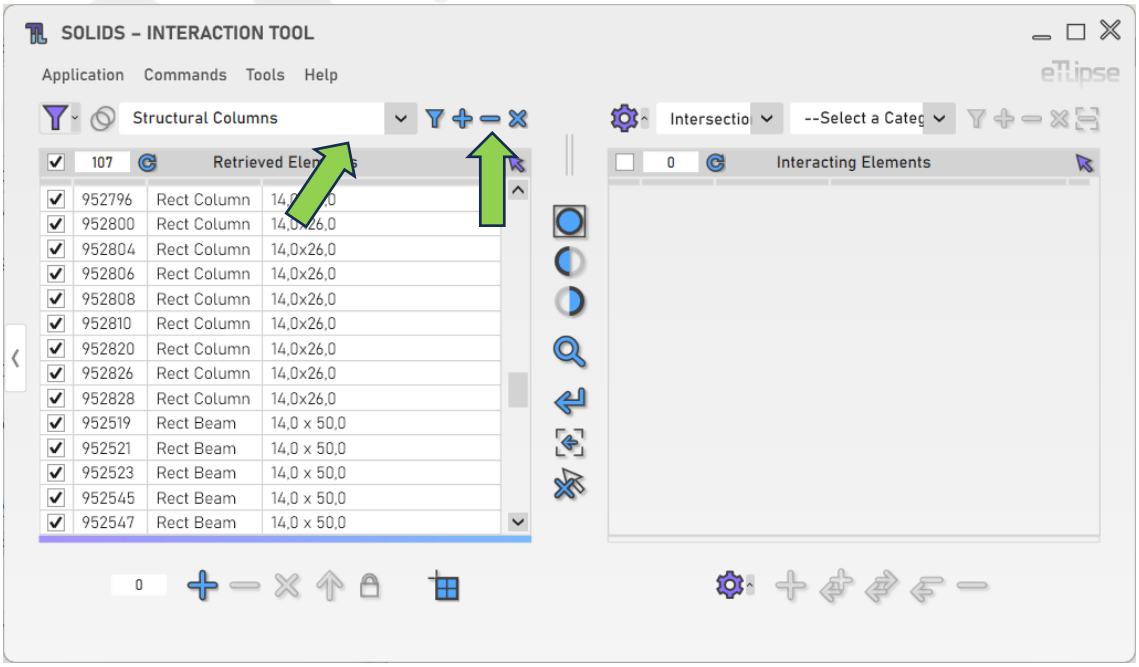
Adding Elements by Category

In order to add elements of a specific category to the list, you must choose a level in the “Retrieval Category” dropdown box and click the “Add Elements” button. In Manual mode, you’ll have to pick the elements of the chosen type you want to add in the Revit active view.



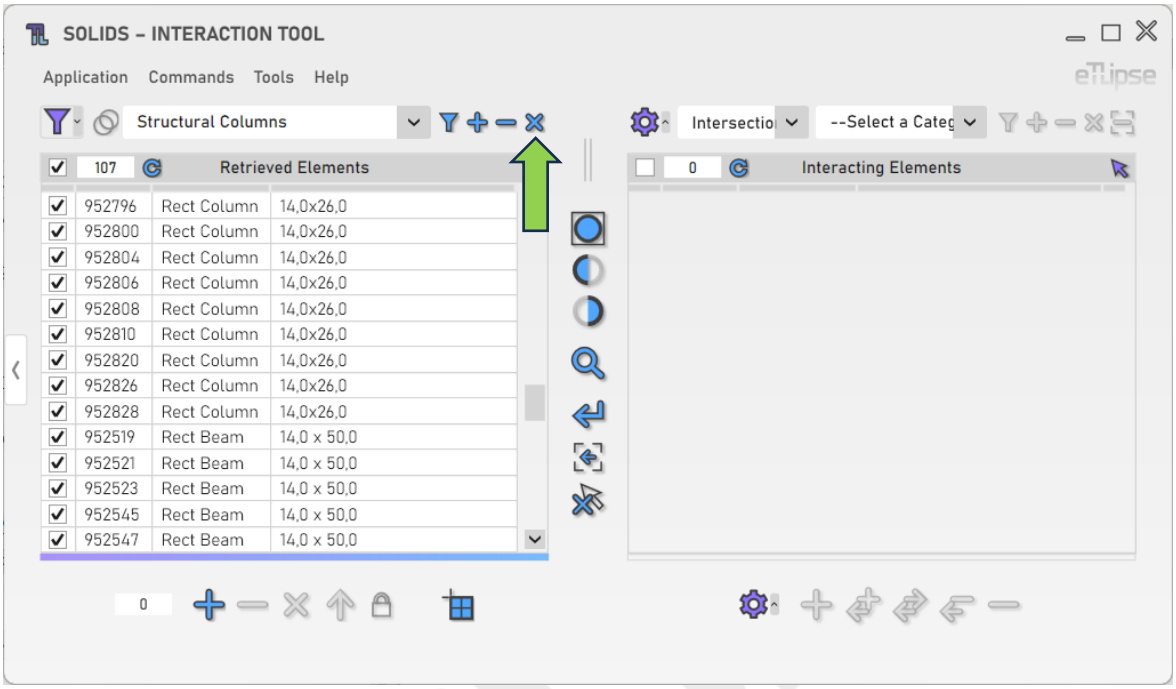
Removing Elements by Category

In order to remove elements of a specific category from the list, you must choose a category in the “Retrieval Category” dropdown box and click the “Remove Elements” button. In Manual mode, you’ll have to pick the elements of the chosen type you want to remove in the Revit active view.



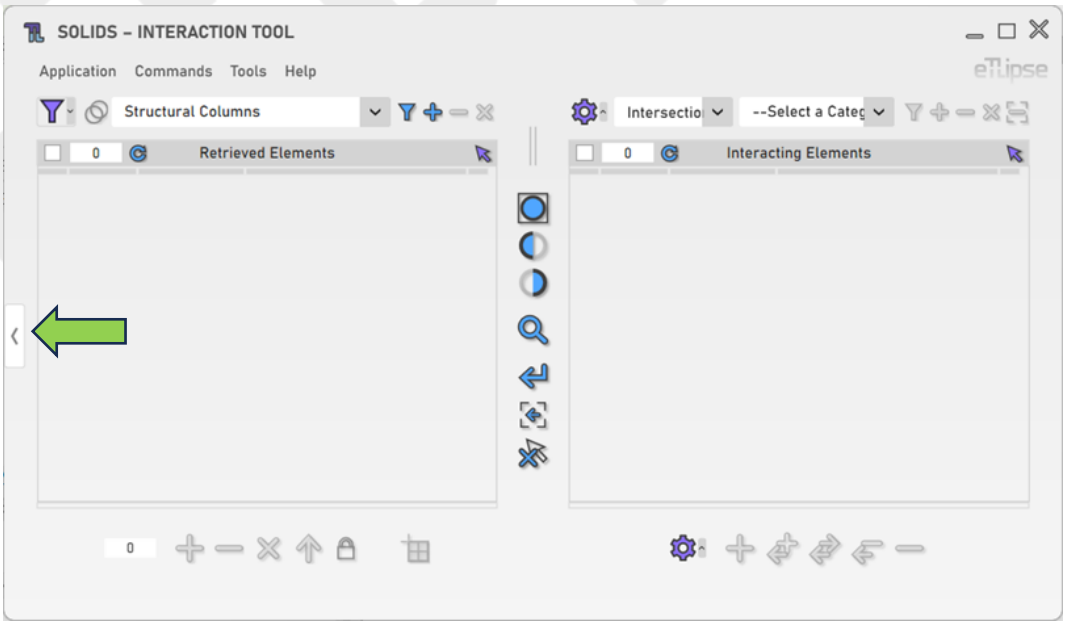
Clearing the Elements List

In order to clear the list, you must click the “Clear Retrieved Elements” button.



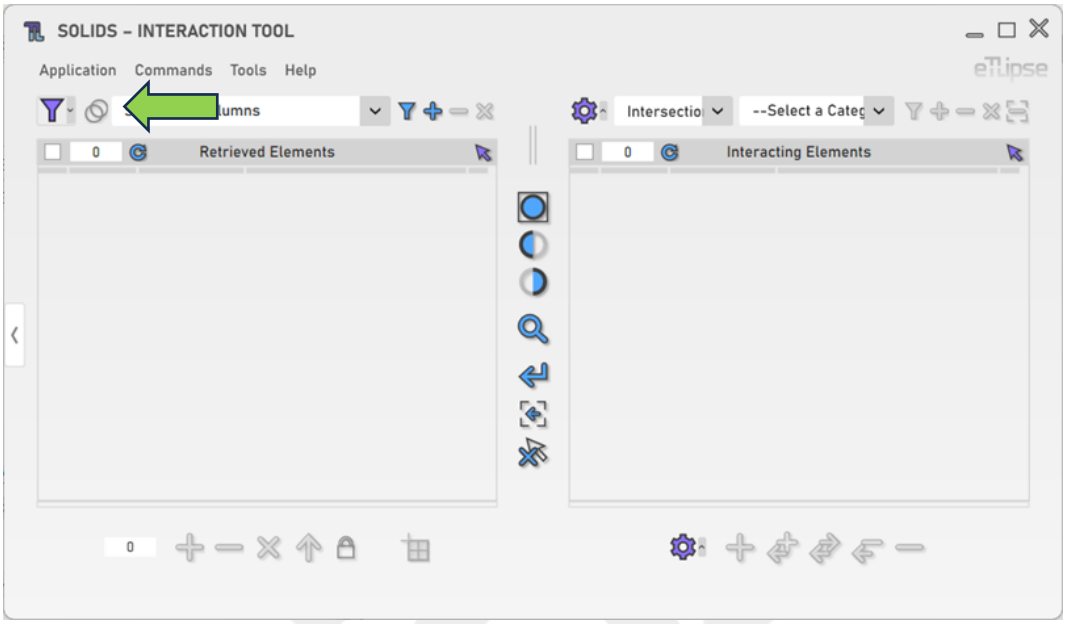
Using TL Filter to fill the Elements List

At any time, you can click the “Slide to TL Filter” arrow button to bring elements retrieved in TL Filter to the Elements Retrieval List.



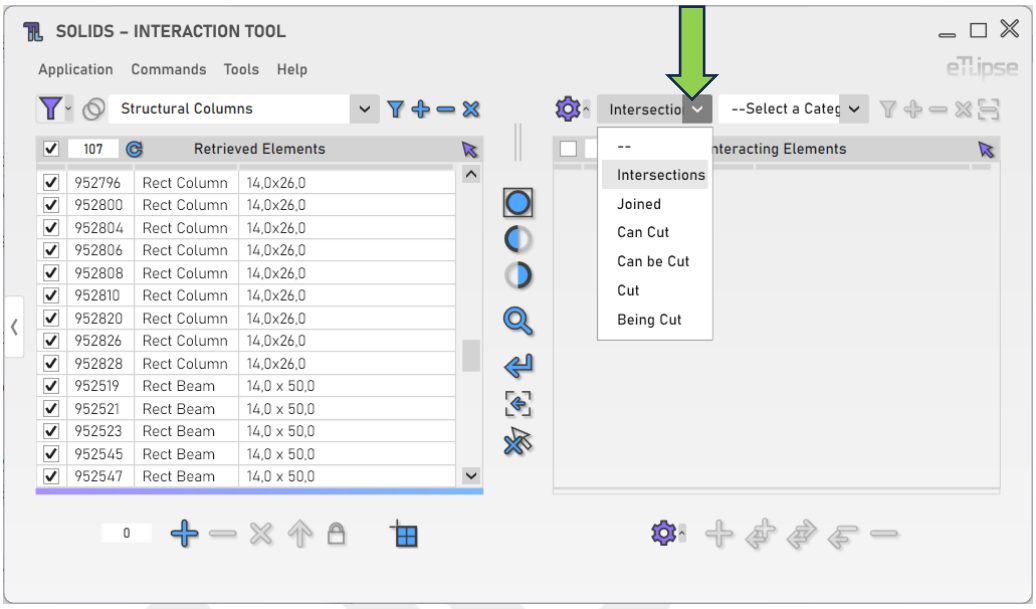
Retrieval of Elements from Linked Models

You can click the "Toggle Allow Linked Models" to enable the possibility to list elements from linked projects in the Elements Retrieval List.



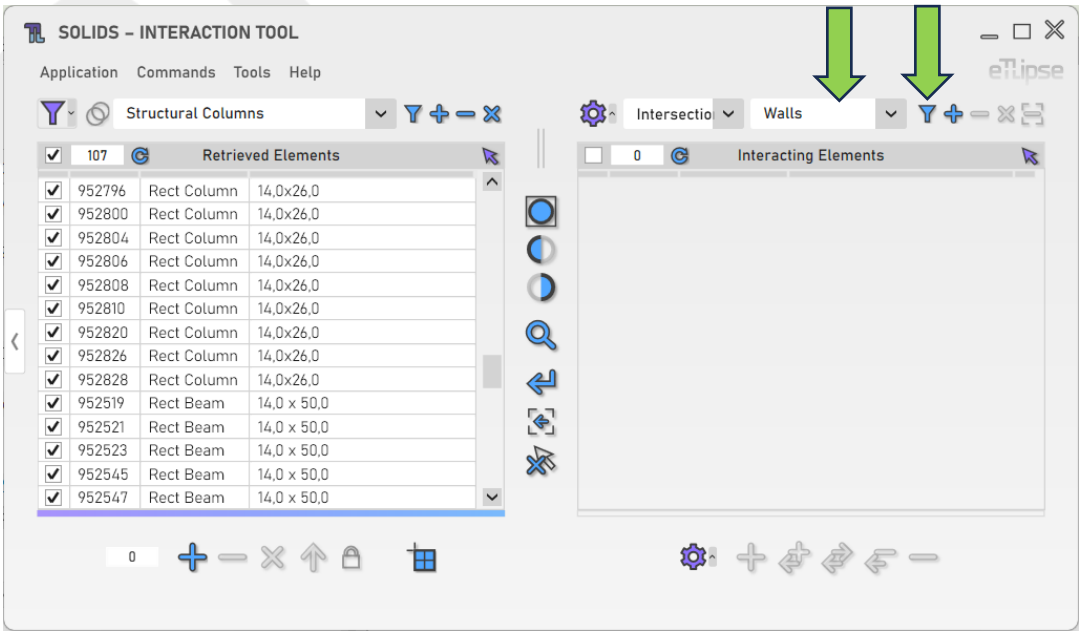
INTERACTION CHECKS

The Interacting Elements List must be filled by checks for specific interactions with the elements listed in the Elements Retrieval List. The options of checks are: elements in intersection, joined elements, elements that can cut, elements that can be cut, elements that cut and elements being cut.



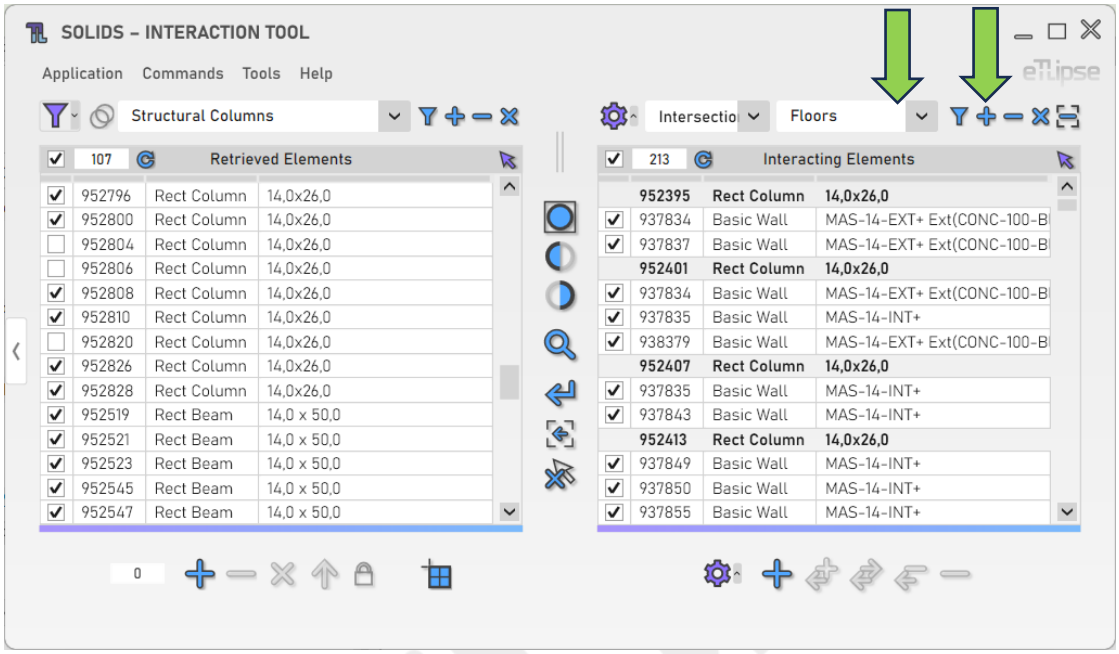
Check for Interactions

To check for elements in the chosen interaction with the elements checked in the Elements Retrieval List, you must, first, select a category in the "Interaction Category" dropdown box and then, click the "Check" button.



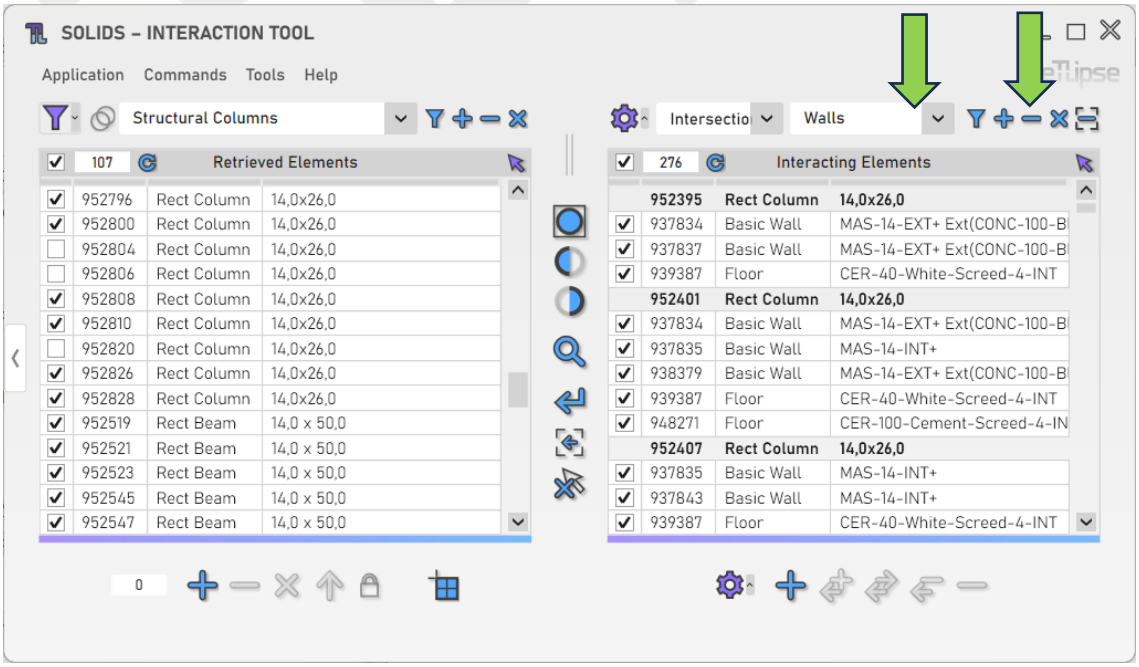
Adding Interacting Elements to the List

In order to check and add elements of another category to the list, you must choose a category in the "Interaction Category" dropdown box and click the "Check and Add" button.



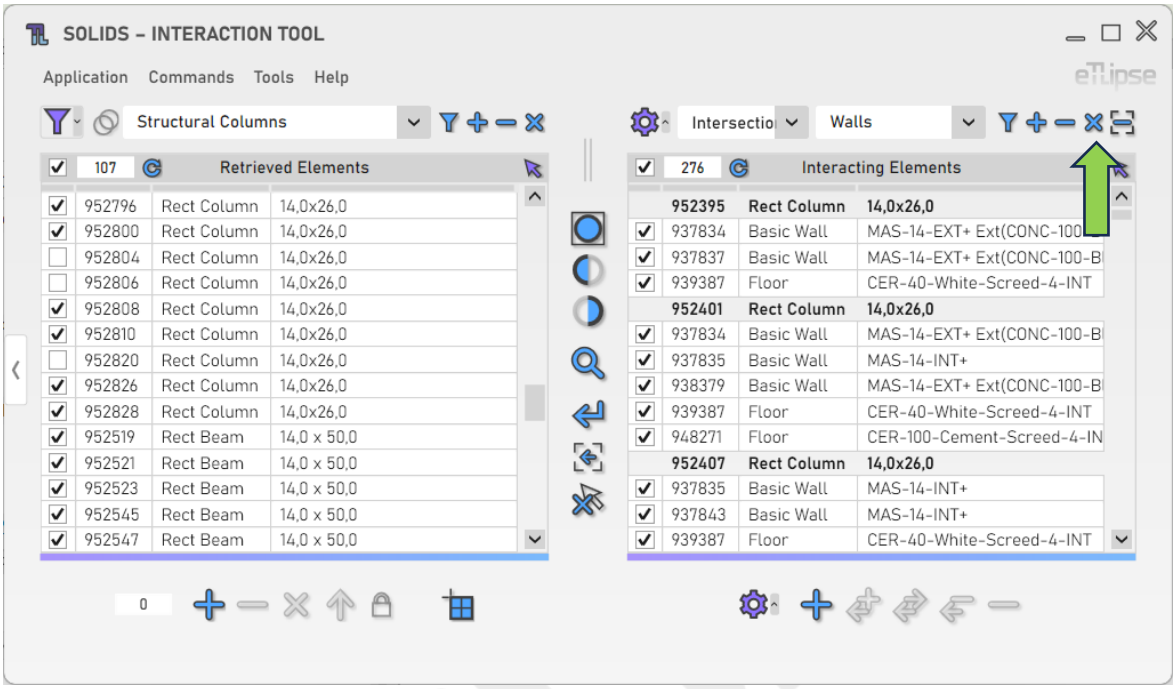
Removing Elements by Category

In order to remove elements of a specific category from the list, you must choose a category in the "Interaction Category" dropdown box and click the "Remove Elements" button.



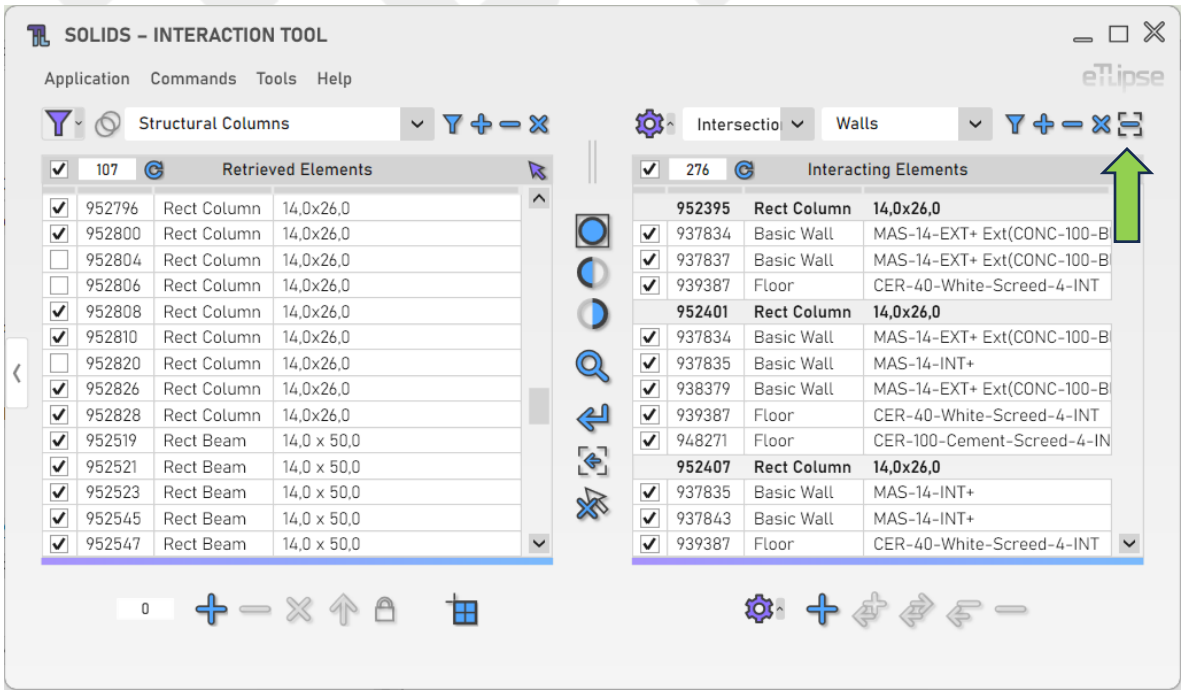
Clearing the Elements List

In order to clear the list, you must click the "Clear Retrieved Elements" button.



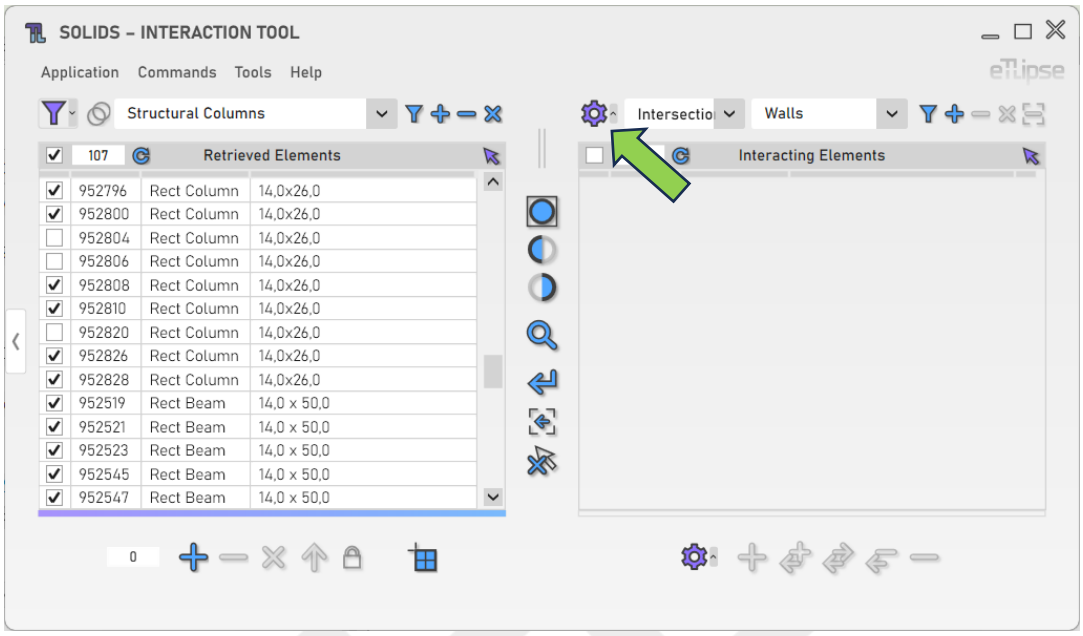
Removing Elements from the List by Picking

In order to manually pick elements of the chosen category in the Revit view and remove them from the list, you must click the "Remove Elements of Category from List by Picking" button.



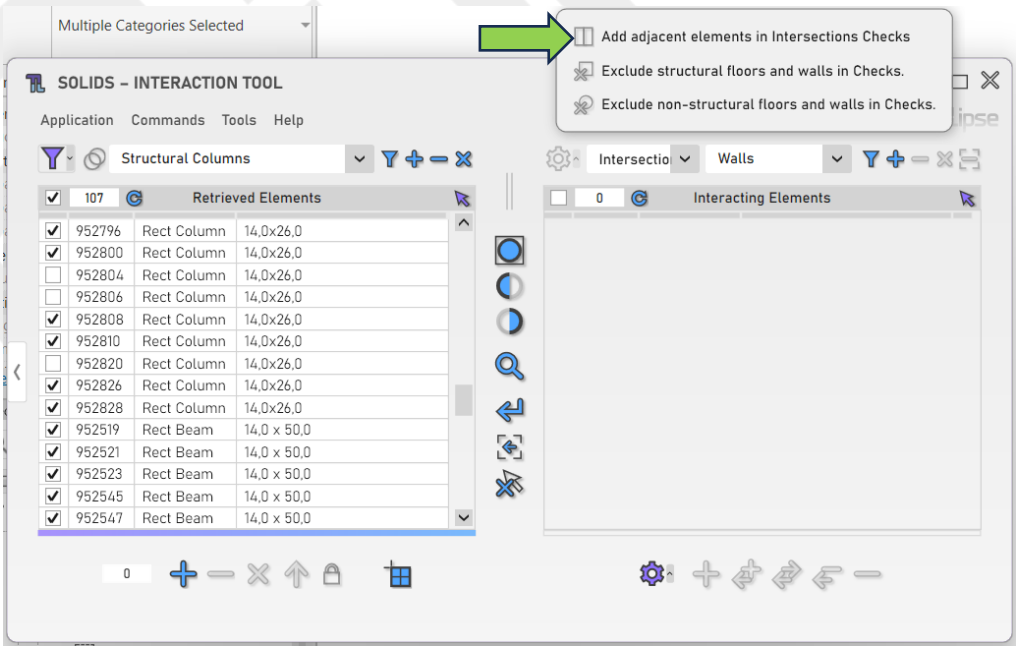
Additional Settings

To access additional settings to your checks, you must click the "Additional Settings" button.



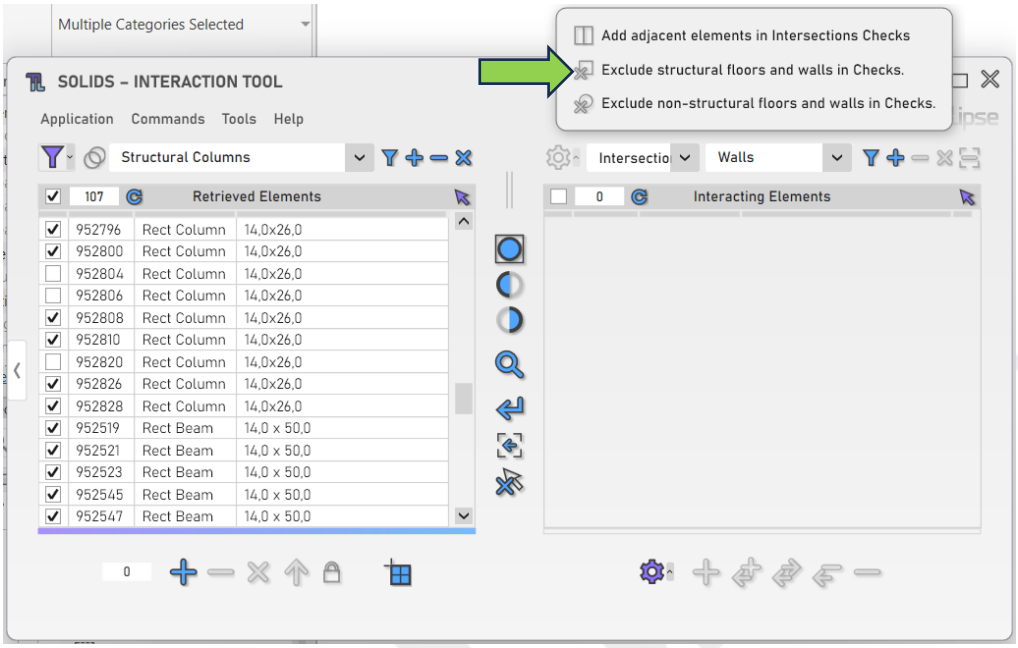
Include Adjacent Elements in Checks

To include not only intersecting, but also adjacent elements in Intersection Checks you must enable the respective option in the Contextual Settings popup, indicated in the image.



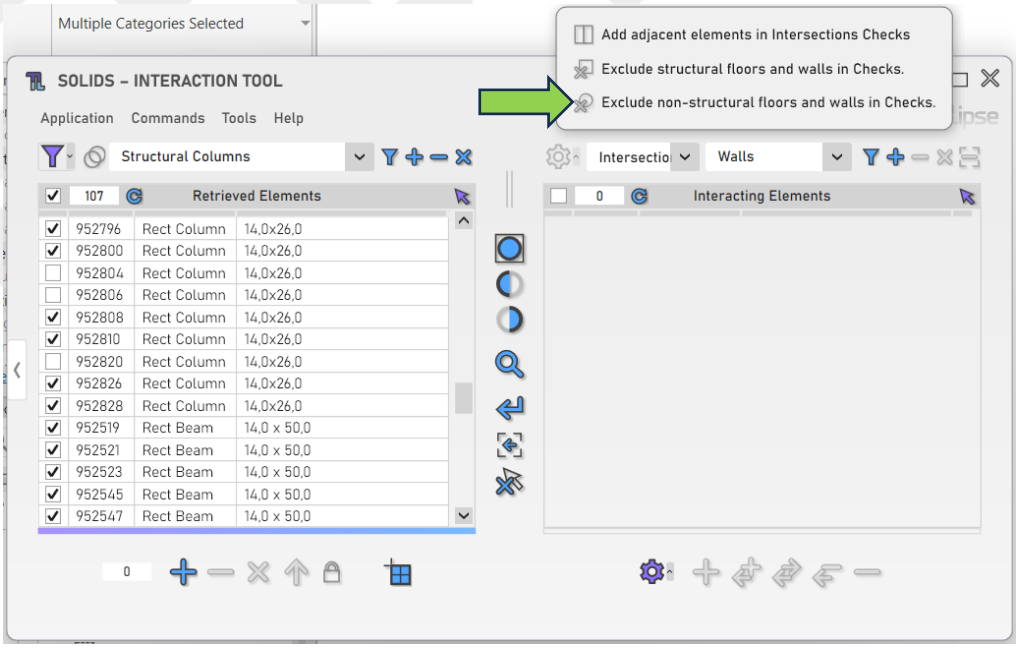
Exclude Structural Elements in Checks

To exclude elements with the "Structural" Revit parameter enabled from checks you must enable the respective option in the Contextual Settings popup, indicated in the image.



Exclude Non-Structural Elements in Checks

To exclude elements with the "Structural" Revit parameter disabled from checks you must enable the respective option in the Contextual Settings popup, indicated in the image.

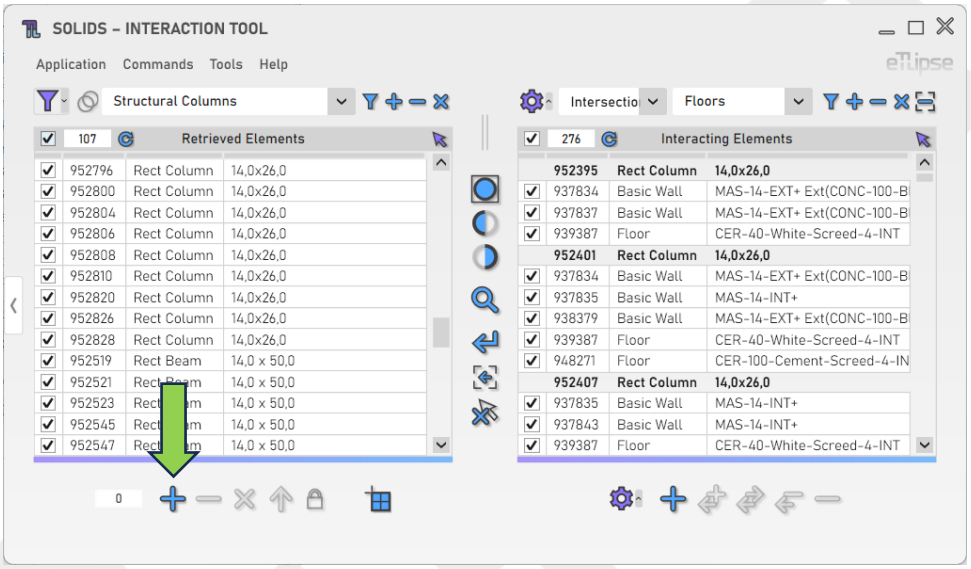


SAVED SELECTION SET

It is possible to store a specific collection of elements to be loaded whenever they are needed in the Elements Retrieval List or to limit the interaction checks. This can be done using the “Saved Selection Set”.

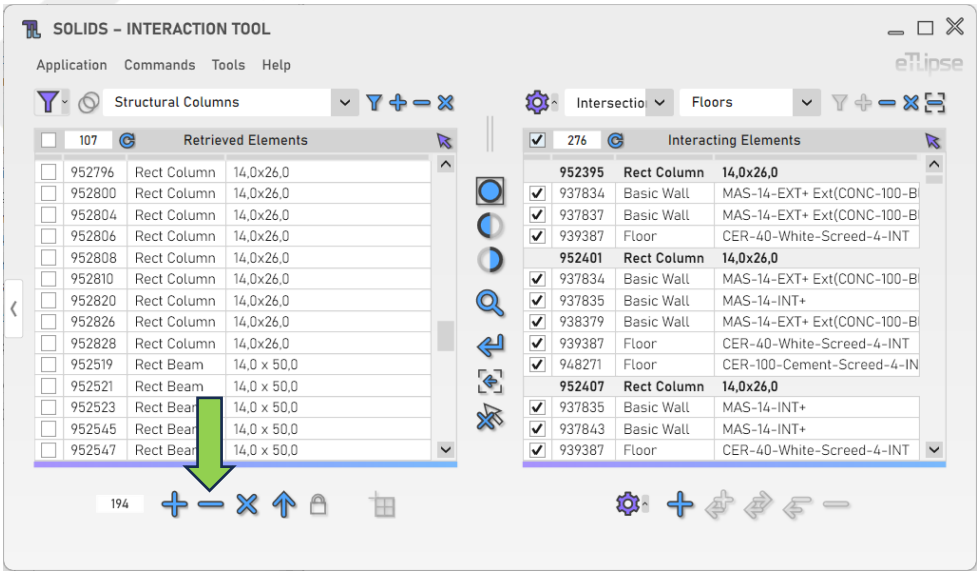
Adding Elements to the Saved Selection Set

To store the elements checked in any of the two lists directly in the Saved Selection Set, you must click the “Add to Saved Selection Set” button.



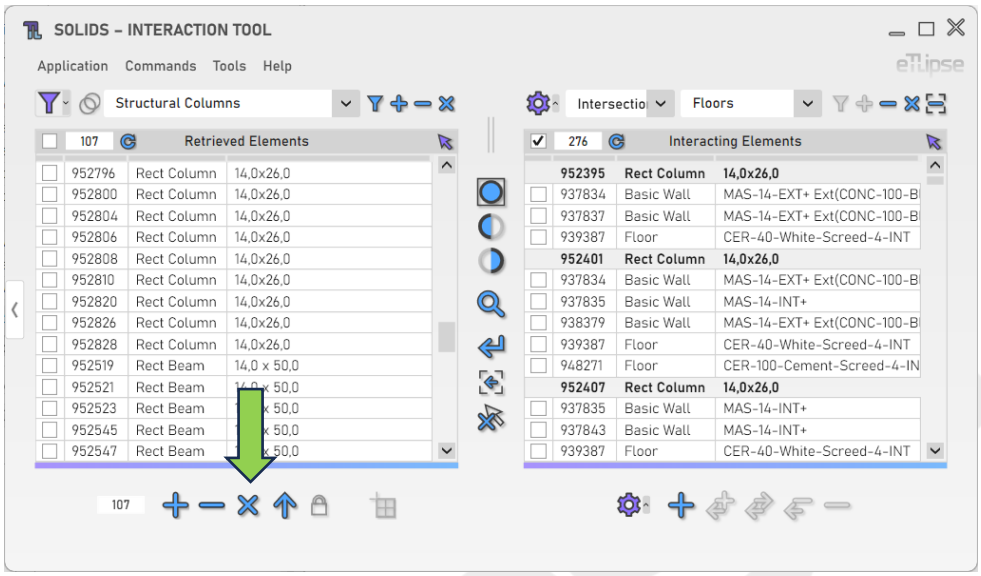
Remove Elements from the Saved Selection Set

To remove the elements checked in any of the two lists directly from the Saved Selection Set, you must click the “Remove from Saved Selection Set” button.



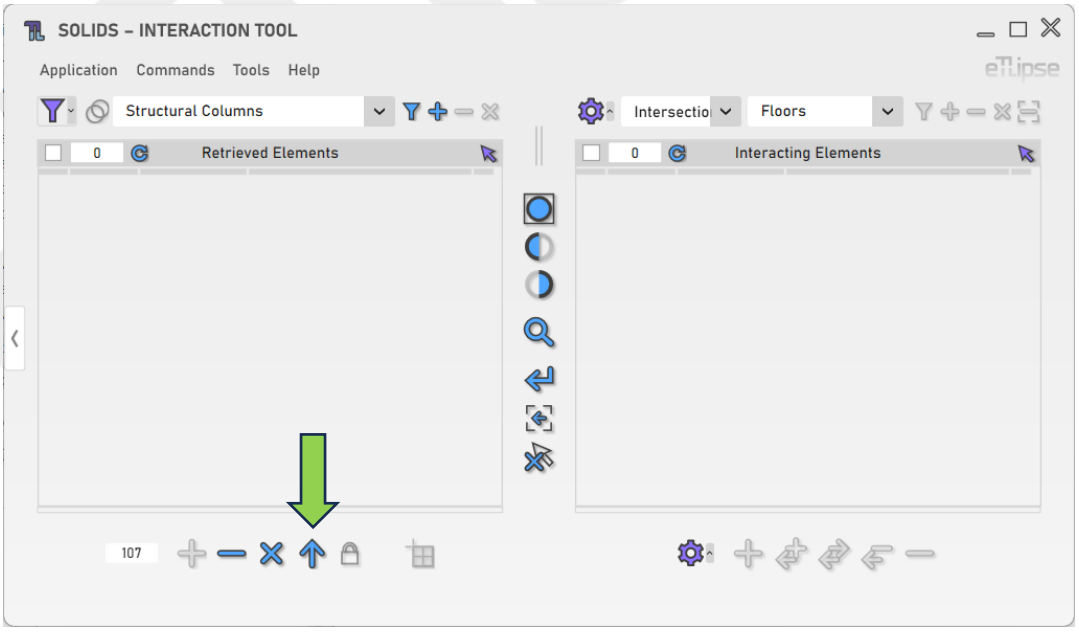
Clearing the Saved Selection Set

To clear the Saved Selection Set, you must click the "Clear Saved Selection Set" button.



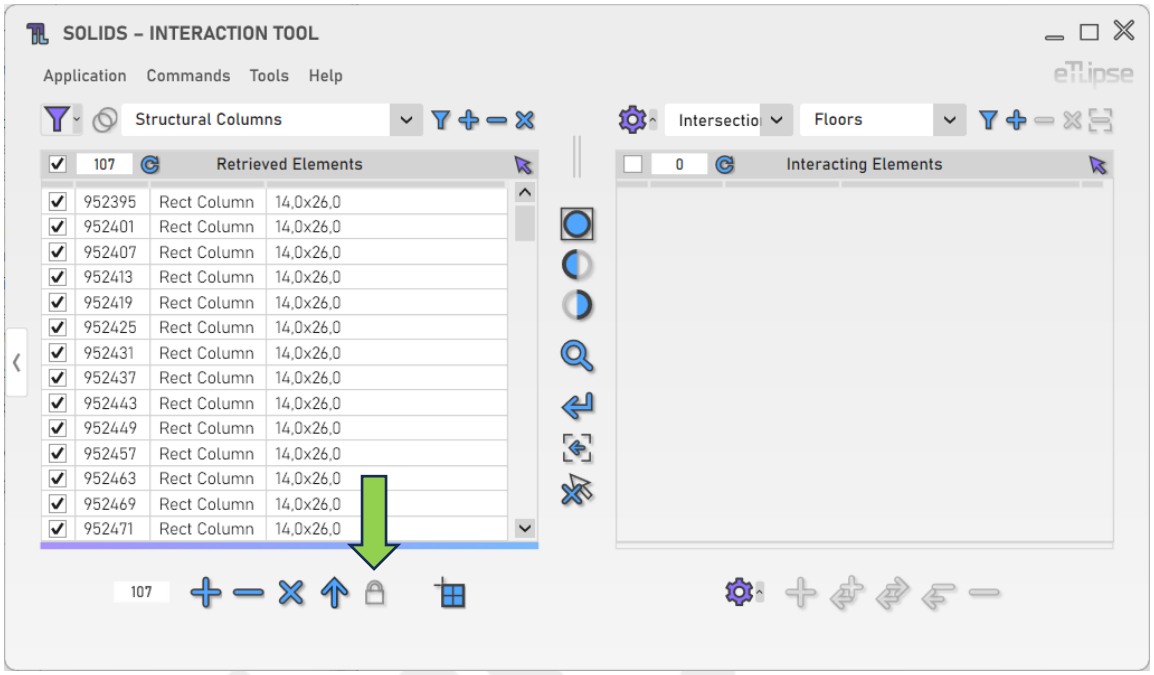
Loading Elements from the Saved Selection Set

To load the elements stored in the Saved Selection Set into the Elements Retrieval List, you must click the "Load Saved Selection Set" button.



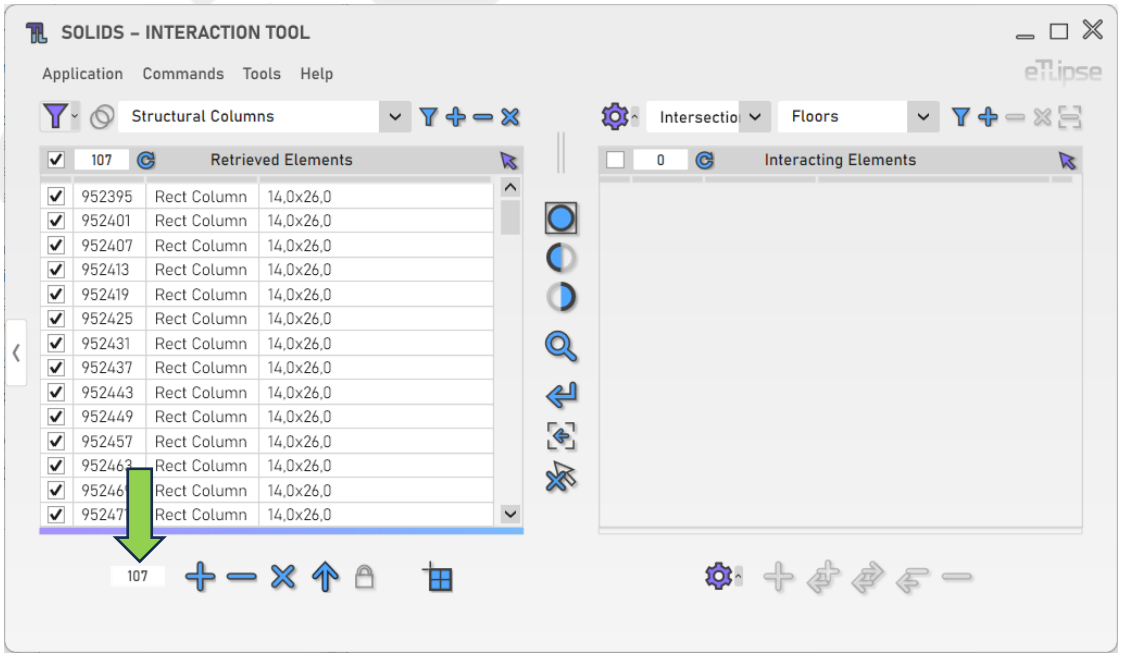
Locking Checks to the Saved Selection Set

To use the elements stored in the Saved Selection Set to limit the results of interaction checks, you must enable the "Toggle Saved Selection Set Lock" button.

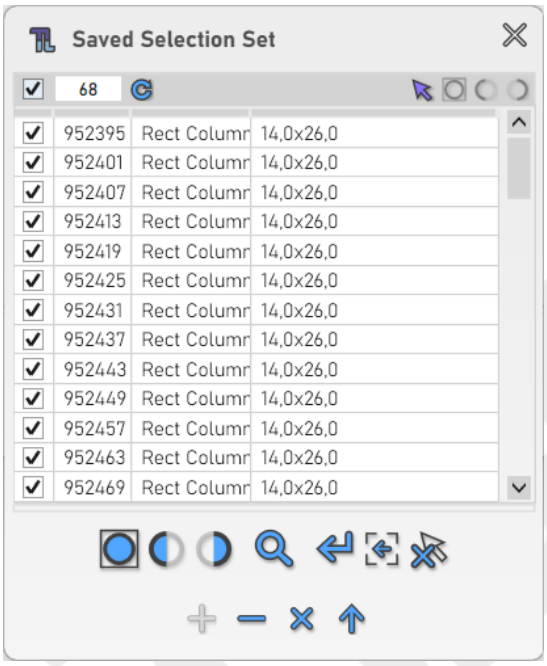


Saved Selection Set Window

To open the Saved Selection Set window, you must click the counter to the left of the operation buttons.

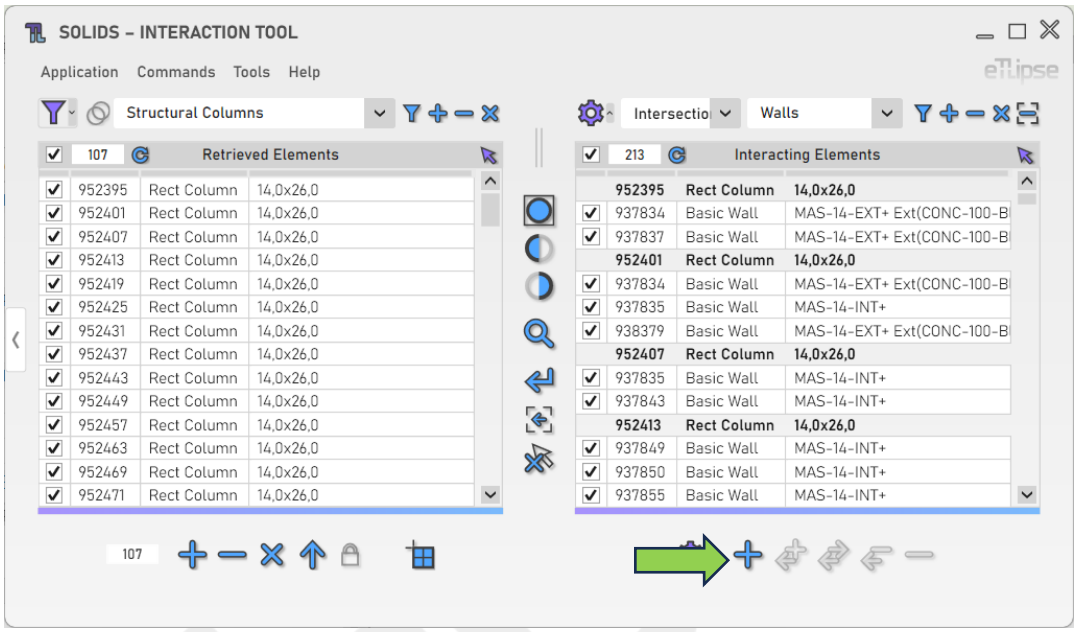


The Saved Selection Set window lists the stored elements and provides controls for visualization and operations of addition, removal, clearing and loading of the elements, just as seen in the TL Solids window.



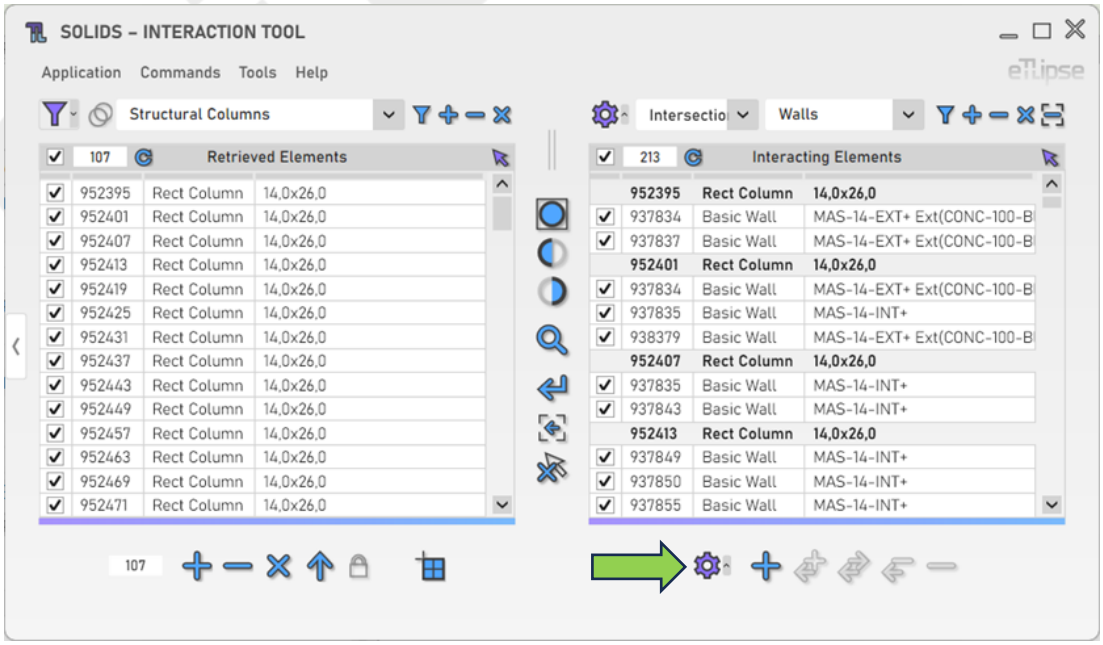
SOLIDS OPERATIONS

The tools to perform solids operations (Join, Cut, Unjoin, Uncut and Switch Join Order) between the elements in the retrieval list and the elements in the interaction list can be found below the Interacting Elements List.



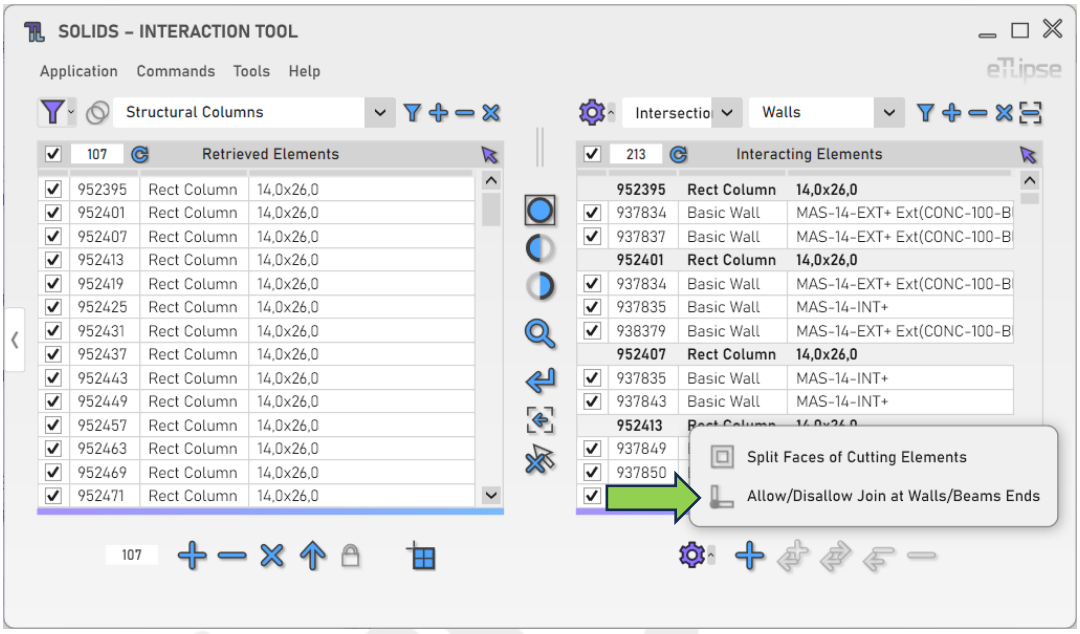
Additional Settings

Some features provide a greater number of settings and options. To access these settings, click the "Additional Settings" button.



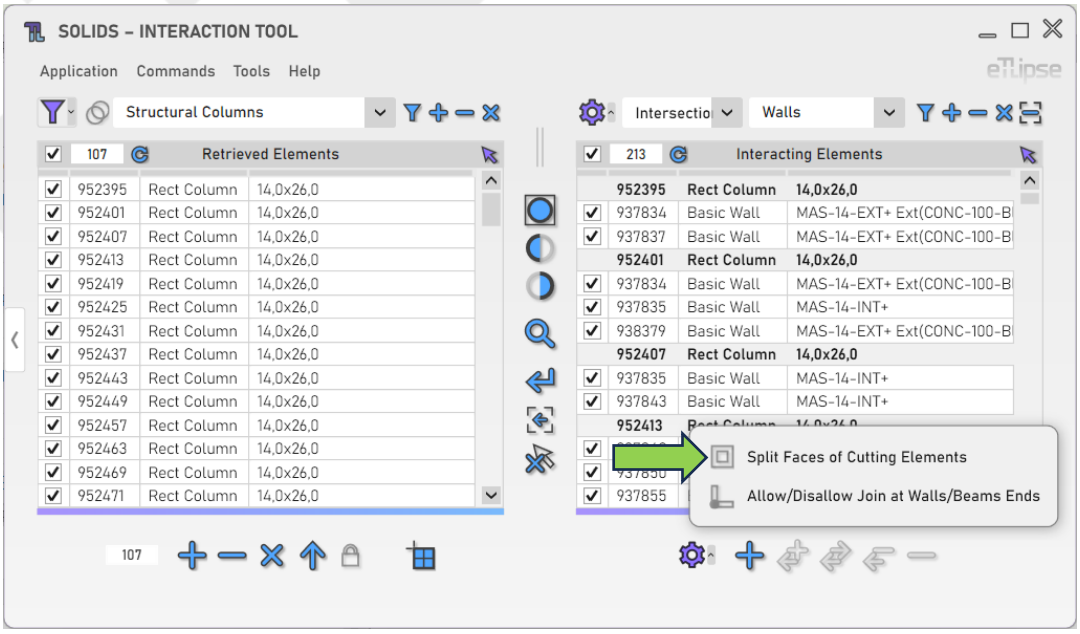
Allow/Disallow Join

To enable the automatic allowance (for Join Operations) or disallowance (for Unjoin Operations) of joins at the ends of walls or structural framing elements, you must enable the "Toggle Allow/Disallow Join" button.



Split Faces on Cuts

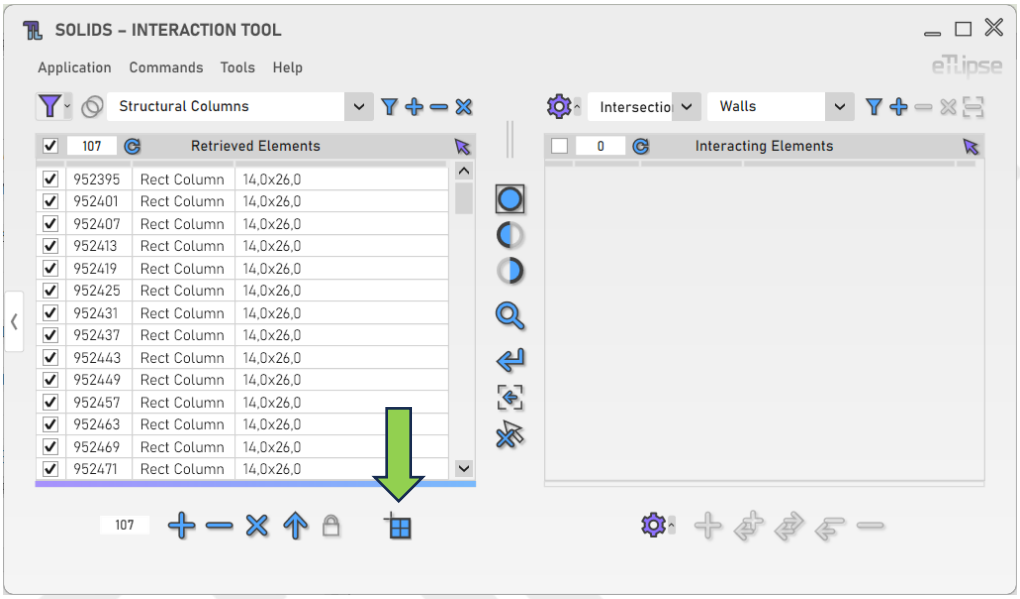
To enable the splitting of faces of the cutting elements during the Cut operation, you must enable the "Toggle Split Faces" button.

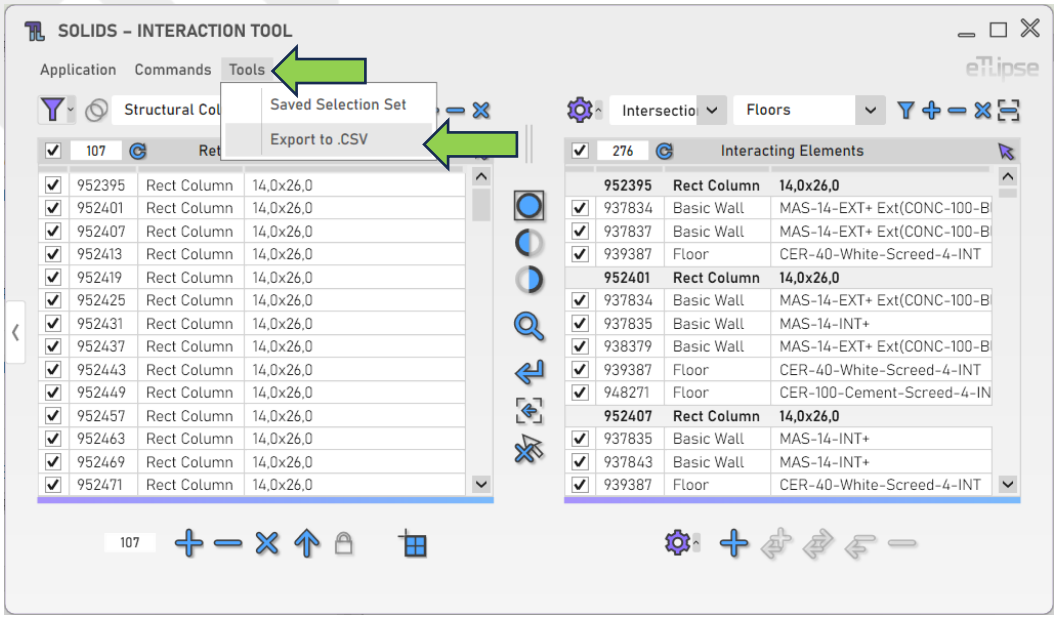


OTHER TOOLS

Align Patterns

Prompts the user to select a planar face of a valid element (a Wall, a Ceiling, a Floor or a Part) with cross or parallel Model surface pattern (Drafting patterns are not supported) in the Revit active view and then, with this reference, tries to align the patterns of the checked elements in the Elements Retrieval List, as long as they share the same category with the picked element and present the same pattern type (lines in the same direction and rotation).



Export Interactions to a CSV file

You can export a table with the current list of elements and their interactions to a .csv file. To do so, you just need to go to the menu "Tools>Export to .CSV