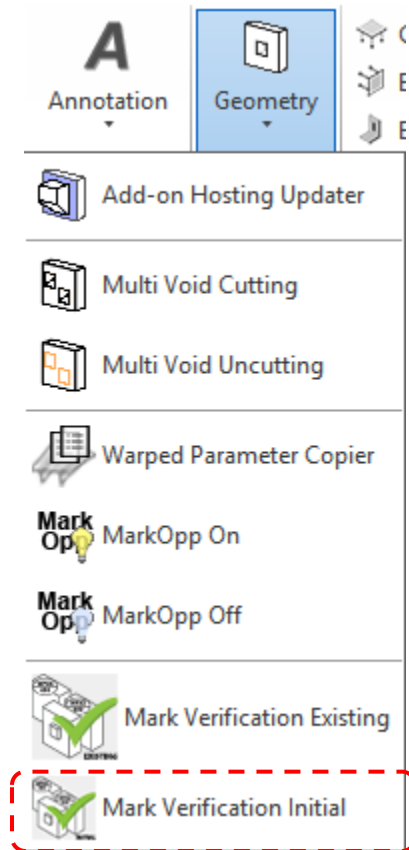


# Geometry Tools: Mark Verification Initial



## **Programmed Result of Tool:**

This tool will compare all structural framing in the model and identify precast pieces which are considered identical.

These pieces will be automatically assigned control marks based on the Mark Verification Prefix Settings from the User Settings toolbar.

The user will be presented with a list of control mark buckets where any necessary adjustments can be made. E.g., change the result of the naming convention for various control mark groups.

Tool employs fixed industry standard tolerances for similarity comparison.

## **Steps to Perform Tool Operation:**

*The tool will automatically find and compare all structural framing unless the user specifically selects a structural framing element or assembly. With a selection, the tool will only compare the selected members.*

- 1) User ensures that Addon Hosting Updater has already been run.
- 2) User clicks Mark Verification Initial Tool icon
- 3) If there is an active selection, the user then selects the desired scope of the tool: selected structural framing/assembly elements or entire model.
- 4) User reviews list of identified identical elements and their automatically generated control marks.

## **NOTES:**

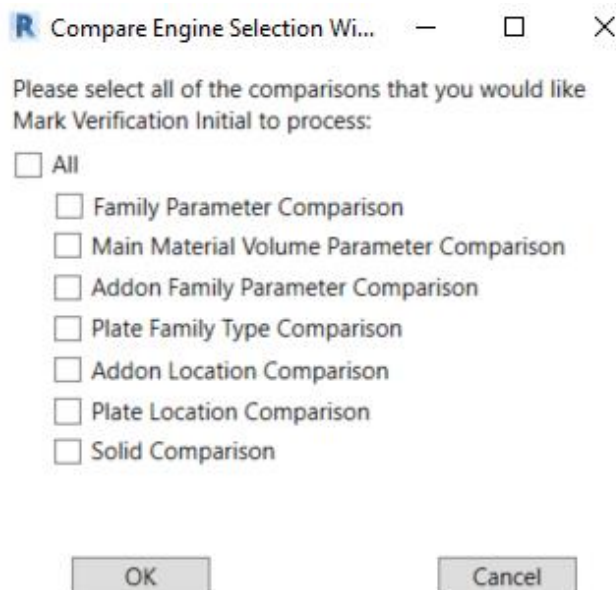
1. Existing control marks assigned to members, if any, are not only ignored, but will be overwritten by this tool.
2. If Assemblies have been created prior to running Mark Verification Initial, the assembly mark number may not match the structural framing element as new control marks may have been assigned to the structural framing elements.

# Geometry Tools: Mark Verification Initial

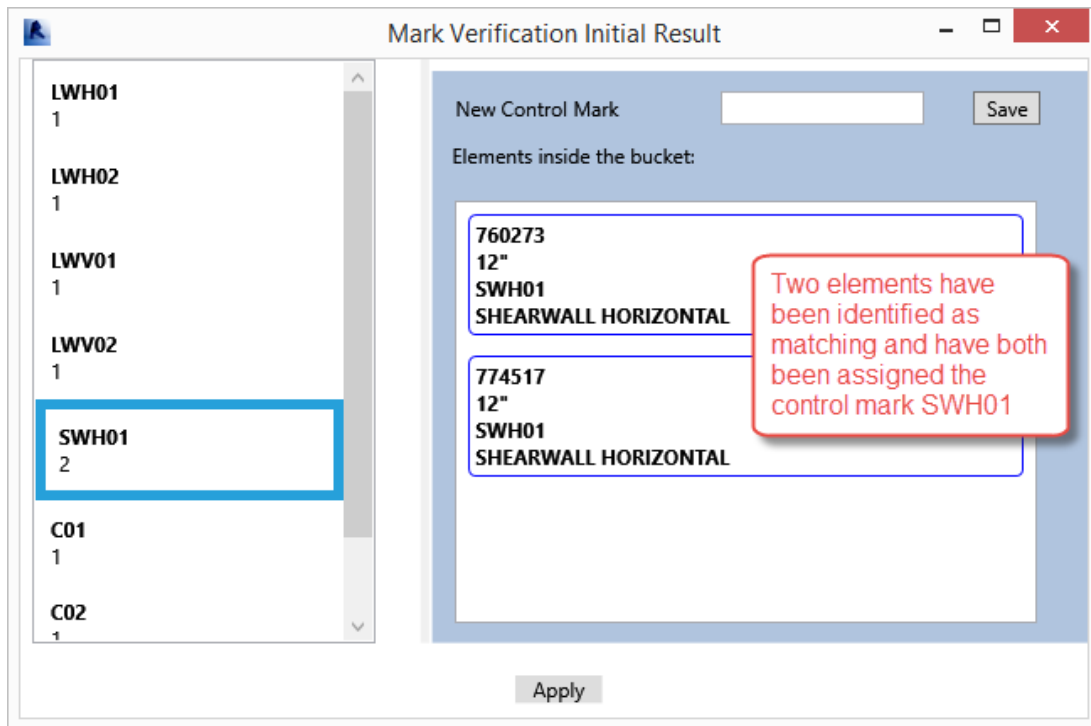
## Comparison Guide

This window controls which comparisons will be performed by Mark Verification Initial.

- **Family Parameter Comparison** – This compares the relevant parameters on the compared pieces
  - Relevant Parameters - DIM\_LENGTH, DIM\_WIDTH, DIM\_DEPTH, DIM\_THICKNESS, DIM\_HEIGHT, DIM\_DIAGONAL, DIM\_DIAMETER, DIM\_ARC\_LENGTH, DIM\_DEPTH\_ACTUAL, DIM\_WYTHE\_OUTER, DIM\_DEPTH\_FORM, DIM\_WYTHE\_INSULATION, DIM\_WIDTH\_INCHES, DIM\_WYTHE\_INNER, DIM\_STEM\_DEPTH, DIM\_HEIGHT\_INCHES, DIM\_DEPTH\_INCHES, WEIGHT\_PER\_UNIT, DESIGN\_NUMBER, FINAL\_STRENGTH, RELEASE\_STRENGTH, ARCH\_SF\_1-4, MEMBER\_WEIGHT\_CAST, DIM\_SQFT, CONSTRUCTION\_PRODUCT, BOM\_PRODUCT\_HOST, and HANDLING\_CODE.
- **Main Material Volume Parameter Comparison** – Compares MEMBER\_VOLUME\_CAST and Revit Volume on compared pieces
- **Addon Family Parameter Comparison** – Compares number, type, and family names of addons between compared pieces.
- **Plate Family Type Comparison** – Compares number, type, and family names of embeds between compared pieces.
- **Addon Location Comparison** – Compares addon locations between compared pieces.
- **Plate Location Comparison** – Compares embed locations between compared pieces
- **Solid Comparison** – Compares structural framing geometry between compared pieces. (Including edge lengths, face areas, etc.)



# Geometry Tools: Mark Verification Initial



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## **Known Limitations:**

- This tool requires that the add-on hosting updater has been run for the desired pieces (the entire model if running mark verification for the entire model), if this has not been run, add-on components will not be accurately identified.
- Warped parameters are excluded from mark verification
- Certain elements are excluded from all Mark Verification Comparisons based on the criteria below:
  - If the MANUFACTURE\_COMPONENT contains: MESH, WWF, LIFTING, REBAR, CGRID, SPIRAL REINFORCING, SHEARGRID, STRAND, PATCH, CENTROID, CIP, ERECTION, VOID, CONNECTION
  - If the Family Name contains: VOID, PATCH, SPOT\_ELEVATION
- Symmetric elements that are rotated 180 degrees but placed in the same location on two identical SF elements with the same mark number will cause them to fail
- If the user has run BOM Product Hosting or Construction Product Hosting prior to running Mark Verification Initial, BOTH BOM Product Hosting and Construction Product Hosting will need to be run again. Mark Verification Initial updates the control mark of the structural framing element but does not re-run BOM Product Hosting or Construction Product Hosting. This means that if BOM Product Hosting had been run, individual components may have the old control mark as their BOM Product Host so will therefore be inconsistent.
- Mirroring and rotating of precast and embedded items may cause a false negative mark number value. Please evaluate these values for possible increase in mark number efficiency gains.
- Embeds that are configured to multiply for marks will be ignored for plate count and location comparisons. Meaning is the embed has the MULTIPY\_FOR\_MARKS parameter value or yes or checked it will be ignored.
- Like add-ons with slightly different shapes may cause structural framing elements to incorrectly get assigned the same control mark if the addons have weights and volumes that are both within tolerance.

