VDCora User Guide

Version 2.20.5 | October 23, 2026

Standard workflows, revision 3

This guide explains how to use every tool on the VDCora and VDCora - MEP tabs in version 2.20.5. Follow the numbered instructions to configure the tool and create or apply its result. The settings reference explains each control and selectable option.

Bold text identifies a button, field, checkbox or selectable option. Entered example values are illustrative, not project design requirements. A disabled field is unavailable for the current mode.

Install and start

1. Close all running Revit sessions. Download **VDCoraSetup.exe** from vdcora.com and run it under the Windows account that will use the plugin.
2. Review the Revit year list. Check each year you want to install or update. The installer supports Revit 2023, 2024, 2025, 2026 and 2027 and shows the detected installation status.
3. Read the scrollable license agreement. Check **I accept the VDCora End User License Agreement**, then click **Install**. Personal, noncommercial use is free. Company or professional use requires prior written permission.
4. After installation, click **Close**. Start Revit, open a project and find the **VDCora** and **VDCora - MEP** ribbon tabs.
5. Open **VDCora > Help > About VDCora** and confirm the installed version. Use the tool directory in this guide to find the task you want to perform.
6. Save the project before making changes. Open the tool you need, follow its instructions, then read the completion report and inspect the result.

Before using a tool

Host versus source. The host is the Revit project you have open. A source is the host or a selected loaded link that the tool reads. Linked-source modeling tools create their output in the host, not in the source file. **Align Links** changes the placement of one link instance in the host.

Selecting inside a link. When a tool asks for linked members, doors or walls, click the actual object inside the selected link, not another instance of that file. Use Revit's selection cycling if necessary. For a multiple-object pick, click **Finish** in Revit when done. **Esc** normally cancels the pick; Scan Plan uses it differently after the first station.

IFC is not one geometry type. A loaded IFC link may expose native-like walls or ceilings, Generic Models, or meshes. Support depends on the actual category, relationships and usable solid geometry. A Generic Model is not automatically a native wall, a door host or a fabrication part.

Lengths. Use explicit Revit length notation, such as 1 1/2" or 9'-0", in modeling fields. Do not assume a bare number always means inches. Terrain fields are different: enter plain decimal numbers in feet, without unit marks.

Optional preview. Leave **Preview only** or **Preview scope only** unchecked for a normal modeling run. Check it only when you want a scope report without creating objects. If you choose preview, reopen the tool and turn it off when you are ready to create. Preview is not a graphical mockup or a required first stage.

Replacement versus missing-only. Replacement rebuilds recognized output for the successful source items in that run. Missing-only skips items already recognized as having output; it does not update their old dimensions or position. Turning replacement off can create duplicates. These choices are not available in every tool.

Reports. Compare candidates, in-scope items and created or changed items. A skipped or failed item was not completed. In report windows with **Copy**, use it to save the full text before clicking **Close**. Keep element IDs and fallback explanations when troubleshooting.

Model updates. Generated geometry is a snapshot, not a live association that follows future source edits. After a link update, rerun the appropriate tool and review its replacement behavior. Scan Plan likewise needs re-analysis rather than simply moving its markers.

Coordination output. Fireproofing, king studs and CMU bars are coordination representations, not a designed protection system, framing schedule or reinforcement detailing. Use confirmed project dimensions and inspect the geometry. For NWC export, include the output categories in your usual coordination view.

Tool directory

Click a tool name or use the PDF bookmarks. Each tutorial covers a normal run, settings and options, an example, result checks and troubleshooting.

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How to read this guide

Follow the numbered steps to create or apply the result. The setting reference explains each fixed dropdown choice and checkbox, including optional preview modes. Model-specific lists, such as materials and levels, are described by what they control.

Troubleshooting starts on page 42.

Align Links

VDCora > Coordination > Align Links

Move a misplaced linked file onto a reference link without hunting for it in the view. Supported moving instances include linked CAD and loaded Revit links, including IFCs linked through Revit.

Before you start

Load the moving file and the correctly positioned reference link in the host project. Decide which instance should move if the same file is linked more than once. Check the file units before aligning; movement cannot correct a scale error.

How to use it

1. Open **VDCora > Coordination > Align Links**. You do not need to find or select the misplaced geometry in the drawing first.
2. In **Linked file to move**, choose the misplaced DWG, RVT or other supported linked instance. Check its file name and instance identifier.
3. In **Reference model or link**, choose the link that is already correctly positioned. This instance stays where it is.
4. In **Placement method**, choose **Match insertion origin and rotation (recommended)** if both files were authored around the same meaningful origin. Use the reference below for the alternatives.
5. Leave **Also match elevation (Z) to the reference link** unchecked to preserve the moving file's height. Check it only if its origin or extents center should also match the reference vertically.
6. Read **CALCULATED PLACEMENT**, including translation, rotation and elevation. If these changes are not what you expect, change the method or cancel.
7. Click **Align link**. Compare at least two known model landmarks and check the height in section or 3D. If the placement is wrong, undo the operation before trying another method.

Settings and options

Linked file to move

The supported linked instance that will be translated and, where requested, rotated. Imported CAD that is not linked is not listed.

Reference model or link

The stationary instance used for placement. The moving instance is excluded from this list so it cannot align to itself.

Placement method

Choose based on how the files were authored, not how close they look in the view.

- **Match insertion origin and rotation (recommended).** Places the moving insertion origin on the reference origin and matches its plan rotation. Use when both source origins represent the same real location.

- **Match insertion origin only.** Matches insertion origins but preserves the moving instance's current rotation. Use when its orientation is already correct.
- **Match visible extents center.** Matches the centers of the links' geometry extents without matching rotation. Use to bring a distant file into the same area when its origin is not meaningful. Different model extents will still leave building features offset.

Also match elevation (Z) to the reference link

Unchecked preserves the moving instance's Z placement. Checked also aligns Z using the point selected by the placement method: insertion origin or extents center.

CALCULATED PLACEMENT

A numeric preview of movement, not a graphical overlay. **Align link** is disabled if the calculation is invalid or there is no movement to apply.

Align link / Cancel

Align link applies the calculated placement. **Cancel** leaves the model unchanged. An instance that was pinned is temporarily unpinned and restored to its pinned state.

Example

A linked DWG is far from an architectural RVT. Choose the DWG as the moving file and the architectural link as reference. If they share an origin, use **Match insertion origin and rotation (recommended)**. If not, **Match visible extents center** brings it nearby so you can complete a deliberate manual alignment.

Check the result

Check two grid intersections or building corners to reveal rotation or scale errors. Check elevation separately. Only the selected moving instance should change.

Troubleshooting

The links still do not line up

Their source origins may not represent the same location. Extents-center matching is approximate. Check units, then use a controlled coordinate or manual alignment workflow.

Align link is disabled

Read the calculated placement message. Select two different valid instances, or recognize that the chosen method already produces no movement.

What this tool does not do

Does not resize a link, establish shared coordinates or change the linked source files. A correct origin match does not prove the files use the same survey coordinates.

Adjust Extents

Lengthen, shorten or move the displayed ends of selected grids and levels in one operation.

Before you start

Open a plan, elevation, section or detail view that displays the grids or levels as lines. This tool edits host datums. It does not change grid spacing or level elevation.

How to use it

1. Select the grids or levels you want to adjust, then open **VDCora > Grids and Levels > Adjust Extents**. If nothing eligible is selected, pick the datums when prompted and click **Finish**.
2. Confirm the selected datum count and active view name at the top of the dialog.
3. For a fixed change, choose **Move by a distance**, enter **Distance** with units and choose **Lengthen** or **Shorten**. For an endpoint aligned to a picked location, choose **Pick a point in the view**.
4. Under **Which end to move**, choose the appropriate end. Use **Both ends** only for a distance change, or **Auto - the end nearest the point you pick** only for a point pick.
5. Under **Apply to**, choose **This view only (2D extents)** for drawing cleanup. Choose **All views (3D / model extents)** only when you intend to change model extents.
6. Click **OK**. In point mode, click the desired location in the view after the dialog closes. Press **Esc** at that prompt to cancel without applying the change.
7. Read the completion message and inspect the endpoints. The datums remain selected for another run. If you changed model extents, review another affected view.

Settings and options

How to move the ends

Choose one movement method.

- **Pick a point in the view.** After **OK**, pick a point. Each affected endpoint is positioned along its own datum line using that picked location. This can lengthen or shorten the datum; the distance field is disabled.
- **Move by a distance.** Moves the chosen end or ends outward or inward by the entered amount. Enables **Distance**, **Lengthen** and **Shorten**.

Distance

Enter a nonzero length, such as 2' 6" or 30". Use **Lengthen** for outward movement and **Shorten** for inward movement. With **Both ends**, each end moves by that amount, not half of it.

Which end to move

Ends are classified by their displayed direction in the active view.

- **Auto - the end nearest the point you pick.** Point mode only. Chooses the endpoint nearest the picked point for each datum individually.

- **Top end (or right end, for horizontal datums).** Moves the displayed top end of vertical datums or right end of horizontal ones.
- **Bottom end (or left end, for horizontal datums).** Moves the displayed bottom end of vertical datums or left end of horizontal ones.
- **Both ends.** Distance mode only. Lengthens or shortens both ends. It is unavailable when picking a single destination point.

Apply to

Select whether the change is local or model-wide.

- **This view only (2D extents).** Changes the selected datums' 2D display extents in this view. Use for sheet presentation without deliberately changing their model extents.
- **All views (3D / model extents).** Changes the underlying 3D extents. Other views using those model extents can change; existing view-specific 2D overrides are not a guarantee of identical display.

OK / Cancel

OK applies the distance change or advances to point selection. **Cancel** exits without changing datums.

Example

To extend both ends of selected grids by 1 foot in just the current plan, use **Move by a distance**, **Distance** = 1', **Lengthen**, **Both ends** and **This view only (2D extents)**, then **OK**.

Check the result

Confirm the selected ends moved and unselected datums stayed put. Verify shortened lines still reach the area needed on the drawing.

Troubleshooting

The options are gray

Auto requires point mode. **Both ends**, **Distance**, **Lengthen** and **Shorten** require distance mode.

A datum was skipped

Read its reported reason. Confirm it is visible in this view and that shortening would not collapse its valid extent.

What this tool does not do

Not for 3D perspective views or changing datum location. Unsupported or invalid individual datum changes are reported instead of forcing an invalid extent.

Grid and Level Bubbles

Show or hide grid and level bubbles at either end of a selection without editing each datum separately.

Before you start

Open a plan, elevation, section or detail view where the host grids or levels are visible. Bubble visibility is local to a view, even if the datum has 3D extents.

How to use it

1. Select the datums, then open **VDCora > Grids and Levels > Grid/Level Bubbles**. If none are selected, pick them in Revit and click **Finish**.
2. Confirm the count and view name. Read the **Currently on for** counts in each end group to understand any mixed starting state.
3. For **Top end (right end, for horizontal datums)**, choose **Show bubble**, **Hide bubble** or **Leave alone**.
4. Choose independently for **Bottom end (left end, for horizontal datums)**. You can show one end and hide the opposite end in the same run.
5. Click **OK**, read the completion message and inspect both ends. Other views keep their existing bubble visibility.

Settings and options

Top end / Bottom end

These are the displayed top and bottom ends in this view. For horizontal datums they mean right and left, respectively. Each group has the same three actions.

End actions

Apply these separately to the top/right and bottom/left groups.

- **Show bubble.** Turns that end's bubble on for each eligible selected datum in the active view.
- **Hide bubble.** Turns that end's bubble off in the active view.
- **Leave alone.** Preserves each datum's existing state at that end. Mixed on/off states remain mixed.

Currently on for

Reports how many readable selected datums already show the bubble at that end. It describes the starting selection, not the requested result.

OK / Cancel

OK applies the actions. If both ends are **Leave alone**, the dialog explains that there is nothing to do. **Cancel** exits without changes.

Example

To show bubbles only at the right ends of horizontal grids, choose **Show bubble** for the top/right group and **Hide bubble** for the bottom/left group, then **OK**.

Check the result

Check the intended visible and hidden ends. For a mixed selection, verify more than one datum.

Troubleshooting

Nothing changed

Make sure at least one end is set to **Show bubble** or **Hide bubble**, and review whether the datums already had that state.

Some bubbles could not change

Confirm those datums are visible and support the requested bubble in this view. Keep the reported IDs if the issue persists.

What this tool does not do

Does not rename datums, change extents or update all project views. Run it separately in each view that needs cleanup.

Match Sheet Position

VDCora > Sheets > Match Position

Align the model inside plan viewports to a reference sheet. Different crop boundaries or scope boxes do not need to have identical outlines.

Before you start

Place a reference viewport in the desired position on its sheet. To make floor plans line up across sheets, use the same scale and orientation. Different crop sizes or scope boxes are allowed.

How to use it

1. Open the reference sheet. If it has several viewports, select exactly the one whose model position should be copied. Do not select the title block or multiple viewports.
2. Open **VDCora > Sheets > Match Position**. Confirm the **Reference** view and sheet at the top.
3. Read the target rows. **align** moves an existing viewport; **place** places the named existing unplaced view. Rows with a skip reason cannot be processed automatically.
4. Select the target sheets. To choose your own set, clear **Filter**, click **Tick none**, then check the sheets you want. Use **Filter** to find sheets by name.
5. Clear **Filter** and confirm the full selection. Checks on filtered-out rows are retained and will still be processed.
6. Click **Go** to align or place the views on the checked sheets. Read the completed-sheet count and any caveats or failures.
7. Open the target sheets and compare a common grid intersection. Check crop position, title location and margins after the viewports move.

Settings and options

Reference

Uses the selected viewport, or the only viewport on the active sheet. The reference sheet is excluded from the targets and is not moved.

Filter

A case-insensitive contains search over the displayed rows. Hides rows but does not clear their checks.

Tick all / Tick none

Tick all checks actionable rows currently shown. **Tick none** clears rows currently shown. To clear every sheet, clear **Filter** before using **Tick none**.

Target checklist

Review the named view as well as the sheet before checking a row.

- **align.** The sheet has one viewport with compatible orientation. That viewport moves to match the reference model position.

- **place.** The empty sheet has a best matching existing, unplaced view of the reference view type, inferred from sheet and view names. No new view is created. Review the inferred name.
- **skipped / empty with a reason.** The tool cannot resolve the row, for example multiple viewports, incompatible orientation or no unique name match. These rows cannot be checked.

Reference warning

If exact model-to-sheet mapping is unavailable, the dialog explains the crop-based fallback. Alignment may then be approximate. The report can include further size or mapping caveats.

Go / Cancel

Go processes checked actionable sheets, including hidden checked rows. **Cancel** exits without moving or placing viewports.

Example

To match A127 to the model position on A107, open A107 and select its viewport. Clear the full target checklist, check A127, verify its row names the correct plan, then click **Go**. Compare a common grid location on both sheets rather than their crop-box centers.

Check the result

Compare at least two common model landmarks on the sheets. A shared anchor can match while different scales still cause the rest of the drawing to diverge.

Troubleshooting

Target sheet has multiple viewports

The tool does not offer an individual target-viewport selector. That row is skipped; align it manually or use a sheet arrangement with a single eligible viewport.

Empty sheet chose the wrong view

Uncheck it. Review naming or place the intended view yourself, then rerun.

Same crop still appears off

Read any fallback caveat. Check scale and orientation before changing crop regions or scope boxes.

What this tool does not do

Matches model placement, not title positions or crop-outline centers. It does not standardize scales, create floor plans or change scope-box assignments.

Ceiling Grid

VDCora > Ceilings > Ceiling Grid

Create modeled ceiling-grid members along a ceiling's actual model surface pattern for coordination and export.

Before you start

Load a suitable line-based 3D grid family into the host project. The ceilings' bottom-face material needs a usable model surface pattern, not a drafting pattern or solid fill. Open a reflected ceiling plan showing the ceilings you want to process.

How to use it

1. Open **VDCora > Ceilings > Ceiling Grid**. The count at the top describes visible host ceilings, even if you choose a link as the source.
2. Choose the grid **Family** and **Type** loaded in the host. These supply the modeled grid members, including when the ceilings come from a link.
3. If the family is loaded but not listed, check **Show all loaded families, not just line-based ones** and select a compatible type.
4. In **Source model**, choose the host or the loaded RVT/IFC instance containing the ceilings.
5. Check **Only ceilings visible in the active view** to process ceilings in this view, or uncheck it to process all ceilings in the selected source.
6. Check **Replace this tool's previous grid instances** when rebuilding existing output. Set **Flip each instance 180 degrees** according to the orientation required by your grid family.
7. Click **Place**. The tool creates members from the selected source and view scope; there is no subsequent manual ceiling-pick stage.
8. Read the report and inspect grid alignment, height, orientation and openings in 3D.

Settings and options

Family

The host-loaded family placed on each grid line. It must support line-based placement and produce the 3D geometry you want to export.

Type

The type within that family. Controls its section, dimensions and other family-defined properties. VDCora reads grid spacing from the ceiling pattern, not this dropdown.

Show all loaded families, not just line-based ones

Unchecked lists families recognized as line-based. Checked broadens the list but does not convert a point-based, detail-only or incompatible family into a valid 3D grid family.

Source model

Choose one source per run. **Host model** reads host ceilings. A listed RVT/IFC instance reads that link and creates grid members in the host at transformed coordinates. It does not process every listed link together.

Only ceilings visible in the active view

Checked restricts candidates to the active view. Unchecked uses the whole selected source. Some older APIs cannot filter linked ceilings by host-view visibility; the command stops rather than broadening scope silently.

Replace this tool's previous grid instances

Checked replaces recognized previous grid output on the ceilings being rebuilt. Unchecked keeps prior output and may produce duplicate members. This is not a delete-all grid command.

Flip each instance 180 degrees

Rotates each placed member to reverse the family orientation. Use when the chosen family's own reference direction produces upside-down or reversed geometry; it does not change grid spacing.

Place / Cancel

Place reads the selected ceilings and creates members. **Cancel** leaves existing grid output alone. Lines crossing an actual opening split; lines coincident with the opening perimeter stay continuous.

Example

For ACT ceilings in an architectural link, load the grid family into your container, choose its type and the architectural instance, choose active-view or whole-source scope, then click **Place**. Members follow each ceiling's pattern at its underside. Lines crossing light openings split, while lines along their perimeter stay continuous.

Check the result

Confirm members follow the actual pattern origin, spacing and rotation, lie at the ceiling underside and have the correct family section/orientation. Check both crossing and perimeter lines at an opening.

Troubleshooting

No grid family in the list

Load a compatible family. Broaden the family list only if it is already loaded but omitted.

No grid lines placed

Check the source, view visibility and bottom material model pattern. Read any missing-pattern or unsupported-face reason.

Linked active-view scope is unavailable

Use a supported Revit runtime or intentionally choose whole-source scope after reviewing the model size. Do not assume the whole link is a small run.

What this tool does not do

Requires usable ceiling elements and a planar bottom face. Older Revit APIs measure patterns with temporary dimensions and need an appropriate plan view. Mesh-only IFC ceilings or sloped/unsupported faces can fail.

King Studs

VDCora > Framing > King Studs

Model king studs at door jambs in the host or a loaded linked model without loading an external king-stud family.

Before you start

Use a host or loaded linked model containing doors with usable geometry. Identify the framed wall and door types that really need king studs; the Doors category can include hatches and stall doors. No external stud family is required.

How to use it

1. Open **VDCora > Framing > King Studs**. In **Door source > Model**, choose the host or the architectural RVT/IFC link containing the doors.
2. Choose **Selection**: **Checked door types** for the chosen types, **Only checked types without VDCora king studs** to add missing sets, or **Pick specific doors after clicking Create** for individual doors.
3. Choose **Walls**. Use **Framed / non-masonry only** for framed-wall doorways. Set **Level** and **Limit to active view crop / section box** for the area you want to process.
4. In a type-based mode, check the door types you want. Use **Filter**, **Recommended**, **All** and **None** to build the selection, then clear the filter to see all checked types.
5. Enter **Stud width** and **Studs per jamb**. Choose **Stud depth** and **Door anchor**. **Auto - wall core** and **Auto - exact wall opening first** use the wall and opening geometry automatically.
6. Enter **Jamb clearance**. Choose **Vertical extent**, set **Bottom offset** and **Top setback**, then select **Material**.
7. Set **Replace prior VDCora king studs only after each doorway rebuild succeeds** according to whether existing studs should be rebuilt. Leave **Preview scope only - report what will be modeled and create nothing** unchecked.
8. Click **Create**. In pick mode, select doors inside the chosen source and click **Finish**. In type modes, the checked types and scope filters determine the doors automatically.
9. Read the creation report and inspect both jambs in plan, section and 3D. Confirm the studs' wall/core position and top/bottom heights.

Settings and options

Model

The source containing the doors and their wall hosts. Source levels and source wall thicknesses are read from this model; generated studs are stored in the host.

Selection

Controls which doors are considered. Wall, level and active-view filters still apply to picked doors.

- **Checked door types.** Includes instances of the checked types, then applies the other scope filters. Use for a reviewed project-wide or level-wide group.

- **Only checked types without VDCora king studs.** Same type-based scope, but skips doorways with recognized prior VDCora studs. Use to add missing sets, not to update existing sizes or positions.
- **Pick specific doors after clicking Create.** The type checklist is disabled. After **Create**, select specific source doors in Revit and click **Finish**. Use for individually chosen doors or an unusual family.

Walls

Controls host-wall eligibility, not the stud material.

- **Framed / non-masonry only.** Excludes recognized masonry, concrete and curtain-wall hosts, and doors without a wall host. Classification uses model information and names, so verify construction.
- **All wall-hosted doors.** Allows doors with a wall host, including masonry or concrete hosts. Use only for an intentional override.
- **All selected door elements.** Allows eligible doors even without a native wall host. This can help unusual IFCs, but placement and depth need closer review because wall information may be missing.

Level

All levels removes the source-level restriction. A named level limits doors to that source level. This does not set the stud top elevation.

Limit to active view crop / section box

Checked restricts candidates to the current host view bounds. Unchecked permits the chosen source and type scope beyond the view. A crop/section-box filter is not a substitute for reviewing door types.

Include IFC-style doors categorized as Generic Models

Adds Generic Models that have recognizable IFC door identifiers. It does not turn arbitrary Generic Models into doors or supply a missing wall relationship. Check the reloaded type list after changing it.

Filter / Recommended / All / None

Filter hides nonmatching door types without clearing their checks. **Recommended**, **All** and **None** reset the entire type selection, including hidden types. **Recommended** excludes suspicious names by default. Clear the filter to inspect everything checked.

Stud width

The width of each rectangular stud along the wall at the jamb. It is not the doorway width. Must be greater than zero.

Stud depth

The stud dimension through the wall thickness.

- **Auto - wall core.** Uses the identified wall core, with a full-thickness fallback when core information is unavailable.
- **Full wall thickness.** Uses the complete host wall thickness, including finishes. This can be deeper than the framing core.
- **Custom.** Enables the adjacent depth field. Enter your desired positive depth and check that it fits the intended wall location.

Studs per jamb

Choose 1 through 4. Each jamb receives that number of adjacent rectangular studs. One per jamb produces two studs per doorway.

Jamb clearance

Nonnegative gap between the detected opening edge and the first stud at each jamb. Zero places the stud adjacent to the opening; a positive value moves it farther along the wall away from the opening.

Vertical extent

Select the height source. This tool does not raycast to the underside of a slab or deck.

- **Next source level above.** Starts at the door's source level and uses its explicit Story Above setting where available, otherwise the next higher building-story level, then a higher level fallback. If no higher level is usable, source wall extents are used and reported.
- **Source wall extents.** Uses the wall's modeled vertical limits. Appropriate when the wall reaches the intended framing height. It will not extend a short wall to the next story.

Bottom offset / Top setback

Bottom offset raises the base above the selected lower limit. **Top setback** lowers the top below the selected upper limit. Both are nonnegative. Use a confirmed top setback to allow for a slab/deck thickness; it is not automatic.

Door anchor

Controls the doorway location rule. Start with automatic unless you understand the family origin.

- **Auto - exact wall opening first.** Uses the wall cutout first, then wall-solid gap, door bounds or origin fallbacks. The report identifies the method used.
- **Family origin is opening center.** Treats the projected family origin as the opening midpoint. Use only when the family is authored that way.
- **Family origin is one jamb - hand direction.** Treats the origin as one jamb and offsets toward the family hand direction to locate the opening center.
- **Family origin is one jamb - opposite hand.** Uses the opposite direction for a jamb-origin family. Use when the family's jamb-origin direction is opposite its hand direction.

Material

Choose a host material for the generated solids. **By Category** leaves the material unspecified so category display applies. A steel/metal/stud-named material may be selected automatically; confirm it.

Replace prior VDCora king studs only after each doorway rebuild succeeds

Checked deletes recognized older sets only after that doorway rebuild succeeds. Failed doorways keep their previous output. Unchecked can add duplicates.

Preview scope only - report what will be modeled and create nothing

Checked reports candidate scope and placement/height methods without committing studs. Reopen, verify the selections and turn it off to model.

Create / Cancel

Create runs the chosen scope or begins door picking. **Cancel** exits without creating or replacing studs.

Example

If the wall stops at the ceiling but the king studs must reach the next story, choose **Next source level above**. If that story is at the slab top, enter the verified underside allowance in **Top setback**. Check the reported level pair and measure the modeled top.

Check the result

Verify position inside the intended core, clearance at both jambs, stud count, width and top/bottom elevations. Keep the report if a fallback was used.

Troubleshooting

Studs reach the wrong height

Read the level-pair or wall-fallback entry. Confirm the source door level, Story Above and building-story levels, not just the host levels.

Studs are misplaced

Test one door with automatic anchoring. Read the reported method and inspect its opening and family origin before choosing a manual anchor.

A door is missing from the run

Check type ticks, source instance, wall eligibility, level, active-view scope and IFC identifiers.

What this tool does not do

Rectangular coordination studs, not native framing design or an engineered stud schedule. Unusable doors or unsupported wall geometry can be skipped. Generic IFC support cannot guarantee native host relationships.

CMU Rebar

VDCora > Masonry > CMU Rebar

Create schematic vertical cylindrical bars in CMU walls from the host or a loaded Revit/IFC link. Bars split at voids in the wall's solid geometry.

Before you start

Confirm the selected source walls contain CMU and obtain the required bar diameter and spacing from project information. The tool models vertical cylinders and uses actual wall-solid voids to break them around openings. It does not create native Rebar.

How to use it

1. Open **VDCora > Masonry > CMU Rebar**. Choose the host or loaded RVT/IFC instance in **Source model**.
2. Choose **Apply to**: **Pick individual walls in Revit**, **All walls detected as CMU in this source**, **Checked wall types (all their instances)**, or **Checked individual walls from the list**.
3. In a list mode, check the walls or types you want. Use **Find**, **Check shown** and **Clear shown** to manage the list. Clear the search to review checks on all rows.
4. Choose **Layout**: start-offset placement, a bar at the wall midpoint with outward repetition, or equal edge margins.
5. Choose **Bar size** or **Custom** with a **Diameter**. Enter **Spacing**, **Start offset** when enabled, **End clearance**, **Bottom trim** and **Top trim**.
6. Set **Require a CMU material layer or recognizable wall type**. Keep it on for automatic verification, or turn it off for manually confirmed walls that require a wall-center fallback. Checked-list modes default this setting off.
7. Set **Replace prior VDCora bars on these walls** for the intended rebuild behavior. Leave **Preview only** unchecked to create bars.
8. Click **Create**. In pick mode, select the walls in Revit and click **Finish**. Other modes use the selected source/list scope. Confirm a large-run prompt if that is the scope you chose.
9. Read the report and inspect bar diameter, spacing, wall-thickness position and breaks around openings.

Settings and options

Source model

Reads the chosen source walls and creates schematic cylinders in the host. Linked source walls are not modified.

Apply to

There is no active-view or level filter in this tool. The all-source and checked-type options can include walls outside the current view.

- **Pick individual walls in Revit.** After **Create**, pick specific host walls or walls in the selected link, then **Finish**. The current Revit preselection is not used automatically.
- **All walls detected as CMU in this source.** Examines all recognized CMU basic walls in the source. Verification is forced on. Use when all detected source walls are intended.
- **Checked wall types (all their instances).** Includes all instances of each checked basic wall type in the selected source, at all levels. Review the instance counts shown.
- **Checked individual walls from the list.** Includes only the checked instances. Rows show type, level where available and element ID.

Find / Check shown / Clear shown

Find is a contains search over the displayed labels. **Check shown** and **Clear shown** affect only visible rows. Hidden checks stay selected. Clear the search before clearing or reviewing the full list. **[CMU]** means detected; **[?]** means not automatically confirmed.

Layout

Controls horizontal bar-center positions along each wall independently.

- **From wall start - use start offset.** Starts from the wall's modeled start using **Start offset**, then repeats at **Spacing**. Modeled start may not be the left end in your view.
- **Center-out - bar at wall midpoint, then outward.** Places a bar at half the wall length, then adds bars at the requested spacing on both sides. **Start offset** is disabled.
- **Equal margins - same edge gap at both ends.** Maintains the requested spacing and balances the remaining gaps at both ends. It does not necessarily place a bar exactly at the midpoint. **Start offset** is disabled.

Bar size / Diameter

#3, **#4**, **#5**, **#6**, **#7** and **#8** use diameters of 3/8", 1/2", 5/8", 3/4", 7/8" and 1", respectively. **Custom** enables **Diameter**. Diameter must be positive and smaller than spacing.

Spacing

Horizontal center-to-center spacing of bar stations. Must be positive. A station crossing a window may create separated bar segments above and below the opening.

Start offset

Used only in start mode. Sets the first bar-center position from the modeled start. An offset of zero can leave the first cylinder outside the wall-end fit check, so use an intentional inset.

End clearance

Minimum far-end bar-center inset in start mode; in centered modes it constrains both ends. The bar radius is also respected. It is not an extra jamb trim around every opening.

Bottom trim / Top trim

Raises the overall lower limit and lowers the overall upper limit of the wall's vertical bounds. Both must be nonnegative. Actual solid voids still clip bars at openings and profiles.

Require a CMU material layer or recognizable wall type

Checked verifies CMU material/type information and tries the CMU-layer center, with a recognized-type core/wall fallback. Unchecked permits manually confirmed walls and a wall-center fallback where no CMU layer is identified. It does not force all bars to full-wall center if a CMU layer is found. Vertically compound walls are checked for a stable axis; review any override or skip reason.

Replace prior VDCora bars on these walls

Replaces recognized prior bars only on successfully modeled walls. It does not remove all bars from walls outside this scope. Unchecked can duplicate output.

Preview only

Reports bar stations, visible segments and axis choices without saving cylinders. Reopen and rebuild the same verified scope with preview off to create them.

Create / Cancel

Create processes the list/all-source scope or prompts for wall picks. **Cancel** leaves existing output unchanged.

Example

To reinforce every instance of a confirmed CN_M8 wall type, choose **Checked wall types (all their instances)**, check CN_M8, choose the required **Bar size** and **Spacing**, and click **Create** with **Preview only** off. If CMU detection misses that assembly, a manually confirmed verification override permits the fallback axis described in the report.

Check the result

Check bar diameter, position within the wall thickness, spacing, end gaps and breaks at openings. Distinguish a bar station from its multiple visible segments in the report.

Troubleshooting

CMU walls are not recognized

Review the material and type names. Choose confirmed walls manually or in a checked list; then use a reviewed verification override if needed.

Vertically compound wall is skipped

The CMU center may change with height or cannot be verified. Read the axis reason. A reviewed wall-center override may be possible, but it is not the same as a varying CMU-layer axis.

No bars fit

Check wall length, start offset, end clearance, diameter and trims. Reduce the scope rather than assuming all model walls were processed.

What this tool does not do

Supports usable straight, vertical basic wall geometry. Curved, slanted, unsupported or shifting-axis walls may be skipped. No horizontal reinforcement, laps, hooks, engineering checks or masonry detailing is generated.

Board and Batten

VDCora > Siding > Board & Batten

Place modeled batten strips on wall finish faces with controlled size and spacing. Openings clip the strips so they can continue above or below the opening.

Before you start

Use straight host-model walls with accessible vertical finish faces. For a continuous facade, include its upper, lower and projecting parallel wall segments in the same run. The tool creates batten solids without an external family, not the board infill or a siding wall assembly.

How to use it

1. Select the host walls, then open **VDCora > Siding > Board & Batten**. Or open the tool and choose its later wall-pick mode.
2. In **Walls**, choose **Use selected walls** or **Pick walls after clicking Create**.
3. Choose **Exterior siding face** or **Interior finish face** in **Finish side**. Exterior/interior follow the wall's modeled side, not the direction you are viewing it from.
4. Check **Align parallel selected walls as one continuous facade (recommended)** for shared spacing across split, upper/lower or projecting walls. Uncheck it for separate layouts on each wall.
5. Choose **Start logic** and enter **Center spacing**. **Center-out - batten at wall center, work outward** places a strip at the center and repeats toward both edges.
6. Enter **Width**, **Projection**, **Bottom trim** and **Top trim**, then choose **Material**.
7. Set **Replace this tool's previous battens on each successful wall** for the desired rebuild behavior. Leave **Preview only** unchecked.
8. Click **Create**. In pick mode, select all intended host walls and click **Finish**. Otherwise, the tool uses the walls selected before opening it.
9. Read the report and inspect the facade in elevation and 3D, including alignment between walls and clipping at gables and openings.

Settings and options

Walls

Select how wall instances are supplied.

- **Use selected walls.** Uses the eligible host walls selected before opening the tool. The dropdown includes the selected-wall count.
- **Pick walls after clicking Create.** Prompts for host walls after the dialog closes. Click **Finish** after all intended walls are selected.

Finish side

Uses Revit's wall-side definition.

- **Exterior siding face.** Places battens outward from the wall's exterior finish face. Typical for external siding.
- **Interior finish face.** Places battens outward from the interior finish face toward the room. Useful for an interior finish treatment.

Align parallel selected walls as one continuous facade (recommended)

Checked shares a horizontal layout across selected parallel walls, including different story heights and projections. Each wall keeps its own finish-face position and openings. Unchecked gives each wall its own start/center, which can misalign stacked segments. Select only the intended facade group; unrelated parallel walls in the same run can affect its shared bounds.

Start logic

In continuous mode, the overall selected parallel group controls layout. Otherwise each wall does.

- **Center-out - batten at wall center, work outward.** Places a batten at the center and repeats the requested center spacing toward both edges.
- **Start at left edge.** Starts with a strip fitting at one horizontal edge, then repeats toward the other. Review which edge the modeled direction treats as left.
- **Start at right edge.** Starts from the opposite edge. Use when that edge is your design anchor.
- **Equal edge margins at the requested spacing.** Keeps the requested center spacing and distributes the remaining edge gaps evenly. Does not guarantee a center batten.

Center spacing

Center-to-center spacing, not clear space between strips. Must be greater than **Width**. Clear gap is approximately spacing minus width on a straight face.

Width / Projection

Width is the strip dimension along the wall face. **Projection** is its depth standing out from that face. Both must be positive.

Bottom trim / Top trim

Clips the overall wall-face lower and upper extent inward by the entered nonnegative amounts. Opening/profile geometry still clips each strip, so strips can continue above and below a window.

Material

Choose from host materials. **By Category** leaves an explicit material unset; use category visibility and graphics for its display.

Replace this tool's previous battens on each successful wall

Deletes recognized previous battens on a wall only after that rebuild succeeds. Battens on walls not included in this run are left alone. Unchecked may duplicate strips.

Preview only

Reports the proposed batten segments without creating them. It is not a temporary visible facade preview.

Create / Cancel

Create runs the selected scope or begins wall picking. **Cancel** exits without replacing output.

Example

For a gabled upper wall over two lower side walls and a projecting center wall, select all four together. Use continuous alignment and **Center-out - batten at wall center, work outward**. For an illustrative 1 1/2" strip at 16" center spacing, the clear gap is 14 1/2". Choose your own design dimensions.

Check the result

Check the full facade in elevation. Strips should share horizontal positions across the intended walls, stay on the chosen face and stop at actual opening voids. Check gable tops and full-strip width near jambs.

Troubleshooting

Upper and lower strips do not align

Rebuild the complete facade in one run with continuous alignment checked. Independently rebuilt walls may use different centers.

Strips are on the wrong side

Check wall exterior orientation and **Finish side**, not simply the camera/view direction.

Wall is skipped

Review whether it has a straight location line and a vertical planar finish face, and whether trims leave usable height.

What this tool does not do

Host walls only. Does not wrap a spacing grid around nonparallel corners. Curved, slanted, stacked or inaccessible/nonplanar finish faces can be unsupported. Generated battens do not update automatically when the wall changes.

Fireproofing

VDCora > Fireproofing > Model Fireproofing

Create modeled fireproofing around structural members from the host or a loaded Revit/IFC link for coordination.

Before you start

Use the project's specified protection thickness and coverage requirements. Load the structural link if needed and open the view you want to use for scope filtering. No external fireproofing family is required; generated solids are stored in the host.

How to use it

1. Open **VDCora > Fireproofing > Model Fireproofing**. Choose the host or the structural RVT/IFC link in **Source model > Model**.
2. Choose **Selection**. **All matching members** uses the filters below; **Only members without VDCora fireproofing** skips existing coverage; **Pick specific members after clicking Create** lets you choose individual members.
3. Under **Roles**, check the required **Beams / girders**, **Columns**, **Braces** and/or **Joists**.
4. Set **Shape / name**, **Host level** and **Limit to members intersecting the active view crop / section box** for the intended scope. Set **Include IFC-style members categorized as Generic Models** when that source uses identifiable IFC members in that category.
5. Enter **Thickness** and **End extension** with units. Choose **Coverage**: **Smart by member type (recommended)**, **Follow member profile**, or **Rectangular box enclosure**.
6. Choose **Material**. Check **Attempt a hollow shell by subtracting the member (slower)** if you want subtraction attempted, or leave it off to keep the constructed coverage solids as-is.
7. Set **Replace prior VDCora fireproofing for each successfully rebuilt member** for the desired rebuild behavior. Leave **Preview scope only - report what will be modeled and create nothing** unchecked.
8. Click **Create**. In pick mode, select structural members inside the chosen source and click **Finish**. Automatic modes process the matching members directly.
9. Read the creation report and inspect the modeled thickness, coverage shape, orientation and ends in section or 3D.

Settings and options

Model

Chooses one host or loaded linked source. Output is created in the host at the source's transformed location. A second instance of the same linked file is a different source placement.

Selection

Controls which source members are considered and whether existing coverage is processed or skipped.

- **All matching members.** Considers all potential members in the selected source, then applies roles, shape/name, host level, active-view and geometry checks. It is not automatically every structural object in the whole project.
- **Only members without VDCora fireproofing.** Uses the same automatic filters but skips members with recognized VDCora output. Use for new/missing coverage; it does not revise existing thickness.
- **Pick specific members after clicking Create.** After **Create**, pick particular members and click **Finish**. Bypasses the automatic shape/name and some automatic non-member screening, but roles, level, view bounds and usable geometry still matter.

Roles

Checkboxes determine which classified member roles remain in scope. Classification uses category, names and orientation; review it for unfamiliar IFCs.

- **Beams / girders.** Includes classified beam/girder members.
- **Columns.** Includes classified vertical column members.
- **Braces.** Includes members recognized as bracing or diagonal/kicker members.
- **Joists.** Includes members recognized as joists, including suitable multi-solid assemblies.

Shape / name

Automatic modes use a case-insensitive contains filter against member, family/type and available IFC names. Comma-separated terms are alternatives: W14, HSS8 includes matches to either term. Blank includes all names that pass the other checks. It is not a regular-expression or exact-section-size selector.

Host level

All levels removes the level restriction. A named choice uses the tool's geometry-based assignment to host levels after link transformation, not necessarily the source member's native level parameter. Inspect the reported scope.

Limit to members intersecting the active view crop / section box

Checked limits members by their transformed bounds intersecting the active view bounds. Unchecked allows the chosen source filters beyond the view. Use a meaningful crop/section box and check the report rather than assuming on-screen visibility equals scope.

Include IFC-style members categorized as Generic Models

Includes Generic Models only when they carry recognizable IFC member identifiers and usable solids. Useful for structural IFCs. Unchecked restricts the candidate categories; arbitrary Generic Models are not automatically accepted.

Thickness

Positive modeled protection allowance. Uses project length notation, such as 1 1/2". It does not calculate required thickness from a fire rating.

End extension

Nonnegative coverage allowance at member ends. Zero adds no requested axial extension. Box coverage expands its two ends by this value; profile coverage uses face/geometry-dependent construction, so check the modeled ends rather than assuming identical behavior for every solid.

Coverage

Chooses the modeled shape around the member.

- **Smart by member type (recommended).** Uses box enclosures for classified columns and joists, and profile-based coverage for beams and braces. Use when this combination matches the specified coverage.
- **Follow member profile.** Attempts coverage from suitable source faces or a suitable circular profile. Use when the section should follow the member rather than enclose it in a rectangular box. Some prismatic geometry can fall back to an enclosure; inspect the actual shape.
- **Rectangular box enclosure.** Creates an oriented rectangular envelope around the member's extents, enlarged by thickness. Includes the empty space within an I-section or joist envelope; this is a coordination enclosure, not a guaranteed contour-coating detail.

Material

Choose a material from the host model. **By Category** leaves material unspecified. A fireproofing/SFRM/spray-named material can be selected automatically, so confirm the choice rather than accepting it unnoticed.

Attempt a hollow shell by subtracting the member (slower)

Checked attempts Boolean subtraction of the member from each generated solid. Unchecked leaves the constructed coverage solids as-is; enclosure solids can overlap the source member. Subtraction is best effort and may remain incomplete. Inspect a section; the report does not certify that every solid is hollow.

Replace prior VDCora fireproofing for each successfully rebuilt member

Checked removes recognized previous output only after that member rebuild succeeds. Failed members keep old output. Unchecked preserves old output and can duplicate coverage. Missing-only selection still skips existing members regardless of this checkbox.

Preview scope only - report what will be modeled and create nothing

Checked produces a candidate/scope report without modeling coating solids. It verifies filtering, not a final coating cross-section. Reopen and turn it off to create output.

Create / Cancel

Create runs automatic selection or begins specific-member picking. **Cancel** exits without creating or replacing coverage.

Example

To fireproof W14 beams in a structural link, choose **All matching members**, check **Beams / girders**, enter W14 in **Shape / name**, and choose the required level/view scope. Set thickness and coverage, leave preview off, then click **Create**. **Smart by member type (recommended)** uses profile coverage for beams and braces, and boxes for columns and joists.

Check the result

Confirm the right members were included and the host link transform is correct. Check thickness, profile versus box shape, orientation and ends in section/3D. If hollow subtraction was requested, verify the interior geometry visually.

Troubleshooting

Expected member is missing

Check source instance, role classification, shape/name filter, host-level assignment, view bounds and Generic Model identifiers. Preview a picked single member to narrow down the cause.

The result is a box, not a profile

Check **Coverage** and the classified role. Smart uses boxes for columns/joists; profile methods can also encounter geometry fallbacks.

Hollow geometry is incomplete

Boolean subtraction can fail on imported solids. Inspect and choose an acceptable coordination representation rather than treating the shell request as a guarantee.

What this tool does not do

Does not determine code compliance, fire rating or a listed protection system. Curved, tessellated or unusual source geometry may be unsupported. Generated coverage is not an automatic update relationship to future source edits.

Scan Plan

VDCora > Field > Scan Plan

Build a preliminary laser-scan station plan with colored visibility regions and station connections. It supports planning for the Trimble X7 workflow.

Before you start

Open a host floor plan or structural plan at the level to scan. Load relevant architectural/structural links and check their placement. Visibility is estimated from model geometry at scanner height; temporary site obstructions and registration quality still need field judgment.

How to use it

1. From the source plan, open **VDCora > Field > Scan Plan**. For a new plan, the **Laser Scan Plan** settings window opens.
2. Under **Geometry to consider**, check **Host model** if its geometry should block scans. In **Loaded RVT / IFC links**, keep only the link instances that should act as obstructions.
3. Enter **Scanner height** above this plan's level and a conservative **Effective range**. Set **Station spacing**, which is used for automatic grid suggestions.
4. Decide whether **Treat modeled doors as closed obstructions** and **Include modeled furniture and casework** should be checked for the site conditions you expect.
5. Choose **Pick stations in the plan (Esc finishes)** for manual placement. Keep **Offer a PDF export after creating the plan** checked if you want an export at the end, then click **Create Plan**.
6. Click the first station in a clear location. **Esc** at this first pick cancels a new plan. After the first successful station, the tool creates and opens the generated scan-plan view.
7. Click additional station locations in the generated plan. After each successful click, wait for the updated coverage before choosing the next point. This is an after-click update, not a cursor-following preview.
8. Press **Esc** to open the station menu. Choose **Add another station** to continue, **Remove a station** to remove one, or **Finish and keep this plan** to stop placing.
9. If removing, click within 3 feet of the intended station marker. The nearest marker is removed and coverage updates. At least one station must remain.
10. Finish the plan. If PDF export was enabled, choose a location and save the file, or cancel the save dialog to keep only the Revit view. Read the report and inspect coverage/connection warnings.

Use an automatic grid instead

1. Choose **Suggest a grid inside a picked rectangle** in a new plan, set **Station spacing**, then click **Create Plan**.
2. Pick two opposite corners of the intended area. Review the proposed stations in the generated view, then use the same **Esc** menu to add or remove stations.

3. Choose **Finish and keep this plan** only after checking blocked rooms, overlap and flagged connections.

Edit a saved plan later

1. Open the generated **VDCora Scan Plan** view, not its original source view, and run **Scan Plan** again.
2. The command loads saved stations and planning assumptions without reopening the settings form. Add points or press **Esc** for **Remove a station** or **Finish and keep this plan**.
3. If you need different range, height or obstruction-source settings, create a new plan from the original source plan. The saved-plan editing menu changes stations, not those assumptions.

Settings and options

Host model

Checked includes supported obstruction geometry in the open project. Unchecked ignores that source. At least the host or one loaded link must be selected.

Loaded RVT / IFC links

Check the link instances representing actual obstructions for the plan. All loaded links start checked; review them rather than automatically including every discipline. Uncheck sources that should not block sightlines.

Scanner height

Height of the modeled scanner eye above the plan's level, not above a locally sloping floor. Valid input is 2 to 10 feet. Geometry crossing this height can block horizontal coverage.

Effective range

Planning radius from each station before obstruction clipping. Valid range is 10 to 250 feet. A wall can stop the footprint long before this radius. This setting is not the scanner's hardware maximum or a promise of useful capture quality.

Station spacing

Spacing of automatically suggested grid points, not the footprint radius or an enforced manual-station separation. Valid input is 5 to 32 feet and no greater than effective range.

Treat modeled doors as closed obstructions

Checked includes modeled door geometry as a blocker. Unchecked ignores the Doors category so a modeled wall opening can behave as open. It does not create an opening where the wall has no void, and unusual Generic Model door geometry can still block.

Include modeled furniture and casework

Checked adds those categories to the obstruction set. Unchecked ignores them. Furniture entirely below scanner height may not block this eye-height footprint.

Station placement

Choose how the initial layout is supplied.

- **Pick stations in the plan (Esc finishes).** Places stations manually. After the first point, **Esc** opens the editing menu; it does not discard already created stations.

- **Suggest a grid inside a picked rectangle.** After **Create Plan**, pick two opposite corners. The tool proposes grid stations using **Station spacing** and obstruction checks. Review and edit the result; it is not an optimized minimum-station solution.

Offer a PDF export after creating the plan

Checked opens a PDF save dialog after finishing station editing. Export is color raster to preserve region transparency. Canceling export does not delete the Revit view.

Create Plan / Cancel

Create Plan begins point/area picking. **Cancel** exits settings without creating a plan.

Station editing menu

Shown after **Esc** once a plan exists.

- **Add another station.** Returns to point placement with the current stations retained.
- **Remove a station.** Prompts for a click near the marker, within 3 feet. Retains at least one station.
- **Finish and keep this plan.** Ends editing and keeps the generated view and saved station data.

Example

In a corridor that turns a corner, place a station before the turn, another near the corner with useful common geometry, and one beyond it. Review the color overlap and flagged connections. A large clear footprint on both sides of a wall does not mean those stations share visible surfaces.

Check the result

Each colored fill is one station's estimated eye-height visibility footprint. Blended areas show overlapping footprints. Orange station connections flag weak modeled overlap or separation over 32 feet. Review room entry, corners and geometry actually shared by adjacent stations; coverage overlap alone does not guarantee registration.

Troubleshooting

The plan takes time after a click

Revit must analyze/model and regenerate view-specific output. Use a smaller planning area and only relevant obstruction sources. Wait for the update before adding another station.

A doorway appears blocked

Check the actual wall void, door setting and IFC/Generic Model geometry. The tool cannot infer a missing modeled opening.

Moving a marker did not change the fill

Markers are not interactive analysis controls. Run **Scan Plan** from the generated view and remove/add the station instead.

What this tool does not do

Up to 100 stations per plan. Footprints are eye-height 2D approximations, not complete 3D point-cloud coverage or a registration guarantee. New plans save station data; older plans without saved data must be recreated from their source plan.

Existing Terrain

VDCora > Site > Existing Terrain

Create existing-ground terrain from U.S. USGS elevation samples or a local XYZ/CSV file. Revit 2024 and newer use a Toposolid; Revit 2023 uses a TopographySurface.

Before you start

Identify the site coordinates and a corresponding model point whose height is known. Start in a plan view, or set a usable work plane in 3D. For Revit 2024 and later, the project must have a Toposolid type and a level. Online data supplies existing-ground context, not survey-verified grading.

How to use it

1. Open **VDCora > Site > Existing Terrain**. Choose **USGS 3DEP bare-earth DEM (online, U.S.)** in **Source** for the online workflow.
2. Enter **Area width (E-W)** and **Area height (N-S)** in feet. These are total rectangle dimensions around the site center, not radius values.
3. Click **Choose on map...**, pan/zoom to the site and click its center. Click **Use this pin** to return to the terrain window.
4. Verify **Latitude (WGS84)** and **Longitude**. You can enter decimal coordinates directly instead of using the map. Prefilled Revit Site Location values may be template placeholders.
5. Set **Point interval** for the sampling density you want. For example, a 500-by-500-foot area at 50-foot intervals requests 121 points. The online limit is 900 points.
6. Set **Rotation (deg.)** to map geographic east/north into the host's X/Y orientation. At 0 degrees, east is +X and north is +Y.
7. Click **Continue**, then pick the corresponding center point in Revit at the intended modeled ground elevation. Its model Z anchors the terrain heights.
8. Wait for the elevation samples, then review the source, point count, source-anchor elevation and elevation range.
9. Click **Yes** to create the terrain from the reviewed data, or **No** to stop without creating it.
10. Inspect the created Toposolid or TopographySurface in plan and section. Check placement, orientation and elevations against the site information.

Import local XYZ/CSV points instead

1. Prepare local offsets in feet: X and Y are horizontal offsets from the anchor, aligned to host X/Y. Z contains source elevation. For example, a first row can be X,Y,Z and a data row can be 25,0,302.
2. Choose **Local XYZ/CSV points (offline)**, click **Browse...** and select the file. Do not type survey northing/easting values into a file that is supposed to contain local offsets.
3. Enter **Source Z at picked point**, the source ground elevation at the local origin. Online rectangle, interval and rotation controls are not used in this mode.

4. Click **Continue** and pick the corresponding origin point at the intended height in Revit.
5. Review the loaded point count and elevation range, then click **Yes** to create terrain or **No** to stop.
6. Check placement and height in section. If another import is needed, manage the previous terrain deliberately; this command does not have a replace-existing checkbox.

Settings and options

Source

Choose one acquisition route.

- **USGS 3DEP bare-earth DEM (online, U.S.).** Requests ground-elevation samples near a U.S. latitude/longitude. Requires internet access. The service may use a slower point-query fallback.
- **Local XYZ/CSV points (offline).** Reads your local point file without requesting USGS data. Enables **Point file**, **Browse...** and **Source Z at picked point**. Online inputs, including rotation, are disabled.

Choose on map... / Use this pin

Choose on map... opens the coordinate picker. Pan and zoom, click the site center, then **Use this pin**. The displayed rectangle reflects the entered dimensions. The map is for coordinate picking, not a terrain-resolution or accuracy preview; it has no address-search field.

Latitude (WGS84) / Longitude

Decimal geographic coordinates, not survey northing/easting. For many U.S. sites longitude is negative. Enter plain numbers using a period for decimals and verify the site yourself.

Area width (E-W) / Area height (N-S)

Total sampled rectangle dimensions in feet, 10 to 10,000 each. A 500-by-500-foot rectangle reaches 250 feet in each cardinal direction from its center. Changing map zoom does not change these dimensions.

Point interval

Distance between elevation sample positions, 2 to 500 feet. Smaller values add points and processing time but cannot improve the underlying dataset's accuracy. The online grid limit is 900 points; reduce the area or increase the interval if exceeded.

Rotation (deg.)

Counterclockwise rotation applied when geographic east/north offsets become Revit X/Y offsets. At 0, east maps to +X and north to +Y; at 90, east maps to +Y. Does not rotate the geographic area sampled. It is unavailable in local-file mode, so prepare local X/Y in the correct host orientation.

Point file / Browse...

Local mode only. Choose a .csv, .xyz or .txt file with X,Y,Z numbers in feet. Include at least three XY locations that are not on one straight line, with no duplicate XY positions. A first-row header is optional; comma, semicolon, tab or space delimiters are accepted. X/Y must already be local offsets from the picked anchor, not large state-plane coordinates. Limit: 2,500 points.

Source Z at picked point

Local mode only. The source elevation corresponding to X=0,Y=0. Each point is placed at picked model Z + (source Z - this value). It aligns elevation differences to your model anchor; it does not automatically establish shared survey coordinates.

Continue / Yes / No / Cancel

Continue accepts inputs and starts model-point picking/loading. The later **Yes** creates the reviewed terrain; **No** declines it. **Cancel** in settings or download stops that stage. Press **Esc** during the model-point pick to cancel.

Terrain type and contours

There is no type selector in this window. Revit 2024+ uses an available Toposolid type and nearby host level; Revit 2023 uses TopographySurface. Adjust the created element's type and native contour display settings in Revit. The command does not draw separate contour lines.

Example

For a local file whose origin ground elevation is 300 feet, enter **Source Z at picked point** = 300. If you pick model Z=0, a row with source Z=302 is placed 2 feet above it. If you instead pick model Z=100, that row is placed at Z=102. The source elevation is not blindly assigned to the model's absolute Z.

Check the result

Verify the anchor's model height, north orientation, extent and point elevations. Check for spikes or unavailable-data artifacts. Pixel resolution, where reported, is not a vertical accuracy rating. Terrain is not automatically refreshed when source data changes.

Troubleshooting

The site is wrong

Verify decimal latitude/longitude and the center pin. Do not rely on a template's Revit Site Location.

Too many points

Increase **Point interval**, reduce the rectangle or thin a local file. The online and local limits differ.

Terrain is shifted or too high/low

Check the corresponding model anchor, its Z and the source-anchor elevation. Confirm local offsets and units.

Download or Toposolid creation failed

Read the message. Check internet/service access for online data and an available Toposolid type/level for creation. The creation transaction rolls back on failure.

What this tool does not do

Existing-ground context only. Does not retrieve parcel boundaries, guarantee LiDAR vertical accuracy, generate proposed grading or compute cut/fill. Public data resolution varies. Native Revit terrain-editing tools are a separate workflow.

Set Duct Elevation

VDCora - MEP > Duct & Pipe > Set Duct Elevation

Set horizontal straight duct height using a bottom face, centerline or top face measurement instead of interpreting multiple native elevation fields.

Before you start

Use editable host-model straight horizontal ducts, not ducts inside a link or fabrication parts. Check the Reference Level of each intended duct and inspect its connections. This tool edits the actual duct geometry.

How to use it

1. Select the host ducts, then open **VDCora - MEP > Duct & Pipe > Set Duct Elevation**. If none are selected, pick them when prompted and click **Finish**.
2. Confirm the selected duct count in the dialog. The count is the selection, not a guarantee all ducts support the edit.
3. Enter **Height above each duct's Reference Level** using units, such as 9'-0". The same value is measured from each duct's own level.
4. Under **Measure to**, choose **Bottom face**, **Centerline** or **Top face**. Choose the face you are actually coordinating, not whichever native Revit offset label happens to appear.
5. Click **Apply**. There is no preview checkbox. The command checks the edit and reports changed, already aligned and skipped ducts.
6. Inspect the chosen face in section and verify the adjoining fittings/run. Read any connection-protection reason for a skipped duct before retrying.

Settings and options

Height above each duct's Reference Level

Target face or centerline height relative to that duct's native Reference Level. It is not a shared-coordinate or absolute building elevation. Negative values are accepted for a target below the reference level; use an intentional project value.

Measure to

Controls which part of the bare duct section is placed at the entered height.

- **Bottom face.** Places the duct underside at the height. The centerline ends up half the section height higher.
- **Centerline.** Places the duct center at the height. Top and bottom are half its section height above/below.
- **Top face.** Places the duct top at the height. The centerline ends up half the section height lower.

Apply / Cancel

Apply attempts the edits. Changes that disrupt connections or move unselected neighbors can be rolled back and skipped. **Cancel** leaves ducts unchanged.

Example

For a 12-inch-high duct with **Height above each duct's Reference Level** = 9'-0", **Bottom face** means bottom 9' and center 9' 6". **Centerline** means bottom 8' 6" and center 9'. **Top face** means top 9' and bottom 8'. These are measured above that duct's level.

Check the result

Measure the selected face in section. Check more than one level if ducts use different Reference Levels. Verify connections and nearby unselected elements, not only the displayed offset parameter.

Troubleshooting

A selected duct was skipped

Check slope, pin/group status, supported section and connection constraints. Read the reported reason.

Same input gives different absolute heights

The ducts have different Reference Levels. The command intentionally uses each duct's level.

It would need to move the connected network

This is not a whole-network relocation tool. Use a deliberate connected-run editing workflow instead of repeatedly forcing an individual duct.

What this tool does not do

Horizontal straight round, rectangular and oval native ducts only. Measurements exclude insulation thickness. Does not resize ducts or guarantee a connected branch can accept the requested move.

Flat Transition

VDCora - MEP > Duct & Pipe > Flat Transition

Set a rectangular duct transition to flat top or flat bottom, including transitions directly beside bends when the family supports the required offset.

Before you start

Use host-model rectangular duct transition fittings whose family exposes a writable OffsetHeight or Offset Height instance parameter. Adjacent elements may be ducts or bends, but the transition must have usable physical connections. Inspect the downstream branch before allowing it to move.

How to use it

1. Select the transition fitting, then open **VDCora - MEP > Duct & Pipe > Flat Transition**. If none are selected, pick transitions in Revit and click **Finish**.
2. Confirm the selected transition count in the **Flatten Duct Transition** window.
3. Under **Transition face**, choose **Flat top** or **Flat bottom** for the face that must remain aligned through the size change.
4. Check **Allow the smaller downstream run to move if needed** if that connected branch may move to achieve the flat face. Leave it unchecked if the branch must remain in place.
5. Click **Apply**. The tool retains changes that satisfy its flat-face and physical-connection checks.
6. Read the changed/already-aligned/skipped counts and inspect the transition and adjacent bends in section and 3D. If branch movement was allowed, also check the affected run and clearances.

Settings and options

Transition face

Controls vertical justification, not left/right alignment in plan.

- **Flat top.** Attempts to align the tops of the connected rectangular sections through the transition.
- **Flat bottom.** Attempts to align their bottoms through the transition.

Allow the smaller downstream run to move if needed

Unchecked attempts the fitting change while preserving neighboring positions. Checked permits the tool's supported connected-branch adjustment if necessary to achieve alignment while keeping connections. It is permission to move affected geometry, not a guarantee that every branch can be resolved.

Editable offset parameter

A family prerequisite, not an input box in this dialog. The transition needs a usable writable instance offset parameter. A read-only or similarly named unrelated parameter will not make an incompatible family work.

Apply / Cancel

Apply tests supported offset changes and rolls back an unsuccessful transition edit. **Cancel** exits without attempting changes.

Example

For a 24-inch-deep duct reducing to a 12-inch-deep section, **Flat top** needs a 6-inch relative center-height difference so their tops can align. The tool works out the family offset; you choose the face. A bend directly beside the transition does not by itself make it unsupported.

Check the result

Use a section to verify the chosen top or bottom, not a plan view alone. Check both fitting ends remain connected and the downstream branch did not move into other services.

Troubleshooting

Offset parameter is missing or read-only

Use a compatible transition family. The command cannot create a new editable offset behavior in an arbitrary family.

Trial changes failed

Check constraints and connected geometry. Enable branch movement only after deciding that movement is acceptable.

The bend after the transition is involved

Select the transition, not the bend. Review the complete connected arrangement and report; supported adjacent bends are allowed but cannot override every family/routing constraint.

What this tool does not do

Rectangular transitions only. Not a general fitting-family editor, side-justification tool or automatic rerouting tool. The report is essential when a valid flat/connected result cannot be found.

Fabrication to Native Pipe

VDCora - MEP > Duct & Pipe > Fabrication to Pipe

Rebuild round fabrication pipework as ordinary Revit Pipe in the host, including pipework from a loaded Revit link whose trade fabrication library is not installed in the host.

Before you start

Load a native Pipe Type, a Piping System Type and appropriate routing fitting families in the host. The source must expose actual Revit fabrication pipework parts. This rebuilds ordinary round pipes; it does not copy the trade's Evolve specialty library.

How to use it

1. Open **VDCora - MEP > Duct & Pipe > Fabrication to Pipe**. Choose the host or trade link in **Model**.
2. Choose **Selection**: **Pick one part and trace its entire connected run** for the connected network, or **Pick only the fabrication parts to convert** for specific parts.
3. Select the host **Pipe type** and **System type** for the native output.
4. Check **Attempt native elbows, tees, crosses, reducers, and unions** to reconstruct standard fittings from the pipe type's routing preferences, or leave it off to omit that fitting attempt.
5. Leave **Preview connected-run scope only - create nothing** unchecked, then click **Select Run**.
6. In connected mode, click a source fabrication part. In manual mode, select parts and click **Finish**. Confirm the scope if prompted.
7. Read the created pipe/fitting counts and gaps in the completion report.
8. Compare centerlines, diameters, slopes and fittings to the source. Resolve reported gaps.

Settings and options

Model

The fabrication source. New host Pipe and fittings use transformed source coordinates; source parts remain unchanged.

Selection

Controls tracing versus explicit picks. There is no active-view or level restriction.

- **Pick one part and trace its entire connected run.** Follows connections from one seed, including branches beyond the visible area. Over 750 parts prompts for **Continue with this connected run**; cancel if that scope is unintended.
- **Pick only the fabrication parts to convert.** Pick the specific parts, then **Finish**. Limits the source scope to those picks; disconnected/manual partial selections may leave gaps.

Pipe type

Host pipe construction and routing preferences, not the source fabrication service. Confirm available sizes and fitting rules; proprietary trade settings are not reproduced.

System type

Host piping-system classification/type for the reconstructed pipe. Match the intended service.

Attempt native elbows, tees, crosses, reducers, and unions

Checked tries suitable standard fittings and connections from routing preferences. Unchecked does not attempt that fitting reconstruction. Successfully created pipes can remain even if fittings are unavailable; read gaps in the report.

Preview connected-run scope only - create nothing

Reports scope and convertible straight parts in either mode. Does not create temporary pipes or certify routing fittings will succeed.

Select Run / Cancel

Select Run starts source picking and then previews or creates according to the checkbox. It is not a separate preview button. **Cancel** exits settings without creating pipe.

Example

To rebuild a trade pipe network, choose its RVT link, the host pipe/system types and **Pick one part and trace its entire connected run**. Leave preview off, click **Select Run** and pick a part in that network. For selected portions instead, use **Pick only the fabrication parts to convert** and click **Finish** after your picks.

Check the result

Check transformed placement, diameter, slope, connections and host-level assignment. Temporarily hide the source or output to identify duplicates and differences. Confirm that gaps or substituted straight sections are acceptable for the intended coordination use.

Troubleshooting

Pipe type or system type is missing

The host needs native types before opening this workflow. Load or configure them and suitable routing families.

A part cannot be picked

Confirm it is a fabrication pipework part in the selected source, not native Pipe, CAD or an IFC mesh.

Fittings were not created

Check routing preferences, size availability and the gap messages. Pipes may still have been created.

A repeat run duplicated pipes

There is no replacement/missing-only option. Review and manage prior output before repeating the conversion.

What this tool does not do

Not fabrication design. Proprietary valves, flanges, insulation, metadata and specialty geometry are not reproduced; some inline specialties become pipe. Mesh-only IFC pipe is unsupported.

About VDCora

VDCora > Help > About VDCora

Find the installed VDCora version and the Revit build details needed when reporting an issue. Read or save the embedded license agreement.

Before you start

Open a project in the Revit year where you need to check the installation. Different Revit years on the same computer can have different installed plugin versions.

How to use it

1. Open **VDCora > Help > About VDCora** and read **VERSION**. Compare it with the release you intended to install.
2. Read **INSTALLATION DETAILS** for the Revit version, Revit build, runtime and installed add-in identifier.
3. Click **Copy details** to copy version/build/runtime information and the actual assembly location. Paste it into your issue report. The button changes to **Copied** if successful.
4. Click **License agreement** to open the license text. Scroll to read the agreement. Use **Save copy** if you want a local .txt copy, then choose a location in the save dialog.
5. Click **Close** in the license window to return to About, then **Close** again to exit About.

Settings and options

VERSION

Installed VDCora build in this Revit session. It is not a live reading of the latest website release.

Revit / Revit build

Identifies the running Revit year/version and exact build, useful when behavior differs between installations.

Runtime

Shows the running .NET environment and process bitness. This is a diagnostic field; users do not need to install a development SDK to use the plugin.

Installation

Shows the per-user add-in and assembly file identifier. The copied details also include its file location.

Copy details

Copies installation details to the Windows clipboard. **Copied** confirms success; **Copy unavailable** means the copy did not complete.

License agreement

Opens the embedded license. Reading it does not grant company/professional-use permission or change licensing status.

Save copy

In the license popup, saves a text copy of the embedded agreement. It is disabled if the agreement could not be loaded.

Close

Closes the current popup. Closing the license returns to About; closing About returns to Revit.

Example

When reporting a Scan Plan issue, use **Copy details**, paste that information, then add the tool report, the relevant settings and a screenshot of the source view. This gives both environment details and the actual model context.

Check the result

Check the version in the Revit year you are using. If an old build appears, confirm that year was selected during installation and restart Revit.

Troubleshooting

An old version is still shown

Close Revit, update the intended Revit year under the same Windows account, then start it again.

Copy is unavailable

Record the displayed values manually and mention that copying failed.

You are looking for updates

Version 2.20.5 has no automatic update checker. Check vdcora.com and install an approved newer EXE with Revit closed.

What this tool does not do

Displays installation information and license text. Does not diagnose model geometry, automatically download releases or grant company-use permission.

Troubleshooting

The ribbon is missing

Close Revit, run the installer under your Revit Windows account and select the correct Revit year. Accept the license, click **Install** and restart Revit. Ask IT to review corporate-policy blocks.

A linked source is missing or cannot be picked

Load the link and confirm its instance. Check the required categories and geometry: native-like walls/doors/ceilings, structural solids or fabrication parts. CAD and meshes are not interchangeable with them.

Preview finished but no geometry appeared

That is expected for report-only modeling previews. Reopen the tool, verify all settings and selections, uncheck preview and run again. Most previews do not draw temporary model objects.

Geometry was created but is not visible

Check the report's created count and element/source information. Review host category visibility, phase, level, crop and section box, then look in 3D at the transformed source location. **Fabrication to Pipe** creates native Pipe; the schematic modeling tools create coordination geometry.

Only part of the selected scope was completed

Read the skipped/failed reasons and IDs. Correct the specific issue and retry a small scope. Do not widen to the whole model simply to bypass a view or selection restriction.

How to rebuild after a source-model update

Generated objects do not follow source changes automatically. Save first, reload the source and rerun the appropriate reviewed scope. Use replacement where offered. Missing-only skips existing output and does not update it. Terrain and fabrication pipe conversion do not offer automatic replacement.

How to export the output to Navisworks

Use your normal NWC export view with the output categories visible. This release does not batch-create discipline export views or Navisworks search sets.

How to update or uninstall

Close Revit and run the current **VDCoraSetup.exe**. Select the intended Revit years and use **Install** to update or **Remove** to uninstall. Restart Revit and verify **About VDCora**. Version 2.20.5 does not notify automatically about new releases.

What to send with an issue

Send **Copy details** from **About VDCora**, the full tool report, exact settings/selection mode, source instance, element IDs and a contextual screenshot. Explain the expected and actual result.

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