Model Lines, Symbolic Lines and Detail Lines

Revit MEP 2011 Glossary Terms

Model Lines (used both in project/rvt files and in the family editor/rfa files)
A model element that exists in 3D space and is visible in all views of a Revit project. You can use model lines to represent 3D geometry in a building design, such as cords or cables that secure a tarp. You can sketch straight, curved, arc, circular, fillet, and tangent lines. (Compare with detail line and symbolic line.) Model lines are also used to create the 2D shapes used to create family geometry. See Creating 2D Geometry.

The following truss uses a model line to represent the beam stick symbol. For more information, see Model Lines.

Model lines are work plane-based elements that exist in 3D space and are visible in all views. They can be drawn straight or curved, either singly or in chains, or in the shape of a rectangle, circle, ellipse, or other polygon. (For detailed instructions on the available sketching options, see Sketching Elements.) Because they exist in 3D space, you can use model lines to represent geometry such as cords or cables supporting a tarp.

In contrast to model lines, detail lines exist only in the view they are drawn in (see Detail Lines). You can convert model lines to detail lines, and vice-versa. See Converting Line Types.

Topics in this section

- Placing Model Lines
- Converting Line Types
- Model Line Instance Properties
Symbolic Lines (used only in family editor/rfa files)

A line that provides information but is not intended to represent actual geometry in an element. For example, when creating a door family, you might sketch symbolic lines in an elevation view to represent a door swing. Symbolic lines are visible parallel to the view in which you sketch them.

You can control the visibility of symbolic lines on cut instances. You can also control the visibility of symbolic lines based on the detail level of the view.

Creating 2D Geometry

To create 2D family geometry, you use the Revit MEP Model and Symbolic lines tools that are available in the Family Editor.

The Model Line tool on the Home tab ➤ Model panel lets you sketch two-dimensional geometry for when you do not need to show solid geometry. For example, you could sketch door panels and hardware as 2D rather than sketch solid extrusions. Model lines are always visible in 3D views. You can control their visibility in plan and elevation views by selecting the lines and clicking Modify | Lines tab ➤ Visibility panel ➤ Visibility Settings.

The Symbolic Line tool on the Annotate tab ➤ Detail panel lets you sketch lines that are meant for symbolic purposes only. For example, you might sketch symbolic lines in an elevation view to represent a door swing. Symbolic lines are not part of the actual geometry of the family. Symbolic lines are visible parallel to the view in which you sketch them.

You can control symbolic line visibility on cut instances. Select the symbolic line and click Modify | Lines tab ➤ Visibility panel ➤ Visibility Settings. Select Show only if instance is cut.

In the displayed dialog, you can also control the visibility of lines based on the detail level of the view. For example, if you select Coarse, that means that when you load the family into a project and place it in a view at the Coarse detail level, the symbolic lines are visible.
**Detail Lines (used only in a project/rvt file – not in family editor/rfa file)**

The Detail Line tool creates detail lines for detailing drawings. Detail lines are visible only in the view in which they are drawn. Often they are drawn over the model view. You can convert detail lines to model lines. See [Converting Line Types](#).

Note: If you want to sketch lines that exist in 3D space and display in all views, see [Model Lines](#).

The Detail Line tool has the same line styles as the Line tool, but detail lines are view-specific, like detail components and other annotations.

Detail lines are drawn in the view’s sketch plane. They can be used to convey detailed information and show features that do not exist for components used in a project. For example, you could sketch detail lines to show turning vanes in an elbow, when turning vanes are not supported by the elbow component. Or detail lines can be used in a drafting view to draft lines with no reference to the model. Some examples of detail lines in a drafting view are signage or typical details that have no reference to the model.

You can also use detail lines for tracing over underlay elements. See [View Properties](#) for more information on setting elements as underlays. Detail Lines are sketched as full-toned lines in Revit MEP.

Before using this tool, you should read [Creating Details](#).

1. Click Annotate tab ➤ Detail panel ➤ (Detail Line).
2. Sketch lines as appropriate.

For another good treatment and explanation of lie types in Revit, see David Duarte’s [Revit Beginners blog](#).