

How to generate cable tray elbows using BIM



Overview

Cable Tray and Conduit Add Cable Tray Fittings As you draw cable tray, Revit automatically adds fittings. Use the following procedure to manually add cable.

Key Takeaways

Cable tray elbows in BIM can be generated in Revit either by using preloaded fitting families, creating custom elbow families, or automating placement with Dynamo scripts. Manual Creation Using Revit Fittings

- Load the Correct Families: Ensure that your project uses the MEP template and that cable tray fitting families (45° and 90° elbows) are loaded into the project .
- Place Straight Trays: Draw straight cable tray runs in your floor plan view, setting the tray size, system type, and elevation in the properties palette .
- Add Elbows: When a tray changes direction, Revit can automatically generate elbows if the correct fitting families are loaded. For a 45° elbow, two segments are typically used, and for a 90° elbow, three segments are required .
- Adjust Parameters: Modify the elbow properties such as radius, angle, and elevation to match design requirements. Proper parameter setup ensures accurate connectivity and routing behavior .

Creating Custom Elbow Families

- Use the Family Editor in Revit to create custom elbow geometries if standard fittings do not meet project specifications.

- Define reference planes and parameters for angles, radius, and width to allow flexibility in placement.
 - Save the family and load it into your project for use in cable tray routing .
- Automating Elbow Generation with Dynamo
- Dynamo Script Setup: Dynamo can read CAD lines or Revit elements to automatically generate cable trays, including elbows, tees, and steps .
 - Define Tray Properties: Set tray width, type, elevation, and direction changes within the script.
 - Automatic Placement: The script can place elbows at intersections or directional changes without manual intervention, saving time on large projects .
 - Integration: Dynamo scripts can be integrated with Revit to handle complex layouts, ensuring consistent and accurate elbow placement across the model .
- Best Practices
- Always start with the correct MEP template to ensure all necessary families and settings are available .
 - Load all required fitting families before beginning routing to avoid missing connections.
 - Use Dynamo for repetitive or large-scale projects to improve efficiency and reduce manual errors.
 - Verify elbow placement and connectivity in 3D views to ensure proper routing and clearance. By combining Revit's built-in fittings, custom family creation, and Dynamo automation, you can efficiently generate cable tray elbows in BIM, ensuring accurate, professional, and scalable electrical designs.

Article Content

Cable Tray and Conduit

Add Cable Tray Fittings As you draw cable tray, Revit automatically adds fittings. Use the following procedure to manually add cable

Automate Cable Tray Modeling with Dynamo | ahmed tarek ...

Automated Cable Tray Modeling with Dynamo | Revit + AutoCAD Integration I've developed a Dynamo script that streamlines Cable

Learn REVIT Fast LRF-ELEC-01-03 – Cable Tray – Revit news

This lesson walks through how to start a project and properly set up for Electrical Cable Tray design in Revit 2025. It focuses on

THBIM Revit Add-ins

Automatically create openings in walls and slabs for conduits, pipes, ducts, and cable trays. Precisely matches the size of each

Cable Tray Fitting creation (Elbow Bend)

Solved: I am having a problem creating a cable tray fitting, I did the best I could (see attached), however still doesn't

Custom cable tray elbows only draw at 90°

I'm trying to draw some real to life cable bus, fittings and all. I'm using cable tray for this, and have created custom

Automatic Place Cable tray/Conduit in Revit

I'm trying to create the automatic cable trays/Conduit based on two Different Coordinate value with Dynamo. I have

Custom Cable Tray Fitting Family

I cant think of a way to produce the cable tray fitting shown in the attached picture. Can you help me achieve the

Modeling and Coordinating Cable Tray Systems in Revit for Electrical ...

Understand how to model a cable tray using the systems tab in the electrical section for effective coordination,

Can't create cable tray bends

That message suggest that there is not sufficient room to create the fitting that goes between the straight sections or

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Help | Video: Place Cable Tray | Autodesk

Transcript When you use Revit to design an electrical power system, you can model cable tray in your design. Currently in Revit,

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Cable Tray Orientation and Fittings

This is the result of some initial test code that creates individual cable tray elements, but no fittings. It naively creates the cable trays

T&B Cable Tray Systems Design Tools | ABB Electrification Canada

Architects and engineers use Bentley files to design, build, and manage infrastructure projects of all sizes and complexities. T&B

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This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

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