

How to automatically generate T-junctions on cable trays



Overview

Cable tray automatic connection. For cable trays the used bend radius will affect the result, also if the offset difference is larger, it will create a 90°.

Key Takeaways

T-junctions on cable trays can be automatically generated in Revit using proper family loading, routing settings, or specialized plugins, while wire mesh trays allow on-site TEE junction creation without additional fittings. Using Revit for Automatic T-Junctions

- Load the Correct Fitting Families Revit can auto-generate elbows, tees, and crosses when cable trays intersect or branch, but this requires the correct TEE fitting families to be loaded into the project before routing begins . Without these families, Revit cannot create vertical or horizontal T-junctions automatically.
- Configure Electrical Settings
- Navigate to MEP Settings → Cable Tray Settings.
- Ensure angle defaults and bend radius are set appropriately. For example, using “Use Any Angle” allows Revit to create non-90° connections automatically .
- Adjust offsets carefully; large vertical offsets may force Revit to create 90° bends instead of 45° transitions, which may require manual adjustment .

- Create Custom Families if Needed For vertical T-junctions or non-standard configurations, you may need to create a custom Revit family representing the TEE fitting. This family can then be used in routing to allow automatic generation of the junction .

- Use Plugins for Enhanced Automation Tools like the EAE Cable Tray Plugin allow users to draw cable tray routes, segment them, and automatically apply product-specific fittings, including T-junctions, while keeping the model updated with the latest manufacturer data . This reduces manual adjustments and ensures compliance with standards.

Wire Mesh Cable Trays

For wire mesh cable trays, TEE junctions can be created directly on-site without pre-fabricated fittings. The process involves:

- Cutting the mesh at the branching point.
- Bending the mesh to form a three-way connection.
- Securing the junction with clamps or fasteners. This method is fast, cost-effective, and widely used in industrial projects, data centers, and infrastructure installations in India and globally . Best practices include avoiding excessive wire cutting, ensuring proper alignment, and supporting the junction to prevent sagging or cable damage.

Practical Tips

- Always start with the correct template in Revit to ensure all cable tray content is available .
- For vertical T-junctions, consider creating a horizontal run with an elbow and adjusting elevations to approximate the TEE if a suitable family is unavailable .
- Group or lock connected segments to maintain alignment when moving trays in 3D views.
- Verify that bend radius and offsets comply with cable manufacturer recommendations to prevent cable stress. By combining proper Revit settings, custom families, or plugins, and understanding wire mesh tray techniques, T-junctions can be generated efficiently, reducing manual work and ensuring accurate routing.

Article Content

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Horizontal T-Junctions This junction provides a 90° branch connection where three cable tray runs meet, maintaining continuous

Cable Tray Placement Options

Automatically Connect: Lets you automatically connect to the snaps on a component when starting or ending a cable tray segment.

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Custom Cable Tray System Families

If anything my custom family better represent specific cable tray companies. Why did Revit give us the option to

Automating Shifting of Conduits in a Cable Tray

I'm designing a script to automatically route conduits on a cable tray from one list of starting points to a list of ending

Creating a Cable Tray

Information on the Ducts section. Shows step-by-step how to create a cable tray in the discipline Electrical. Information on the area

760084046 | CRTJSK

Cable Runway, junction splice kit, black 760084046 | CRTJSK Available in: Asia Australia/New Zealand EMEA Latin America North

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

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I created dynamic blocks for cable tray. I have a tool palette setup and can insert the blocks as needed. I wanted to

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Creating Conduit and Tray Schedules with SaaS Electrical

Engineers and Designers establish the need for multiple pathways to and from junction points, and often, the SaaS

Custom Cable Tray Fitting Family

Hello dear community, I cant think of a way to produce the cable tray fitting shown in the attached picture. Can you

Create cable trays along a curve with Dynamo

Hi everyone, I'm trying to create the cable trays in a tunnel with Dynamo. I have already imported in Dynamo both the

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4. Cable Tray Fittings When drawing trays that intersect or change direction, Revit will auto-generate fittings (elbows, tees, crosses)

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