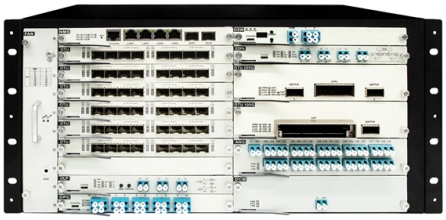
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Cable tray slope 30 degrees



Overview

In the Cable Tray Layout Preferences dialog box on the Routing tab, under Cable Tray Layout Rise/Run, click Angle or Fraction.

Key Takeaways

A cable tray can be installed at a 30-degree slope with proper calculation of tray length, hanger spacing, and V-cut dimensions to ensure safe and code-compliant support.Slope Calculation and Tray Length

For a 30-degree inclined cable tray, the slope is applied in the vertical (Z) direction. The tray length along the slope can be calculated using basic trigonometry: the sloped length equals the vertical rise divided by the sine of 30° or the horizontal run divided by the cosine of 30° . Tools like the Cable Tray Slope & Fabrication Calculator can automatically determine V-cut dimensions, marking intervals, and slope length for on-site fabrication .

Hanger Spacing and Support

Proper support is critical for sloped trays. Hanger spacing depends on tray width, slope angle, and load. For a 30-degree slope, standard practice often reduces the maximum spacing compared to horizontal runs to prevent sagging and maintain structural integrity. For example, ladder trays may have a maximum support spacing of 3.6 meters, but this should be adjusted for inclined sections . Center-hung supports allow easier cable installation and reduce stress on the tray.

Fabrication Considerations

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When bending or cutting trays for a 30-degree slope, V-cuts are used to create precise angles. The half-width and full-width of the V-cut are determined based on the tray width and slope angle, ensuring a snug fit at the bend . Using a to-scale SVG diagram or on-site measuring tools helps mark cuts accurately.

Installation Best Practices
• Ensure the tray is installed according to local electrical codes and manufacturer guidelines .

• Avoid using trays as lifting points during handling; offload carefully to prevent damage .

• Verify that the slope does not exceed recommended angles (typically 45° maximum for vertical risers) to maintain safety and ease of cable pulling .

• Consider environmental factors such as temperature, moisture, and chemical exposure when selecting tray material. Ladder trays are common for power cables, while ventilated troughs or FRP trays may be preferred for corrosive or high-moisture environments .
Summary

Installing a cable tray at a 30-degree slope requires careful planning of tray length, hanger spacing, and V-cut fabrication. Using calculation tools and following manufacturer and code guidelines ensures a safe, structurally sound, and efficient installation .

Article Content

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