Calculation of cable tray angle 30

Article Overview

To create a 30-degree offset in a cable tray, multiply the offset distance by 2 to determine the sloped section length and mark the cut points accordingly.

Step-by-Step Calculation
• Determine the Offset Distance The offset distance is the lateral or vertical distance you want the tray to move to bypass an obstacle.
• Calculate the Sloped Section Length For a 30-degree bend, the length of the tray between the two bends (hypotenuse) is calculated as: Sloped Length = Offset Distance × Cosecant(30°) = Offset × 2 . This ensures the tray reaches the desired offset while maintaining the correct angle.
• Mark Cut Points on the Tray Use the calculated sloped length to mark where the V-notches or cuts should be made on the tray. For example, if your offset distance is 150 mm, the sloped section length will be 150 × 2 = 300 mm .
• Determine Cut Size for the Tray Width If you need to cut the side rails, the cut size can be calculated using the tray width and the angle. For a 30-degree bend, the multiplier for the cut is based on the tray width and the angle. For instance, a 100 mm wide tray would require a cut of approximately 26 mm (100 × 0.26) on each side .
• Install the Tray After cutting, bend the tray at the marked points to form the 30-degree offset. Ensure the bend radius is sufficient for the cables to avoid damage.

Practical Tips

• Two Bends Per Offset: Every offset requires two bends—one to move the tray laterally and one to return it to parallel with the original path ....

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