

Table of Cable Tray Bending Angle Coefficients

Article Overview

Cable tray bend angle coefficients are multipliers used to calculate the straight tray length required for offsets based on the bend angle.

Cable tray bend angle coefficients simplify the calculation of sloped section lengths and cut marks when installing horizontal, vertical, or compound offsets. These coefficients are multipliers applied to the offset distance to determine the length of the straight tray section needed between bends. Using these coefficients ensures proper alignment and continuous cable flow while bypassing obstacles.

Typical Bend Angle Coefficients

Bend Angle	Coefficient (Multiplier)	Notes
15°	3.73	Small angle, minimal offset length increase
30°	2.0	Common for gentle offsets, widely used in installations
45°	1.41	Standard for moderate directional changes
60°	1.15	Steeper bends, shorter straight section required
75°	1.04	Near-vertical offsets, minimal straight section
90°	1.0	Right-angle bend, straight section equals offset distance

These coefficients are applied as follows: Distance Between Cut Marks = Total Offset x Coefficient. For example, if a 30° bend is used to bypass a 500 mm obstacle, the straight tray section should be 500 mm x 2.0 = 1000 mm. This method works for horizontal, vertical, and compound offsets and helps maintain proper cable routing and installation feasibility .

Practical Considerations

- o Always measure the offset distance along the straight tray to mark bending points accurately.
- o Use the appropriate coefficient for the bend angle to ensure the tray fits the intended path.
- o For compound offsets (combination of horizontal and vertical changes), calculate each component separately and sum the required straight lengths.
- o Verify that the tray system and fittings comply with BS EN 61537 or relevant standards for safety and load capacity .
- o Consider the type of cable tray fitting (elbow, riser, tee) and material when planning bends, as these can affect the effective bend radius and installation space .

Using these coefficients allows engineers and installers to efficiently plan cable tray layouts, reduce material waste, and ensure safe, continuous cable support in industrial and commercial installations.

Cable Tray Bend Radius Calculator Calculate the minimum cable tray bend radius required for LV, MV, HV, fiber optic, and control

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Hi Would someone kindly let me know the formula to create a flat 45 in say 100 mm cable tray for example. So I can

Example: What is the minimum bend radius of a 1/0, 5 kV, SHD-GC cable? Answer: SHD-GC is a shielded mining cable. According

Deflection is the vertical sag of the tray at its mid point and is at right angles to the tray's longitudinal axis. The issue of deflection is

A smaller bending radius, known as the static bending radius can be applied once the cable has been pulled in place (i.e. is in situ

CABLE TRAY CUTTING & BENDING GUIDES CONFIGURING CABLE TRAYS FOR INSTALLATION 90°; Short Radius Bends

Table of Cable Tray Bending Coefficients The design and cost of the cable tray is greatly affected by this designation. In order to

Calculate minimum cable bending radius per IEC 60502, BS 7671 & VDE standards. Free

NEMA VE 1-2017 Specifies requirements for metal cable trays and associated fittings designed for use in accordance with the rules

Tables list standard sizes and specifications for straight and bent cable trays, including width, height, thickness, materials, and

The electrical cable bending radius is the smallest radius that a cable can be bent around without damaging it.

Calculate cable tray bend dimensions, centerline arc lengths, setback distances, and offset configurations. Ensure compliance with

This document contains calculations for cable tray and ladder components for an airport connection building project. It

How to Master back of bend measurements on electrical Cable Tray. Make a 90

Browse our T&B galvanized metallic cable tray systems. More adaptable and easier to maintain than conduit pipe,

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A practical guide to product selection and installation This guide for engineers and installers has been developed by ABB as a

Web: <https://www.kremgroup.co.za>

