

Formula for the length of a 45-degree bend in a cable tray

Article Overview

For a 45-degree bend in a cable tray, the distance between the two bend points is calculated by multiplying the vertical offset by 1.414, and each tray section is cut at 22.5° to form a mitered joint.

Step 1: Determine the Offset Height

Measure the vertical distance (rise) that the cable tray needs to clear the obstacle or change elevation. This is the total height of the offset you want to achieve .

Step 2: Calculate the Travel Distance

For a 45-degree bend, the offset forms an isosceles right triangle, where the vertical rise and horizontal run are equal. Use the multiplier 1.414 (the square root of 2) to calculate the distance along the tray between the two bends:

Distance between bends = Offset height × 1.414 .

For example, if the offset height is 100 mm: $100 \text{ mm} \times 1.414 = 141.4 \text{ mm}$ between the start points of the two bends.

Step 3: Prepare the Tray Sections

A 45-degree bend is typically formed using a mitered joint:...

Article Content

Aug 29, 2025

how can i cut a cable tray for 45 degree bend?

To cut a cable tray for a 45-degree bend, you need to make two 22.5° cuts on two separate pieces of cable tray. Each cut should be

Mar 15, 2026

Cable Tray Bend Calculator

Use this cable tray bend calculator to check radius margin, bend take-up, fill utilization, and cable count for cleaner tray layouts. Try it

Dec 15, 2025

How to make 45°degree OFFSETS cable tray (50mm depth

45°degree offset cable tray. How to make 45°degree OFFSETS cable tray (50mm depth)

Jul 05, 2026

Cable Tray Bend Calculator | Arc, Chord & Offset Length

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

May 19, 2026

Cable Tray Offset Calculator – Bend & Transition

Calculate cable tray offset dimensions, bend lengths, and transition angles for routing

Oct 17, 2025

HOW TO BEND 45 DEGREE OF CABLE TRAY BASIC TUTORIAL

In the electrical wiring of buildings, a cable tray system is used to support insulated

Jun 13, 2026

Cable Tray Design and Components Guide

This document provides information about cable trays and accessories, including straight cable trays, perforated trays, returned edge

Aug 21, 2025

Cable Tray Offset Calculator | Vertical, Horizontal & Compound Offset

Calculate horizontal, vertical, or compound cable tray offsets based on bend angle, offset distance, and available installation space.

Jan 25, 2026

Cable Tray Bend and Offset Formulas

The document discusses Metstrut cable tray systems, including their configuration, materials, dimensions, and compliance with

Jul 13, 2026

Cable Tray Bend Calculator | Arc, Chord & Offset Length

Cable Tray Bend Calculator Calculate cable tray bend dimensions, centerline arc lengths, setback distances, and offset

Jun 03, 2026

Cable Tray Technical Guide A practical guide to product selection and ...

Cable tray length is selected based on the load to be supported, the distance between the supports (also referred to as the span),

Nov 28, 2025

How to Calculate Size of Cut to Set Cable Tray

I worked with cable tray about 40 years ago and remember I created a couple of simple formulae to work out how

Jul 29, 2025

Cable Tray Making Formula !! Double 90 Degree Bend Formula

Simple rules for making cable tray double 90 degree bend. First multiply the traveling

Sep 23, 2025

Cable Tray 45 Degree Offset Formula | How to Make 45 Degree

Yahan hum Janenge electrical cable tray me 45 digree Offset kaise banaye Hum is

Feb 28, 2026

Method for Fabricating 90-Degree Bend Elbows for Cable Tray

Take a 90-degree cable tray bend elbow as an example, and apply the same principles for 45-degree bends accordingly. The length

May 30, 2026

How to Calculate Size of Cut to Set Cable Tray

By applying the following formula you can quickly find the size of the cut-out section that you need to cut out of the side

Dec 06, 2025

Formulas for flat 45 degree bend in cable tray

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

Mar 08, 2026

CABLE TRAY SYSTEMS GUIDE

The Ladder Tray features light, rugged, tubular steel construction. It is designed for mechanical support and strain relief in long runs

Jan 27, 2026

Make a 90 Bend in Electrical Cable Tray

How to make a 90 electrical cable tray bend to measurement of your choice. Great if you

Nov 14, 2025

Let's talk Cable Tray Offsets (not basket tray)

Let's talk Cable Tray Offsets (not basket tray) So, I've done a few cable tray offsets in my time, but I just wing it every time. I would

Dec 24, 2025

Cable Tray & Trunking 90 Degree Bend Cutting Measurements A

Measurements of how to make cable trunking 90 degree bend and cable trunking 45

Jun 06, 2026

Calculation of 45-degree horizontal bend in cable tray

Calculate cable tray offset dimensions, bend lengths, and transition angles for routing around obstacles. Free cable tray offset

Nov 10, 2025

Cable tray offset 45 degree / how to make cable tray_tray ...

Cable tray offset 45 degree / how to make cable tray_tray offset formula _cable tray 45

Jan 06, 2026

Easy step to make 45 degree offset cable tray/Pipe and Air duct

Easy step to make 45 degree offset cable tray/Pipe and Air duct Electrical Insider
9.48K

Jul 23, 2026

How to make 90°degree (45°x2) Cable trays/Trunking (100mm X

90° Bend (45° x 2) Formula How to make 90°degree (45°x2) Cable trays/Trunking

Jul 17, 2026

How to make cable tray bend / Cable tray offset formula / cable tray 45 ...

How to make cable tray bend / Cable tray offset formula / cable tray 45 degree bend

Jun 11, 2026

Cable Tray Bend Calculator

Use this cable tray bend calculator to size elbow radius, arc length, setback, and bend fill for low-voltage pathways.

Sep 16, 2025

How to create a 90° gusset bend (45°x2) cable tray

I am an apprentice electrician and looking knowledge on how to create a 90° bend on a cable tray suitable for SWA. I understand we

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://iiss.co.za>

Email: sales@iiss.co.za

Phone: +27 63 174 2895

Address: Unit 8, Innovation Park, 15 Rivonia Road, Sandton, Johannesburg,
2196, South Africa

This document is for informational purposes only. Specifications subject to
change without notice.

