

Weight of various specifications of trough-type cable trays

Article Overview

The weight of trough-type cable trays varies by material, gauge, width, and ventilation, typically ranging from 5 kg/m to over 25 kg/m for steel models.

Factors Affecting Weight

- o **Material:** Steel trays are heavier than aluminum or fiberglass trays. Hot-dip galvanized steel adds 0.8-1.5 kg/m² due to coating, increasing total weight by 2-4% . Aluminum trays are lighter but have lower load capacity .
- o **Gauge/Thickness:** Thicker metal (lower gauge number) increases tray weight and structural strength .
- o **Tray Width and Sidewall Height:** Wider trays with higher sidewalls contain more metal, increasing weight .
- o **Ventilation:** Perforated or ventilated bottoms reduce material volume by 15-30%, lowering weight compared to solid-bottom trays .
- o **Accessories:** Covers, bends, and junctions add additional weight to the system .

Typical Weight Ranges

Material / Type	Width (mm)	Approx. Weight (kg/m)
Steel, solid bottom	1005-7	Steel, solid bottom
Steel, solid bottom	2008-10	Steel, solid bottom
Steel, solid bottom	30012-15	Steel, solid bottom
Steel, ventilated	1004-6	Steel, ventilated
Steel, ventilated	2006-9	Steel, ventilated
Aluminum, ventilated	1003-4	Aluminum, ventilated
Aluminum, ventilated	2004-6	Aluminum, ventilated

These values are indicative; exact weights depend on manufacturer specifications, tray length, and support spacing .

Weight Calculation Method

To calculate the weight of a trough-type cable tray:

- o Determine the cross-sectional metal area (m²) based on tray type and dimensions.
- o Multiply by the tray length to get volume (m³): $\text{Volume} = \text{Area} \times \text{Length}$.
- o Multiply by material density (kg/m³) to obtain weight: $\text{Weight} = \text{Density} \times \text{Volume}$.
- o Apply safety factors (1.5-2x) for dynamic loads, cable weight, and future expansion .

Practical Considerations

- o For heavy cable loads, reduce support spacing to prevent sag and ensure structural integrity .
- o Always consult manufacturer datasheets for precise weight per meter and load capacity.
- o Consider coatings and environmental factors (e.g., corrosion protection) as they slightly increase tray weight . By accounting for these factors, engineers and installers can accurately estimate the total weight of a trough-type cable tray system and design supports accordingly.

Weight of various specifications of trough-type cable trays

Explore standard sizes by tray type, understand width and depth limits, and see how to calculate and choose compliant

Need the cable tray weight chart? Find accurate per-meter weights for steel, aluminum, and FRP trays. Click to explore

The high cost of manufacturing and installing wireways limits their use to small sections of cable management systems, while most

These documents: ANSI/NEMA VE-1, Metal Cable Tray Systems; NEMA VE-2, Cable Tray Installation Guidelines; and NEMA FG-1,

Determine the tray series using the NEMA/CSA load/span designations page A16, and sizing cable tray page A23. Select nominal

A professional guide to trough type cable trays. Explore load capacity charts, installation guidelines, advantages over

B. Cable tray systems are defined to include, but are not limited to straight sections of [ladder type] [trough type] [solid bottom type]

The document provides pricing information for ladder cable tray and perforated cable tray in Indian rupees per meter for various tray

Delivering engineered solutions in cable management ABB manufacturers a comprehensive range of cable tray systems and

Find Cable Trays on GlobalSpec by specifications. Cable trays are rigid-type trays used as raceways for cables and wires.

Not all cable trays are equivalent. The mechanical and electrical characteristics, tests, certifications, overall quality management,

The only reason to select a ventilated trough cable tray over a ladder type cable tray is aesthetics. No drooping of small cables is

The document provides a technical data sheet for cable trays including ladder and perforated types. It lists specifications for material,

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They also offer the advantages of being light weight (approximately 50% that of a steel tray) and maintenance free, and since

Cable tray systems are engineered support structures designed to route, support, and protect insulated electrical

In designing supports for a cable tray system, consideration should be given to the loads associated with future cable additions and

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