

Analysis of the advantages and disadvantages of outdoor cable trays



Overview

Cable trays are components of support systems for power and communications cables and wires. A cable tray system supports and protects both power and signal cables and facilitates upgrading, expanding, reconfiguring, or relocating networks. Most of the cable tray systems are open, allowing efficient heat dissipation and easy access for replacement.

The following are popular cable tray types:

1. Ladder-type
2. Perforated type
3. Solid bottom type
4. Wire mesh
5. Channel type

An engineer or designer will usually specify the type of cable tray that has the features to suit the project. It depends on the situation and the environment.

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The selection of cable tray depends on the application.

Ladder Cable tray has two side rails connected by rungs. This type of cable tray is effective because the ladder rungs give you easy accessibility to the cables, from the top or bottom. The rungs of the ladder cable trays provide convenient anchors for tying down the cables in the non-horizontal cable tray runs or where the positions of the cables matter.

Perforated cable tray consists of a ventilated bottom with side rails. It provides more support to cables than the ladder-type.

1. Metallic

- Aluminum:** Resists corrosion; excellent strength-to-weight ratio. Aluminum is most commonly used because it is lightweight.
- Steel:** Electric shielding; low thermal expansion
- Stainless steel:** Superior corrosion resistance; withstands high temperatures.

2. Non-Metallic

- Fiberglass:** Nonconductive; resists corrosion; lightweight

Precautions: The most important issue is to ensure that the bend radius for the fiber-optic or coaxial cable is maintained within the standards. Combustible dust and clutter may accumulate if the trays are not routinely checked...

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