

What to do if there are no cable trays for low-voltage wiring



Overview

LA County Structured Cabling Permits (2026) Per LA County Electrical Code Section 82-3, private communication systems and low-voltage wiring under 25 volts.

Key Takeaways

Low-voltage wiring does not inherently require cable trays, but they can be used as one of several supported pathways for organized installation. Understanding Low-Voltage Wiring

Low-voltage wiring refers to cables carrying 50 volts or less, commonly used for data, Ethernet (Cat5e/Cat6/Cat6a), VoIP, security systems, building automation, and fiber backbones . Unlike standard electrical circuits (120V in the U.S.), low-voltage systems transmit limited power, making them safer and more flexible for structured cabling applications .

Use of Cable Trays



While cable trays are widely used for high-voltage and industrial power wiring, low-voltage wiring does not strictly require them. Low-voltage cables can be routed through cable trays, J-hooks, conduits, or racks, depending on the installation environment and local code requirements . The key is that the pathway must support the cables, maintain organization, and comply with standards such as TIA/EIA for structured cabling . Cable trays offer benefits like organized routing, easier maintenance, and scalability, but they are not mandatory for low-voltage systems. In many commercial installations, low-voltage wiring is installed after the main electrical network, often in structured media enclosures or along walls and ceilings, using the most practical support method .

Best Practices

- Separation from high-voltage circuits: Low-voltage cables should be physically separated from high-voltage lines to prevent interference, cross-talk, or safety hazards .
- Proper support and labeling: Whether using trays, conduits, or J-hooks, cables should be secured, labeled, and documented for future maintenance .
- Compliance with local codes: Some jurisdictions may require permits or inspections for certain low-voltage systems, especially life-safety circuits like fire alarms .

Conclusion

Low-voltage wiring does not automatically use cable trays, but trays are a common option for structured, organized installations. Alternatives like J-hooks, conduits, or racks are equally valid as long as they provide proper support, separation, and compliance with applicable standards .

Article Content

NEC Low-Voltage Cabling Rules Every Installer Should Know

Use listed cable rated for the space (CMP, CMR, CM), support every 4 to 5 feet, separate from line voltage, remove abandoned

How to transition between conduit and cable trays

Probably the cleanest and easiest way is to Velcro the cabling to the "floor" of the cable tray and make a nice "sweep" into the

Cable Tray Technical Guide A practical guide to product selection

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

FAQ | Cable Tray Institute

Question: Is it necessary to provide tie-down cables installed in a cable tray? Answer: Yes; cables are tied down in cable trays to

Low-Voltage Wiring

For wiring TVs, CATV, antennas, or satellites you'll need to run coax cable. This is the second half of your low-voltage wiring project

The Complete Guide to Cable Trays | Snake Tray

There are also many manufacturers to choose from. But there's only one Snake Tray. Snake Tray is your one-stop shop for all types

Cable tray manual

Where cable tray wiring systems with current carrying conductors are installed in a dust environment, ladder type cable trays should

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