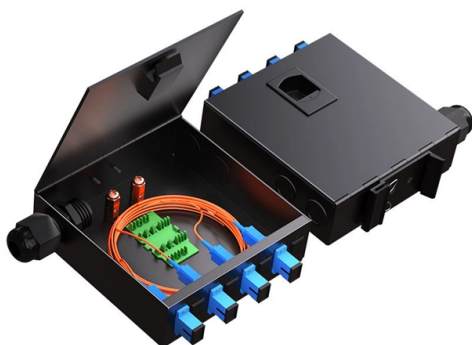


What kind of cable is best for a household electrical distribution box



Overview

10 Different Types of Electrical Wire and How to Choose Learn the different types of electrical wires and cables and how to identify each, so you can choose.

Key Takeaways

For residential distribution boxes, the most commonly used cables are non-metallic sheathed (NM-B) cables like Romex for general circuits, with larger gauge wires or armored/metal-clad cables for high-power appliances and feeders. Common Cable Types¹.

Non-

Metallic Sheathed Cable (NM-B / Romex) Used for most indoor residential circuits, including outlets, lighting, and switches. Consists of two or more insulated conductors plus a bare or insulated ground wire inside a plastic sheath. Typical sizes: 14/2 NM-B: 15A circuits (lighting and small outlets) 12/2 NM-B: 20A circuits (general outlets and kitchen circuits) 12/3 NM-B: For three-way switches or multi-wire branch circuits.

Color-coded jackets indicate gauge and amperage: gray for 14-gauge, yellow for 12-gauge, orange for 10-gauge. 2. **Armored Cable (AC / BX) and Metal-Clad Cable (MC)** Provides extra protection with a flexible metal sheath, suitable for areas prone to physical damage, basements, or garages.

Includes a grounding conductor, either through the metal sheath or a separate wire. Often used for circuits requiring higher durability or in commercial-style installations within homes. 3.

Underground Feeder Cable (UF) Designed for outdoor or underground use, moisture-resistant, and can be buried directly in soil. Similar to NM-B but with a solid plastic sheath for added protection. 4.

Individual Conductors (THHN / THWN) Single wires used inside conduits, often for feeders or subpanels.

THH

N: Thermoplastic High Heat-resistant Nylon-coated
THWN: Thermoplastic Heat and Water-resistant Nylon-coated
 Suitable for circuits requiring conduit protection or higher amperage feeders.

Sizing and Ampacity Considerations 14 AW

G: 15A circuits
12 AWG: 20A circuits
10 AWG: 30A circuits (water heaters, dryers)
6/3 or 8/3 NM-B: Large appliances or subpanel feeders. Always follow NEC guidelines for ampacity, derating, and temperature ratings. NM-B is rated for 90°C insulation, but final ampacity is limited to the 60°C column per NEC Article 334.

Installation Tips

Secure N

M and NMC cables at intervals not exceeding 4½ feet and within 12 inches of boxes. Avoid running NM-B outdoors or in wet locations; use UF or conduit-protected wires instead. Ensure proper grounding and bonding for safety and code compliance.

Summary: For most household distribution boxes, NM-B (Romex) cables are standard for general circuits, MC or AC cables for areas needing extra protection, UF cables for outdoor or underground circuits, and THHN/THWN wires in conduit for feeders or high-amperage applications. Proper gauge selection and adherence to NEC guidelines are essential for safety and efficiency.

Article Content

10 Different Types of Electrical Wire and How to Choose

Learn the different types of electrical wires and cables and how to identify each, so you can choose the right ones for your next home project.

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This would be a good option for distributing electrical power to multiple buildings on a single property, such as a home, a shed, a storage

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