

Requirements for the Configuration of Hierarchical Distribution Boxes on Construction Sites

Article Overview

Hierarchical distribution boxes on construction sites must follow a structured setup with main, sub, and switch boxes, ensuring proper placement, material, wiring, protection, and compliance with safety standards.

Hierarchical Structure

Construction site power distribution should implement a three-level hierarchical system: a main distribution box, sub-distribution boxes, and switch boxes controlling individual electrical equipment. The main distribution box is located near the power supply, sub-distribution boxes are placed where electrical loads are concentrated, and switch boxes are positioned close to the equipment they control, typically within 3 meters horizontally. The distance between distribution and switch boxes should not exceed 30 meters to maintain efficiency and safety .

Placement and Environment

- o Install boxes in ventilated, dry, and normal temperature areas.
- o Avoid locations exposed to gas, flue gas, steam, liquids, vibration, heat sources, or potential impact.
- o Ensure sufficient space around boxes for two-person operation and maintenance, free from obstacles, debris, or vegetation .
- o The installation height is generally 1.5-1.8 meters above ground for easy access .

Material and Construction

- o Boxes should be made of cold-rolled steel plates or high-quality insulating materials, with steel thickness 1.2-2.0 mm (distribution boxes ≥ 1.5 mm, switch boxes ≥ 1.2 mm).
- o Surfaces must be anti-corrosion treated, and boxes should be rainproof and dustproof for outdoor use .
- o Electrical components inside should be mounted on metal or non-wood insulating plates, with all metal parts electrically bonded .

Wiring and Protection

- o Use insulated, high-temperature resistant copper wires with cross-sectional area matching load requirements.
- o Ensure secure connections, no exposed live parts, and proper labeling of all circuits.
- o Grounding: Metal boxes, electrical boards, and appliance casings must be grounded; protective neutral lines should be connected via terminal blocks .
- o Include protection devices: circuit breakers, fuses, surge protectors, and leakage protection. Each circuit

Requirements for the Configuration of Hierarchical Distribution Boxes on Construction Sites

should have one dedicated switch and one leakage protector .

- o Follow the principle of "one machine, one switch; one leakage, one box" to prevent misoperation .

Compliance and Maintenance

- o Adhere to national standards (e.g., JGJ46-2005) and ensure CCC certification for products .

- o Perform visual inspections and multimeter tests before powering on.

- o Maintain regular inspections and maintenance to ensure long-term reliability .

- o Label all components clearly and consider modular designs for future upgrades . By following these requirements, hierarchical distribution boxes on construction sites can ensure safe, efficient, and compliant power distribution, minimizing risks of electrical hazards and equipment failure.

Power supply on the construction site Power supply on construction sites is crucial to run all the equipment and tools needed to

Enter smart distribution box systems: the unsung heroes that keep construction sites powered, safe, and aligned with

1? The power distribution system at the construction site shall be equipped with indoor general distribution panel and distribution

The power distribution from the power input point to the end electrical equipment needs to go through three levels of Powbinet. This

Learn how to install a distribution box safely and correctly. Covers wiring, placement, standards, and expert tips for a

Construction site distribution box Multipower Robust full rubber housing, impact resistant, oil-, UV- and acid resistant. Stable steel

The type and scope of electrical equipment on construction sites is geared to the size and particular circumstances of each site.

Discover how to supply temporary power safely on construction sites using E-abel distribution boxes, industrial plug sockets, and

As federal and local regulations regarding jobsite safety evolve and become stricter, it's vital to understand the

Requirements for the Configuration of Hierarchical Distribution Boxes on Construction Sites

best

The distribution box (cabinet) is suitable for temporary power supply at the construction site and should meet the

Convenience: Portable and lightweight, power distribution boxes are an asset to any

Learn IEC 61439-4 rules for temporary construction-site distribution boards, including IP rating, RCDs, IEC 60309 sockets, and

The 68 ACS range is composed of an extensive selection of wired boards which are certified in accordance with the Standard EN

Temporary power distribution boxes for flexible electrical installation. Robust solutions for construction sites, events and temporary

Safety control requirements for distribution box: 1. The low-voltage power supply system at the construction site shall

ENERGYBOX is a complete range of Assemblies for Construction Sites (ACS) pre-wired boards that can be wall-mounted or

Web: <https://www.kremgroup.co.za>

