

How long should the self-tapping screws be in the distribution box



Overview

Screws Protruding into Boxes – How Much is Allowable | Captain The penetrating length varies depending on the application and location. Any screw sanctioned.

Key Takeaways

Self-tapping screws for distribution boxes should generally be long enough to fully engage the mounting surface but not protrude more than 1/4 inch (6 mm) into the box interior unless protected. Recommended Screw Lengths

- Metal Studs: Use self-tapping screws that fully engage the metal stud without extending beyond it. Typical lengths range from 1 1/4 to 2 inches, depending on stud thickness and box depth, ensuring a secure connection without damaging wiring inside the box .
- Wood Studs: Coarse-threaded wood screws or specialized nails are used, usually 1 1/4 to 2 inches, to provide sufficient thread engagement and shear strength .
- Device Mounting Screws: For attaching devices like switches or outlets to the box, standard 6-32 screws are used, typically 1/2 to 1 1/2 inches long, depending on the device yoke and box depth .



- **Cover Plate Screws:** Shorter screws, usually around 1/2 inch, are used to attach cover plates, keeping them flush with the wall surface .

Code Considerations

- Screws entering the wiring space should not extend more than 6 mm (1/4 inch) into the box unless the end is protected with an approved means .
- Screws attaching a cover should extend no more than 10 mm (3/8 inch), and other screws penetrating a cover should extend no more than 8 mm (5/16 inch) .
- For boxes exceeding 100 in³, screws may extend up to 11 mm (7/16 inch) if located within 10 mm (3/8 inch) of an enclosure wall .
- Field-drilled mounting holes must be approved, and screws should avoid exposing threads inside the box to prevent conductor abrasion .

Practical Tips

- Ensure the screw threads fully engage the mounting surface for stability.
- Avoid overlong screws that could damage conductors or interfere with internal components.
- For grounding connections, use the appropriate 10-32 screw to bond the metal box to the grounding conductor .
- Select screw type based on material: self-tapping for metal studs, wood screws for timber, and hardened concrete screws for masonry . By following these guidelines, you ensure a secure, code-compliant installation while protecting wiring and devices inside the distribution box.

Article Content

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Get the right self-tapping screw size for your metal application. Learn about screw sizes, thread types, and how to

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Steel self-tapping screws earn their name by cutting their own thread when drilled into metal or wood substrates. As a result, the

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Self Tapping Screw Sizes Chart: Gauge, Length & Drill Bit

Self tapping screw size chart with gauge, diameter, length and the matching pilot drill bit for

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