

Does a terminal box necessarily require wire bonding



Overview

The requirement to bond the metal box has not changed. Does the equipment bonding conductor for a metal device box have to be a separate conductor from the equipment grounding conductor from one of the branch-circuit conductors?

Can the branch circuit equipment grounding conductor be bonded to the box and then extended out to be spliced to the other. Mechanical compression lugs have a set screw that tightens on the wire (see Figure 1). The set screw is tight-ened to the National Electrical Code (NEC) recommended torque values as shown in Table 1 to secure the wire. However, Article 300 does not apply to signaling and communications systems, which are covered in Chapters 7 and 8 unless Article 300 is specifically referenced nor to integral parts of equipment [300. You must install. Outlet box: An enclosure for conductor splices and device mounting (receptacles, switches, lampholders, etc. 6 (A) provides the minimum bending space at terminals and the minimum width of wiring gutters, based on wire size and the number of wires per terminal. Note that this applies to power cables.



Article Content

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Terminal Box vs. Junction Box: The Complete Engineering Guide (2026)

Terminal boxes require internal clearance for the terminal blocks and organized wire routing. A junction box can be more compact because wires are bundled together, but this sacrifices ...

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Outlet Boxes & Terminations (NEC 2017)

Bond the device and metal box to the equipment grounding conductor (EGC) for continuity. Apply proper torque; verify compatibility (CU/AL) and terminal temperature limits (NEC ...

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National Electrical Code Top Ten Tips: Article 312 and Article 314 ...

This is because the locking mechanism will have only a fraction of the contact with the box that the design needs for adequate locking. You'll be lucky to get two of the "points" to actually hit the box, ...

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Motor terminal box connection methods, procedures

The bolt and wire materials should be the same metallurgical family (such as copper or aluminum and their alloys) so that expansion does not result in wire damage or loosening of the connection.

Mar 14, 2026

250.148 Metal Box Bonding

The requirement to bond the metal box has not changed. As can be seen from the code text, the requirement is to ensure the bonding of all the related equipment grounding conductors, ...

May 01, 2026

Bonding and Grounding

An EGC is not required in a nonmetallic raceway supplying nonmetallic equipment because there is nothing in the nonmetallic box that requires a connection to an EGC.

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Electrical Junction Box Code Requirements: NEC Rules

The code does offer an alternative — if the fan will be independently supported by the building structure and the box only serves as a wiring access point, a non-fan-rated box is ...

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250.148 Continuity of Equipment Grounding Conductors ...

An equipment grounding conductor passing through the box without a splice is not required to be joined inside the box to others that are spliced in the box.

May 17, 2026

National Electrical Code 2023 Basics: Grounding and Bonding Part 15

According to the Exception to sections 250.94 (A) and (B), there is no need to provide means for connecting intersystem bonding conductors in buildings or structures without ...

Feb 22, 2026

Intersystem Bonding Termination: How to Install per NEC 250.94

As a professional electrician, you know that grounding and bonding are foundational safety concepts, but they are not interchangeable. Grounding connects a system to the earth, while bonding connects ...

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Terminal Box vs. Junction Box: The Complete ...

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