

Does the pigtail box need to be grounded

Why



Overview

The pigtail setup is necessary because the metal electrical box must be bonded, or electrically connected, to the equipment grounding conductor. Relying solely on the device's mounting screws to ground the box is often not secure enough, as paint or corrosion can increase the resistance. A pigtail ground refers to a grounding method where a single conductor (the pigtail) is connected to multiple grounding points or devices. Learn where it is used and when it is required. A grounding pigtail is a short, isolated length of green-insulated or bare copper wire used to create a splice, linking the circuit's incoming ground wire to both the metal box and the equipment grounding conductor. Unlike plastic boxes, which are inherently non-conductive and do not require grounding, metal boxes are conductive and must always be properly grounded. Make sure the wires are firmly twisted together.



Article Content

Oct 19, 2025

How To Ground A Metal Box With And Without A Green Pigtail

In this video I will show you how to ground a metal box several different ways and talk about code a bit to show you how to get by without using a green pig tail in your set up.

Dec 24, 2025

How to Properly Connect Ground Wires in a Junction Box | Expert Q& A

1) If the box is metal, there will be a threaded machine hole at the inside back of the box. A green ground screw is secured to a bare copper pigtail. Then, twist the remaining bare copper ground wires

Nov 13, 2025

How to Tell If Metal Box is Grounded

You are looking at your outlets and wonder how to tell if metal box is grounded? You need a tester and follow the steps to check.

Apr 20, 2026

Metal Box Bonding Pigtails Box Fill

TL;DR Equipment grounding conductors in a box count together as one NEC 314.16 (B) (5) allowance. A short bonding pigtail that starts and ends inside the same box usually does not add

Nov 03, 2025

NEC 300.13 & Pigtails

A post by JLasater, 71543.1, has several replies that have me confused regarding the requirement to use pigtails on the neutral of multi-branch circuits. This is important enough I thought

Oct 28, 2025

220 Metal Box & 120 Metal Box-Need to Ground?

I've got a question for this case: since there are two ground wires going into the first box, do they both have to be grounded to it, or can the #10 be

Sep 29, 2025

grounding pigtails. | Information by Electrical Professionals for ...

I was working at a new construction and from former jobs every j box that had a splice in it I grounded the box with a ground pig tail. I was informed that the only time I needed to ground the box

May 08, 2026

How to Properly Ground a Metal Electrical Box

Metal electrical boxes must be grounded because they are conductive components that enclose energized wires and connections. If a fault occurs, such as a hot wire touching the metal

Aug 22, 2025

electrical

I also don't have a multi-meter, so just assuming it's grounded because the Klein plug-in tester says it is. Is it helpful or does it hurt anything to just add

Mar 13, 2026

GFCI Receptacle with GFCI pigtail | Information by Electrical ...

Recently, while performing a jobsite safety audit, I found several temporary power boxes (commonly referred to as a turtle or spider box) which come factory wired with GFCI protection, I

Jun 02, 2026

electrical

0 If you have a grounded conduit going in to a metal box (no ground wires), do you need to attach a grounding pigtail to the metal box and then to the outlet ground screw? Or is the metal/metal/outlet

Oct 10, 2025

electrical

When installing a fixture or receptacle at that box on either the red or black circuit, they want you to pigtail the neutral wires to prevent interrupting the other circuit

May 01, 2026

How to Ground an Outlet with Various Methods

In the case of many dimmers and electronic controls, a grounding pigtail must be connected to the equipment grounding conductor or can be

Feb 14, 2026

Grounding pigtail to metal box necessary? : r/electricians

If a concrete house have pvc conduit with metal boxes do I need to make another pig tail for the box? Doesn't the device im installing ground the box? (lets say a receptacle) If a receptacle has a ground

Feb 19, 2026

Ground pigtail to metal box

The reason is almost certainly not ground, as the metal box does that quite well. The problem is that metal can block RF transmissions and this switch

Nov 02, 2025

Why Use A Pigtail When Wiring An Outlet?

In other tutorials, I've talked about how to create a pigtail when wiring up an electrical outlet. What I haven't really addressed previously is the "why"

Jun 10, 2026

Grounding Pigtail

A grounding pigtail is the short ground wire that bonds a device or metal box to the circuit grounding wires. Learn where it is used and when it is required.

Mar 22, 2026

Is grounding to the box instead of the outlet acceptable

If a plastic junction box, then you need to connect to the ground prong of the switch
Reply reply joefatherson • The plug is grounded when it's screwed in to the metal

Jun 05, 2026

How to Pigtail Ground Wires (Guide with Photos)

Most of your home's receptacles should be grounded and some of them must use a pigtail. This article explains how to pigtail ground wires.

Jun 26, 2025

Electrical Pigtails

Q. When does the electrical code require pigtails for connecting devices in residential wiring?A. Ben Giles, licensed electrician and owner of

Jul 27, 2025

How to Ground Metal Electrical Box | 7 Easy Steps (2026)

Unlike plastic boxes, which are inherently non-conductive and do not require grounding, metal boxes are conductive and must always be properly

Aug 20, 2025

No Ground Wire In Junction Box (Add One & Use PigTail!)

If you have a metal box, The Spruce recommends using a pigtail to connect the ground wire to the ground screw. Use a wire nut to join the neutral wires together.

Nov 05, 2025

Do Grounds Have to Be Pigtailed? Understanding Electrical

One aspect of these systems that sparks debate and inquiry is whether grounds have to be pigtailed. This article delves into the concept of grounding, the purpose of pigtail grounds, and the

Aug 16, 2025

How to Ground Electrical Wires 4 Different Ways

How to Ground in Metal Boxes In a system with metal boxes, the pigtail method is considered the most secure. In this arrangement both the receptacle and metal box are grounded.

Mar 28, 2026

How to Install a Pigtail Ground Wire in a Metal Box

The pigtail setup is necessary because the metal electrical box must be bonded, or electrically connected, to the equipment grounding conductor. Relying solely on the device's

Mar 31, 2026

Where is a grounding pigtail necessary

It's required when using a metal box with a receptacle that is not self-grounding. A self-grounding GFCI receptacle does not require one.

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.elagage-lorrain.fr>

Email: sales@elagage-lorrain.fr

Phone: +33 6 47 82 19 35

Address: 15 Rue de la République, 69002 Lyon, France

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