

What is the minimum amperage rating for a secondary distribution box



Overview

The ampacity must be at least 125 percent of the continuous loads, plus 100 percent of the noncontinuous loads, based on the temperature rating of equipment per 110.16, prior to conductor ampacity correction and/or adjustment. A sub-panel serves as a secondary electrical distribution point, extending your home's power service to a remote location like a garage, workshop, or dedicated basement space. Its primary function is to manage a new group of circuits without overloading the main electrical panel. Article 408 covers the requirements for switchboards and panelboards that control power and lighting circuits (Fig. Ensure that any new installed secondary-distribution cable is not smaller, either in size or in number of runs. Industry standards and NFPA® 70—the National Electrical Code® (NEC®) require protection of the entire electrical distribution system from damage due to short-circuit faults. 10 states “The overcurrent protective devices. shall be selected and coordinated to permit the.



Article Content

Jun 15, 2026

Panelboard and Switchboard series rating information manual

The short-circuit interrupting rating of the first device in the series must be equal to or greater than the available fault current. Downstream breakers, however, are not fully rated for the system's available ...

Sep 01, 2025

Electric Panel Amps Rating

This article explains how to estimate the electrical service size, ampacity rating, (or "electrical power" or "service amps") at a building by visual examination of the electrical service panel, main switch, and ...

Mar 30, 2026

Sizing Electric Service Panels and Utility Infrastructure for ...

for distribution equipment are based on assumptions related to ambient temperature, wind, heat dissipation, and other environmental factors. Assumptions used in these calculations are generally ...

Jul 20, 2026

Service and subpanel confusion

The result is the "calculated load," which determines the minimum ampacity needed for the service (e.g., 100A, 200A, or 400A service). You start by calculating the total connected load ...

Sep 21, 2025

Electrical Sub-panels and Why You Might Need One

If you have an older 60-amp or 100-amp main service, you may need a service upgrade to 150-amps or 200-amps before you can power a new sub-panel. This is especially true if you ...

Dec 13, 2025

Feeders, based on the 2023 NEC

The distribution SPDs must have a nominal discharge current rating (In) of at least 10kA. Where the distribution equipment supplied by the feeder is replaced, all the requirements of 215.18 apply.

Oct 09, 2025

NEC Requirements for Switchboards and Panelboards | EC& M

Switchboards and panelboards must have a short-circuit current rating not less than the available fault current on the line side of the equipment. In other than one- and two-dwelling units, the available fault ...

May 02, 2026

What Size Sub Panel Do I Need? Amps, Spaces, and Limits

To prevent overheating, the amperage for continuous loads must be calculated at 125% of the device's rating. Non-continuous loads, like standard power tools or general-purpose receptacles, are ...

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NEC Requirements for Panelboards and Load Centers

The minimum size of main service is 100A, 120V, 3-wires (Hot as black or red, Neutral as White and Ground as green/yellow or bare conductor) for a one-family residence.

Contact Us

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