# How to drill the wiring holes in the distribution box

## Overview

Deburring can be accomplished using a round file, a specialized reamer, or the conical section of a step drill bit to smooth the inner and outer edges.

## Key Takeaways

Drilling holes in a distribution box requires careful planning, proper tools, and strict adherence to safety standards to ensure safe and efficient wiring.

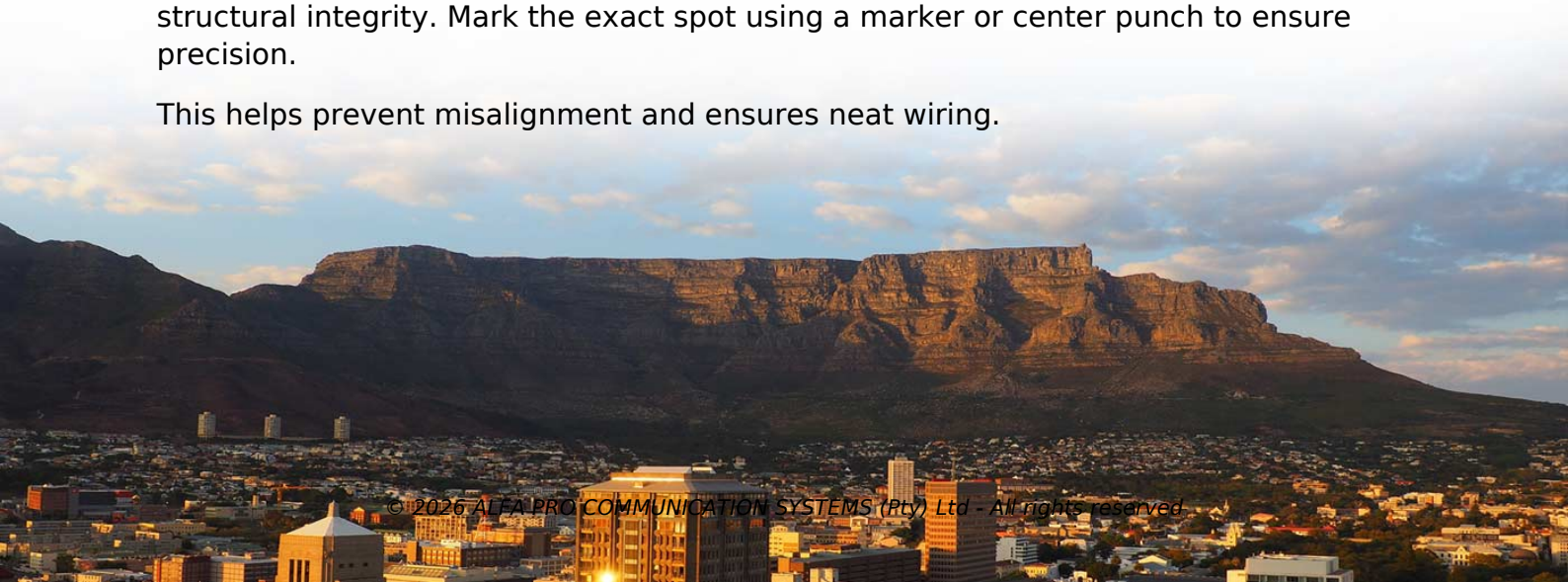
### Safety First

Before drilling, turn off the power supply to the distribution box to prevent electrical shock or damage to components. Use a voltage tester to confirm that no current is present. Wear safety goggles, gloves, and non-conductive footwear to protect against flying debris and accidental contact with live wires.

### Planning and Marking

Determine the hole location based on the number and size of wires that need to pass through. Avoid placing holes too close to edges or corners to maintain the box's structural integrity. Mark the exact spot using a marker or center punch to ensure precision.

This helps prevent misalignment and ensures neat wiring.



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### Choosing the Right Tools

Plastic boxes: Use a drill bit or hole saw designed for plastic to avoid cracking. Metal boxes: Use a metal-specific drill bit or hole saw to ensure clean cuts without deforming the box. Hole size: Follow the National Electrical Code (NEC) guidelines.

The hole should accommodate the wire gauge comfortably without cramping, typically not exceeding 1/3 of the width of the framing member if drilling through studs.

### Drilling Technique

Secure the box if it is already mounted to prevent movement. Drill slowly and steadily to avoid damaging the box or surrounding wires. For multiple wires, consider slightly larger holes or multiple knockouts to maintain proper spacing and ventilation.

Post-DrillingDeburr the edges of the hole to prevent wire insulation damage. Insert grommets or bushings if required to protect wires from sharp edges. Arrange wires neatly inside the box, connecting them to terminals according to standard wiring practices: phase to phase, neutral to neutral, ground to ground.

By following these steps, you can drill holes safely and efficiently while maintaining compliance with electrical standards and ensuring long-term reliability of your distribution box installation.

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