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> Hubbell-Raco 1412 Insulating Bushing User Manual

## RACO 1412



# Hubbell-Raco 1412 Insulating Bushing User Manual

MODEL: 1412

## Product Overview

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The Hubbell-Raco 1412 Insulating Bushing is a critical component designed for electrical installations, specifically for use with threaded rigid/IMC conduit. Manufactured from durable polypropylene, this bushing provides a smooth, rounded surface at the entrance of raceways, protecting electrical wires from abrasion and damage during installation and throughout their service life.

This product is UL Listed, ensuring compliance with safety and performance standards. It is rated for temperatures up to 105 degrees Celsius, making it suitable for a wide range of electrical applications.



Figure 1: The Hubbell-Raco 1412 Insulating Bushing. This gray polypropylene ring is designed to provide a smooth, rounded surface for electrical conduits, preventing wire damage.

## Setup and Installation

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The Hubbell-Raco 1412 Insulating Bushing is designed for straightforward installation on threaded rigid or IMC (Intermediate Metal Conduit) conduits. Proper installation ensures the protection of electrical conductors and compliance with electrical codes.

1. **Safety First:** Before beginning any electrical work, ensure that power to the circuit is turned off at the main breaker or fuse box. Verify with a voltage tester.
2. **Prepare the Conduit:** Ensure the end of the rigid or IMC conduit is clean and free of burrs or sharp edges that could damage the bushing or wires.
3. **Thread the Bushing:** Screw the Hubbell-Raco 1412 Insulating Bushing onto the threaded end of the conduit. The bushing should thread on smoothly.
4. **Tighten Securely:** Hand-tighten the bushing firmly onto the conduit. Avoid over-tightening, which could damage the bushing. The bushing should be snug against the conduit end.
5. **Wire Protection:** Once installed, the bushing provides a smooth, insulated surface for wires to pass through, preventing insulation abrasion as wires are pulled or moved within the conduit system.

This bushing is intended to be used in conjunction with appropriate electrical boxes and fittings as part of a complete conduit system.

## Operating Principles

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The Hubbell-Raco 1412 Insulating Bushing operates passively as a protective barrier within an electrical conduit system.

Its primary function is to provide a smooth, rounded entry point for electrical conductors into or out of a conduit, preventing the sharp edges of the conduit from cutting or abrading the wire insulation.

- **Wire Protection:** The polypropylene material and smooth design ensure that wires are not damaged during pulling or subsequent movement.
- **Insulation:** The bushing provides an additional layer of insulation at the conduit termination, enhancing safety.
- **System Integrity:** It helps maintain the integrity of the electrical system by preventing short circuits caused by damaged wire insulation.

No active operation or power supply is required for this component.

## Maintenance

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The Hubbell-Raco 1412 Insulating Bushing requires minimal maintenance due to its durable polypropylene construction. However, periodic inspection is recommended to ensure continued performance and safety.

- **Visual Inspection:** Periodically inspect installed bushings for any signs of physical damage, cracks, or degradation of the polypropylene material.
- **Cleanliness:** Ensure the bushing and surrounding conduit entry points are free from excessive dust, debris, or moisture that could compromise electrical integrity. Clean with a dry cloth if necessary.
- **Secure Fit:** Verify that the bushing remains securely threaded onto the conduit. If loose, carefully re-tighten by hand.

If a bushing shows signs of significant damage or wear, it should be replaced immediately to maintain the safety and integrity of the electrical system.

## Troubleshooting

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While the Hubbell-Raco 1412 Insulating Bushing is a simple and robust component, issues can arise from improper installation or external factors. Here are common issues and their resolutions:

Problem	Possible Cause	Solution
Bushing does not thread onto conduit.	Incorrect conduit size or thread type; damaged conduit threads; damaged bushing threads.	Verify conduit size (3-inch) and thread compatibility. Inspect conduit and bushing threads for damage. Replace damaged components.
Bushing feels loose after installation.	Not tightened sufficiently; damaged threads on conduit or bushing.	Hand-tighten firmly. If still loose, inspect threads for damage and replace if necessary.
Wire insulation is still being damaged.	Bushing not installed; bushing damaged or cracked; burrs inside conduit beyond bushing.	Ensure bushing is correctly installed. Inspect bushing for damage and replace if needed. Check conduit interior for burrs further down the line.

For issues not covered here, consult a qualified electrician.

## Specifications

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Attribute	Detail
Model Number	1412

Attribute	Detail
Brand	RACO
Insulation Material	Polypropylene
Material	Polypropylene
Temperature Rating	105 degrees Celsius
Specification Met	CSA, UL Listed
Trade Size	3 inches
Unit Count	10.0 Count (as per pack)
Item Weight	9 ounces
Package Dimensions	8.9 x 5.12 x 3.82 inches

## Important Safety Information

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**WARNING: Cancer – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)**

Always follow local and national electrical codes when installing electrical components. If you are unsure about any aspect of installation, consult a qualified electrician.

## Warranty and Support

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For information regarding product warranty, please refer to the official RACO website or contact RACO customer support directly. As a leading manufacturer in the electrical industry since 1921, RACO is known for its quality and innovation.

For technical assistance or product inquiries, please visit the official RACO brand store or contact their customer service department. Contact details can typically be found on the manufacturer's official website.

[Visit the RACO Store on Amazon](#)