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POWERS 09510

Powers Fastening Innovations 09510 Dual Expansion Machine Bolt Anchor 1/4-Inch Instruction Manual

1. Introduction and Product Overview

This manual provides detailed instructions for the proper installation and use of the Powers Fastening Innovations 09510 Dual Expansion Machine Bolt Anchor, 1/4-Inch. This anchor is designed for secure fastening in various base materials, including solid concrete, block, brick, and stone, particularly where the base material strength may be questionable.
The dual expansion design ensures reliable grip by expanding in two directions, providing high holding power for machine bolts. Each box contains 50 anchors.

2. Safety Information

Always prioritize safety when working with fasteners and power tools. Adhere to the following guidelines:

- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and hearing protection.
- Ensure the base material is free of hidden electrical conduits, plumbing, or other utilities before drilling.
- Use the correct drill bit size and type for the base material and anchor diameter.
- Do not overtighten the bolt, as this can damage the anchor or the base material.
- Keep children and bystanders away from the work area.
- Consult local building codes and regulations for specific fastening requirements.

3. Product Components

The Powers 09510 Dual Expansion Machine Bolt Anchor consists of a cylindrical body designed to accept a machine bolt. The anchor features internal threads and an external tapered design that allows for expansion when the bolt is tightened.



Figure 1: A dual expansion machine bolt anchor. This image illustrates the general design of a dual expansion anchor, with embossed text indicating '1/2 BOLT' and '7/8 DRILL'. Please note that the product described in this manual is the 1/4-inch version, and specific drill and bolt sizes should always be confirmed with the product packaging or manufacturer's specifications for the 1/4-inch anchor.

4. Installation Instructions

Follow these steps for proper installation of the Powers 09510 Dual Expansion Machine Bolt Anchor:

1. **Select Drill Bit:** Determine the correct drill bit diameter for the 1/4-inch anchor. This information is typically found on the product packaging. For dual expansion anchors, the drill bit diameter is usually larger than the bolt diameter.
2. **Drill Hole:** Using a rotary hammer drill with the appropriate carbide-tipped drill bit, drill a hole into the base material to the specified depth. Ensure the hole is perpendicular to the surface.
3. **Clean Hole:** Thoroughly clean the drilled hole using a nylon brush and compressed air to remove all dust and debris. A clean hole is critical for proper anchor performance.
4. **Insert Anchor:** Insert the Powers 09510 Dual Expansion Machine Bolt Anchor into the cleaned hole. The anchor should fit snugly. If necessary, gently tap the anchor with a hammer until it is flush with the surface of the base material.
5. **Attach Fixture and Bolt:** Position the fixture over the anchor. Insert the machine bolt through the fixture and into the anchor.
6. **Tighten Bolt:** Using a wrench, tighten the machine bolt. As the bolt is tightened, it will draw the internal cone into the anchor body, causing the anchor to expand against the walls of the drilled hole in two directions, creating a secure hold. Tighten until the fixture is firm against the base material and the anchor feels secure. Do not overtighten.

5. Operating Principles

The Powers Dual Expansion Machine Bolt Anchor operates on a mechanical expansion principle. When a machine bolt is threaded into the anchor and tightened, it pulls an internal tapered cone into the anchor body. This action forces the anchor's segmented body to expand outwards against the drilled hole walls, creating a strong, frictional interlock with the base material. The dual expansion feature means it expands at both ends, providing enhanced grip, especially beneficial in materials of varying or questionable strength.

6. Maintenance

Once properly installed, the Powers 09510 Dual Expansion Machine Bolt Anchor requires minimal maintenance. Periodically inspect the fastened fixture and anchor for any signs of loosening or damage, especially in applications subject to vibration or dynamic loads. If any issues are observed, re-tighten the bolt or replace the anchor if necessary. Do not reuse anchors that have been removed or show signs of deformation.

7. Troubleshooting

- **Anchor spins in hole:** This usually indicates the drilled hole is too large or the anchor is not fully expanded. Ensure the correct drill bit size was used and the hole was thoroughly cleaned. Try re-tightening the bolt carefully. If the issue persists, the anchor may need to be removed and a new one installed in a different location or a larger diameter anchor used.
- **Anchor does not hold:** This could be due to an improperly sized hole, insufficient tightening, or a weak base material. Verify drill bit size and hole depth. Ensure the bolt is tightened to the recommended torque (if specified) or until firm. In very weak materials, consider using a chemical anchor or a different fastening solution.
- **Bolt cannot be inserted:** Check for debris in the anchor's threads. Ensure the bolt diameter matches the anchor's internal threading (1/4-inch machine bolt for this model).

8. Specifications

Manufacturer	Powers Fastening Innovations
Part Number	09510
Item Model Number	09510
Anchor Diameter	1/4-Inch (for machine bolt)
Item Weight	2.4 ounces (per box of 50)
Product Dimensions	2.4 x 4.7 x 3.2 inches (packaging)
Material	Suitable for concrete, stone, block, brick
Item Package Quantity	1 (box)
Number Of Pieces	50
Measurement System	Inch
Usage	Block, Brick, Concrete

9. Warranty and Support

For specific warranty information regarding the Powers Fastening Innovations 09510 Dual Expansion Machine Bolt Anchor, please refer to the official Powers Fastening Innovations website or the product packaging. For technical support or further inquiries, contact Powers Fastening Innovations directly through their official customer service channels.

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