

I. Installation Guide

(1) Pre-Installation Preparation

1. Confirm Accessories and Tools

1. Check that the package contains 4 black deck joist ties (steel Z-shaped brackets), ensuring no deformation and intact coating.
2. Prepare installation tools: electric drill, screwdrivers (recommended with both Phillips and flat-head), wrench, tape measure, pencil, and spirit level.
3. Prepare stainless steel or hot-dip galvanized screws (length recommended over 2.5 inches, quantity based on actual needs).

Screws must be rust-resistant to ensure long-term stability.

2. Site and Material Inspection

1. Choose a dry and flat installation site to avoid wet or soft ground, preventing wood moisture or structural instability.
2. Inspect the quality of 6-inch posts and 3-inch beams, ensuring no rot, cracks, or uneven surfaces.

(2) Specific Installation Steps

1. Measurement and Positioning

1. Use a tape measure to mark the installation positions of the joist ties on the 6-inch post and 3-inch beam. Ensure the beam is horizontal after bracket installation, aided by a spirit level with an error within ± 1 mm.
2. Mark screw hole positions on the post and beam with a pencil according to the bracket's pre-drilled holes.

2. Pilot Hole Drilling

1. Use a drill bit matching the screw diameter (typically 0.5–1mm smaller) to drill pilot holes at the marked positions. The depth of the pilot hole should be slightly longer than the screw length to avoid wood splitting when driving in screws.
2. Keep the drill perpendicular to the wood surface during drilling to ensure vertical and neat holes.

3. Bracket Fixing

1. Place the Z-shaped joist tie at the marked position, aligning the bracket's holes with the pilot holes in the wood.
2. Start from one end of the bracket, drive screws through the holes into the wood. First fix them loosely with a screwdriver, then tighten with a wrench to ensure no looseness. Repeat the same method for the other end of the bracket.

3. Repeat the above steps to install the remaining 3 joist ties, ensuring consistent installation angles and uniform force distribution for each bracket.

4. **Inspection and Adjustment**

1. After installation, recheck the beam's levelness with a spirit level. Adjust screw tightness if there is any deviation.
2. Gently shake the connection between the post and beam to check structural stability. If looseness is found, retighten the screws or verify hole positions.

II. Usage Guide

(1) **Application Scenarios**

1. **Outdoor Pergola Construction:** Connect 6-inch posts and 3-inch beams to form the main frame of a pergola, providing a stable support for outdoor leisure areas.
2. **Deck Construction:** Reinforce the connection between deck joists and posts to enhance the deck's load-bearing capacity and ensure safety for people activities.
3. **Garden Fences and Trellises:** Serve as connectors for fence posts or trellis brackets to enhance structural stability and resist natural factors like wind.

(2) Usage Precautions

1. **Load Limit:** Although this product has undergone high-strength testing, avoid overloading. Actual load capacity should be comprehensively calculated based on wood material and overall structural design. Consult a professional engineer for complex structures.
2. **Environmental Factors:** The black powder-coated surface is rust and corrosion-resistant, but long-term exposure to extreme environments (such as strong acid or alkali areas) may still cause damage. Regularly inspect the coating's integrity and repair any damage promptly.
3. **Safety for Children and Pets:** After installation, ensure no protruding screws or sharp edges on the brackets to prevent accidental bumps or injuries to children or pets.

(3) Maintenance and Care

1. **Regular Inspection:** Inspect the connection between the bracket and wood quarterly, checking for loose screws or bracket displacement, and address issues promptly.
2. **Cleaning Maintenance:** Wipe the bracket surface with a soft cloth and neutral detergent to remove dust and stains, keeping the coating clean and extending service life.

3. **Anti-Corrosion Treatment:** Reapply water-resistant preservative to the contact area between wood and brackets annually to prevent wood from moisture and rot, ensuring structural stability.