

Holland House Garden Centre

2.4m x 2.4m Pergola – Construction Instructions

Specification

- 4 × 4x4 posts (approx. 100 × 100mm, finished ~90mm)
 - 4 × 2x4 headers (50 × 100mm) – Lengths come in 4.8m & will require cutting
 - 6 × 2x4 rafters (square cut ends) – Lengths come in 4.8m & will require cutting
 - Rafters sit on top of headers
 - Overall size: 2400mm × 2400mm
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1. Materials List

Timber

- 4 × posts — 4x4 @ 2400mm
- 4 × headers — 2x4 @ 2400mm
- 6 × rafters — 2x4 @ 2400mm

Fixings

- 1 box of screws
 - Post bases and anchors (for patio) or concrete (for in-ground)
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2. Set Out the Base

1. Mark out a 2400mm × 2400mm square
2. Check diagonals:
 - Both should measure approximately 3394mm
3. Adjust until perfectly square

Accurate layout is critical to ensure the structure assembles correctly.

3. Install Posts

Option A: Patio / Concrete Base

- Fix post bases using appropriate anchors
- Stand posts and temporarily brace them

Check:

- Posts are vertical (plumb)
 - All post tops are level
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4. Install Headers (Outer Frame)

The headers form a square frame around the posts.

Position

- Fix headers to the outside faces of the posts
- Top of header defines final pergola height

Fixing

- Use 2 screws per joint
- Screw directly into the post

Sequence

1. Install first header level
2. Install opposite header
3. Install remaining two

Result: a rigid 2400mm square frame.

5. Mark Rafter Positions

You will install 6 rafters across 2400mm.

Layout

- First and last rafters flush with outer edges
- Remaining rafters evenly spaced

Measurements

- Rafter width: 50mm
- Gap between rafters: approximately 420mm

Recommended Method

1. Mark outer rafters flush with edges
2. Mark centre at 1200mm
3. Place central rafter

4. Divide remaining space evenly

Alternatively, mark consistent 420mm gaps across.

6. Install Rafters

Placement

- Rafters sit flat on top of headers
- All ends are square cut (90°)

Fixing

- Use 2 screws per end
- Screw vertically down into headers

Method

- Position and align each rafter
 - Fix starting from one side and work across
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7. Finishing

- Lightly sand edges if required
 - Seal all cut ends of timber
 - Apply stain, oil, or protective finish if desired
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Final Checks

- Rafters are parallel
 - Spacing is consistent
 - Structure is square
 - No movement or instability
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Common Mistakes to Avoid

- Incorrect base layout (not square)
- Uneven post heights
- Inconsistent rafter spacing
- Installing rafters without marking positions first