PlaceMakers®

KNOW HOW GUIDE

BUILDING A WOODEN PERGOLA

BEFORE YOU BEGIN

Pergolas are a useful and attractive addition to any outdoor area.

- They provide support for climbing plants like roses, clematis, jasmine and honeysuckle.
- Pegolas offer a focus and architectural form in a flat garden; or on a plain building.
- Add a roof in clear corrugated material to provide shelter over a doorway or as a gazebo.

This brochure provides instructions for a free standing pergola.

You should ask your council if you need a building consent and/or planning permission, especially if you are attaching your pergola to the house or installing a roof cover.

MATERIALS

FREE STANDING PERGOLA

MATERIALS REQUIRED	QTY
H4 No. 1 rough sawn posts – 100 x 100mm x 3M	4
H3.2 No.1 rough sawn bearers – 150 x 50mm x 2.7M	4
H3.2 No.1 rough sawn rafters – 150 x 50mm x 2.7M H3 packers – 10mm	9
Hot-dipped galvanised coach bolts 210 x 12mm dia. with nuts and 50mm square washers or 55mm dia. round washers.	8
75mm Hot-dipped galvanized nails (type 304 stainless steel screws could also be used)	
Petroleum grease	
Dricon RapidSet 25kg	1

NOTE: *Gauged timber can be used for a smooth finish. Gauged timber is also easier to paint or stain.*

TOOLS

- Spade or post hole borer
- 2 G or F-clamps
- Circular saw
- Spirit level or line level
- Electric drill, 12mm auger bit & either 9mm twist bit or masonry bit (check requirements for Dyna bolts)
- Tape measure, square and pencil
- Sandpaper
- Adjustable spanner (250mm)
- Jigsaw if cutting curves on ends of rafters (optional)
- Safety equipment
- Hammer
- Step Ladder

NOTE: *Changing the design of the pergola may require the size and the grade of the timber to also be changed. Refer to the current NZS3604 for further details.*

THE GROUND RULES

Before you start any landscaping or building projects, it's important you make sure the finished job will comply with the building code and council regulations. For full information on the regulations applying to your area, consult with your local council.

GETTING STARTED

Free Standing Pergola

SETTING OUT THE HOLES

1. Take two lengths of 150 x 50mm timber, and mark two lines, 2.4M apart, across both.
2. Take two more pieces and mark two lines 2.3M apart.

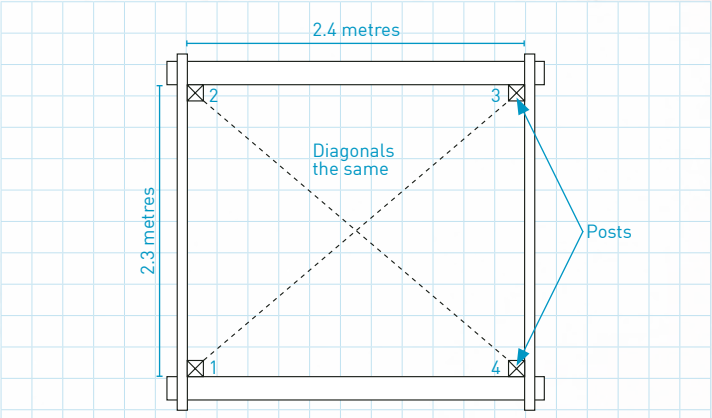

Fig.1 Laying out post holes

3. Lay planks together in a rectangle so the inside of each plank rests on the lines of planks beneath it. (The planks can be temporarily tacked at the corners).
4. Position rectangle where you want your pergola.
5. Square the corners by checking that diagonals are the same length (see **Fig.1**).
6. The inside of each corner of the rectangle, marks the outside corner of each post.
7. Mark post positions on the ground, dismantle and remove rectangle. Dig four holes at least 300mm square at least 900mm deep.

NOTE: *For different shaped pergola use string lines and pegs to set up your post positions.*

INSTALLING THE POSTS

1. Place 100mm concrete in the bottom of each hole and set the posts in place on top. Ensure uncut treated ends go into the hole.
2. Check for plumb levels (vertical) in both directions and brace securely.
3. Pour concrete to 150mm below ground level. Check for plumb again and rebrace if necessary.
4. Leave the concrete to set for at least 24 hours. When the concrete is set, top up hole with soil, then measure 2.3M from ground level on one post.

NOTE: *If using Laminated posts for your pergola they should be mounted on the appropriate Bomac brackets rather than in the ground.*

5. Level that mark around onto each of the others. Level using a string level and string line, or a spirit level on a plank. Check accuracy of all marks by levelling between fourth and first post.
6. Square and cut posts to height(s).

NOTE: *If you intend to cover your pergola e.g. with clear corrugate plastic, you may need to get a building consent..*

FIXING THE BEARERS

1. Cut four bearers from 150 x 50mm at 2.7M long. Check dimensions at post top before cutting. Shape ends of bearers if desired, remembering that no part of the shaping should extend more than 150mm from end of bearer (see **Fig.2**), unless you wish to use bearers longer than 2.7M.

Fig.2 Bearer and joist end shape option

2. Temporarily nail bearers to Posts 1 and 4 and Posts 2 and 3. Top edge of bearers should be flush with tops of posts. Sandwich post between bearers (see **Fig.3**). Bearers should overhang posts by 150mm at each end. Ensure that temporary nails are in the middle of each bearer as bolt holes have to be bored above and below that.
3. Mark points 40mm from the bottom and top edges of the bearers, in the centre of the posts. Bore two 12mm holes through the bearers and posts on those points. If your auger bit is less than 200mm long, measure and bore from both sides, ensuring that you maintain holes level and square to the face of the bearer, so the holes from each side meet up.
4. Grease the bolts liberally, bolt through holes and tighten.

FIXING THE RAFTERS

1. Cut 9 rafters at 2.7M from the remaining 150 x 50mm.
2. Shape ends if desired, ensuring same limit of 150mm in from ends, unless longer rafters have been selected for use.
3. Nail rafters in place. Start with two end rafters. Line up outside edge of posts with outside of rafters, and have 150mm overhang at each end. Skew nail to all four bearers with 75mm nails. Space evenly at about 300mm centres and nail remaining seven rafters between end joists (see **Fig.3**).

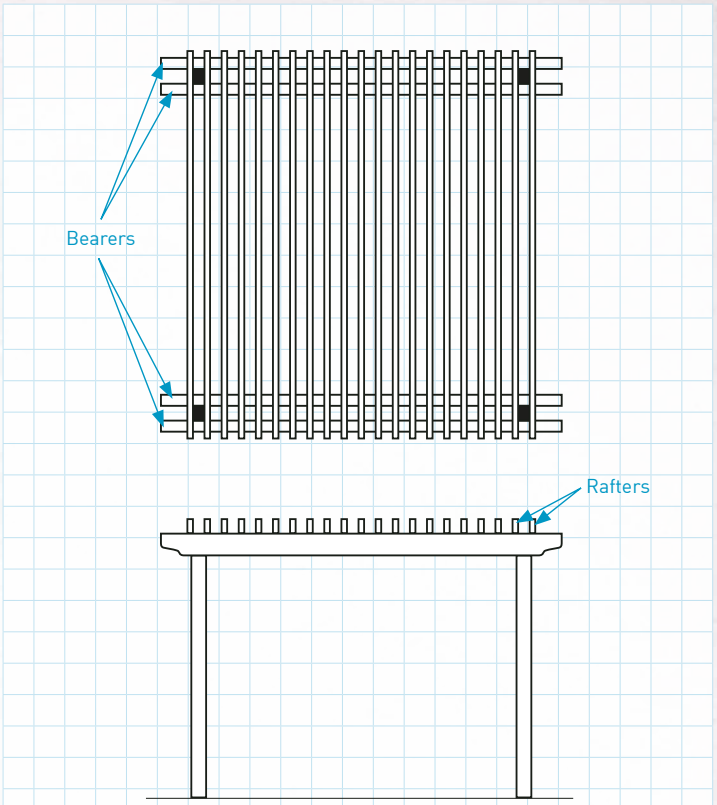

Fig.3 Free standing pergola layout

TIMBER SELECTION GUIDE

TREATMENT LEVEL	APPLICATION	TYPICAL USES
H3.2	For timber exposed to the weather but not in-ground contact	– Decking/Rafters/Bearers (all deck components except decking posts, piles and veranda posts) – Fence palings, fence rails and trellis – Cladding
H4	For timber exposed to the weather and in-ground contact	– Fence posts – Pergola post – Retaining wall TGV and lumber
H5	For timber exposed to the weather, ground and fresh water contact; and in high risk, loadbearing applications	– Piles (house foundations, retaining walls, and in decking piles) – Vineyard supports – Veranda posts – Poles

NOTE: *Consumer Information and Handling Guide for Treated Timber is available from your local PlaceMakers store and in the PlaceMakers Landscape Catalogue.*

NOTE: *Consider painting or staining your Pergola to make it look better for longer. PlaceMakers have a full range of painting and staining products in store.*

The Law

You should ask your council if you need a building consent and/or planning permission, especially if you are attaching your pergola to the house or installing a roof cover.

UPDATED: JUNE 2018