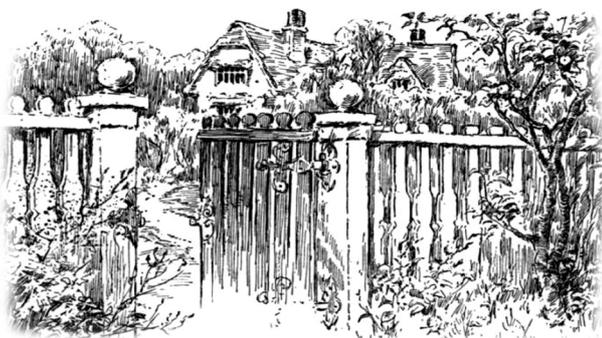


# Project Ideas & Information

## Timber Gate



**Before purchasing tools, timber and materials, read every step thoroughly then talk to one of our experts**

Timber gates aren't difficult to build and you can build them to dimensions to suit your own requirements and in a style that compliments your property. They can be fancy, to enhance the front of your home or they may just be useful and lead to the backyard and keep children or animals safely contained.

### Step 1: The Basics

Most common lightweight timber gates consist of a framework of top rail, bottom rail and "Z" brace, to which face boards are attached. Hinges are attached to one vertical edge and a catching mechanism is attached to the other. The gate is then hung between two posts.

On heavier gates, vertical timbers, one at each side, and a horizontal cross member may be added to provide a sturdier framework.

### Step 2: Choosing Materials

When a sturdy frame work is required a framing size of 75mm x 38mm or 100mm x 50mm timber would be suitable. Often, "budget" gates use the same material for the framing and cladding.

Free standing post dimensions are dependant on the gate size. Typically use 100mm x100mm for narrow gates up to 1200mm high, use 125mm x 125mm posts for narrow gates 1800mm high and for wide gates use at least 150mm x 150mm posts. In circumstances when a gate is hung onto a brick wall, it is normal to use a timber wall plate, normally 50mm thick, fastened to the brick.

How you clad the gate frame depends on what you want to achieve, there is a myriad of boards, palings, pickets or lattice you could use to achieve a unique and visual appealing gate.

These days the most suitable timber for building a gate is treated pine. Not only is it durable, but there is also a vast range decorative pickets, posts and post tops available to give you just the result you're after. Be aware that Treated pine timber should have an H4 rating for the posts and an H3 rating for the frame and cladding.

The timber is treated with compounds of copper, chromium and arsenic, termed CCA. When using this material:

- Wear gloves and dust masks when sawing.
- Any cut or sawn surface of this material will need resealing to ensure its effectiveness in resisting attack.
- Dispose of any off cuts by burying them. Don't burn them as the smoke and ash are toxic.

Hinges, latches and all fixing devices should also be hot-dipped galvanised to ensure maximum resistance to corrosion to maximise the longevity of the gate and also to reduce marking of the timber from rust stains.

### Step 3: Measuring Up

If you have existing posts already in the ground, then the width of the gate is more or less determined. Simply measure between the two gate posts and deduct 25mm. This is to allow around 12mm clearance each side of the gate.

If you are starting from scratch, then you have a bit more choice as to how wide your gate can be. Take into account how wide the cladding boards will be and make adjustments to your measurements to avoid have to rip any cladding boards to fit ... this is particularly important when there will be no gap between the boards.

The height you choose for your gate will determine the length of the vertical side rails of the gate. You should make allowance for the shortest length of cladding to overhang the horizontal rails by approximately 100mm. Additionally you should allow for about 50mm clearance between the bottom of the cladding and the ground.

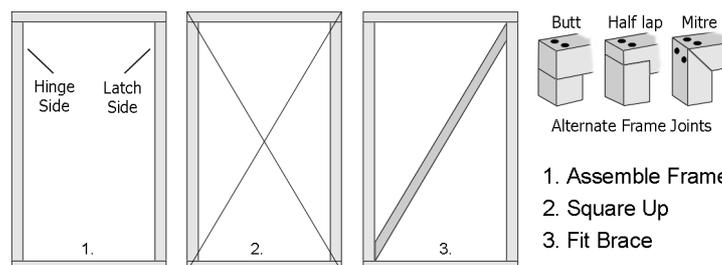
When measuring post height you should allow for at least 600mm of the post to be below ground level ... on very large gates you should increase this to 700mm – 1000mm. By and large, the length of the posts above ground is a matter of visual appearance, but they should at least be over the height of the top horizontal rail of the frame.

### Step 4: Making The Gate

From your measurements, mark and cut the vertical and horizontal frame pieces. Take note that the horizontal rails should cover the end grain of the verticals, this protects the end grain of the uprights from rain and lengthens the life of the gate.

Working on a flat surface, assemble the outer frame by first drilling pilot holes through the crosspieces into the ends of the uprights and then fixing with 2 screws at each corner.

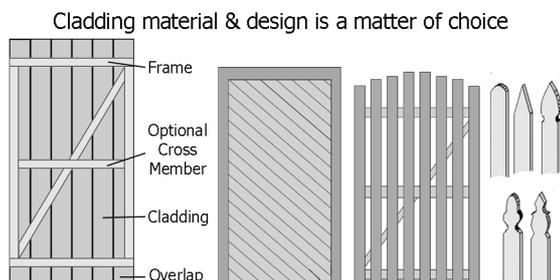
If you need to add an intermediate horizontal rail, you should measure, cut and fix this now.



Square up the frame by measuring the two opposing diagonals of the gate frame. When the two opposing diagonal measurements are the same, the corners of the rectangle will be at right angles. Fix temporary braces to hold everything square.

For maximum strength a diagonal brace, running from the bottom of the hinge side to the top of the latch side, should always be used. Mark and cut the diagonal brace by laying the brace material diagonally across the squared frame and mark the diagonal cuts from beneath with a pencil. Note that the angled cut at each end fits to the uprights, as shown.

Fix the brace in place in the same manner as you did with the rest of the frame.



Now comes the time to clad the frame in the material and pattern you have decided on. Cladding such as lattice should be flush with the sides of the frame and overhanging top and bottom equally. If using paling, pickets or the like, fix the two outer lengths at the correct height and nail a straight edge to the bottom of the pickets as a height guide. Using a spacer to maintain a consistent gap, work towards the centre fixing each length temporarily with a half driven nail. When you are happy with everything, use 2 screws, at each contact point to the horizontal frame members, to permanently fix each length in place.

## Step 5: The Gate Posts

If you need to install posts you should first clear and level the ground over which the gate will hang and swing, a few minutes spent will pay in the long run.

Dig the hole for the hinge post with vertical sides and to the correct depth to accommodate the height of the gate and the clearance under the gate.

Gate posts should be set with about one third of their total length buried in the ground but a minimum should be at least 600mm. The hole should be about 400mm - 450mm square, but may need to vary in size if the soil is very soft.

Dig the post holes about 150mm deeper than the desired depth of the post and fill in the base of the hole with gravel or small stones. This will drain any moisture away from the post and help prevent the post from rotting and also provides leeway for setting the vertical height of the posts.

Use a level and timber braces to ensure a post is vertical while filling in the hole with a rapid set concrete. To help eliminate water standing at the post base, slope the concrete slightly away from the post.

Now set the latch post in the same manner as above ensuring that the two post faces run parallel with each other, and don't forget that the distance between the hinge post and the latch post should be the width of the gate plus 25mm (12mm each side for clearance).

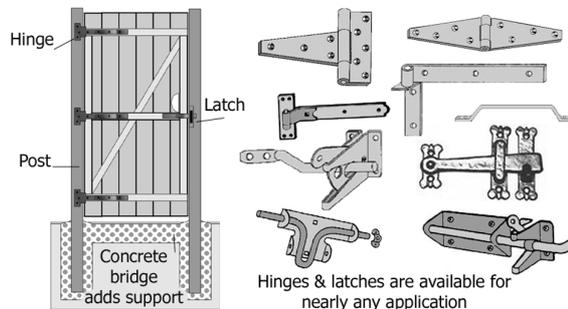
## Step 6: Hanging The Gate

Hinges come in a variety of sizes and styles, tee hinges and strap hinges are the most common choice for light or medium weight gates. As a rule of thumb the hinges should be a little less than half the width of the gate.

The easiest and most accurate way to hang the gate is to first place it in between the two gate posts and pack it off the ground to the desired clearance (minimum is

about 50mm). Then jam the gate between the posts using wedges, ensuring that the gaps between the gate and posts are even (about 12mm). Ensure that the diagonal brace, fixed between the rails, angles from the bottom hinge post up to the top edge of the latch post and that the gate is orientated for inward or outward opening.

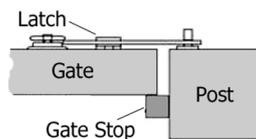
With the gate now securely held in place, you can now attach the hinges. If the gate is to open inwards, you should fix the hinges on the inside of the gate to the horizontal frame members. If the gate is to open outwards, the hinges are fixed to the outside of the gate to the cladding and in line with the horizontal members. Drill pilot holes, then screw the hinges to the gate and the hinge post.



Now you can fit the gate latch. The positioning of the latch will depend on the height of the gate. For gates that cannot be reached over, a ring gate latch is a good choice, alternatively you cut a hole in the gate big enough to put a hand through to access the latch. Gates of a lower height can be reached over so the normal type of latch would be an auto gate latch.

## Step 7: The Gate Stop

All gates should be fitted with a timber batten to act as a gate stop or else the latches will break very quickly. It is normal to fit a matching pair of gate stops, one on the hinge side and one on the latch side to cover up any gap between the gate and the gate post. Stops are fixed to the posts so that they will keep the gate flush with the post when it is in a closed position.



## Hints

- Running a bridge made out of concrete or timber from post to post just below ground level, is a way of keeping the posts at bay against the pulling forces of the gate.
- Note that gates wider than 1200mm are hard to support and tend to sag. Consider a two-section gate for wide openings.

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