Horizontal Wood Fences & Gates

hoco

VIEW IN BROWSER

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Summary

These are scale models of redwood horizontal fences and gates I make for clients. They are all created at 1:25.4 scale.

5.15 hrs	5 pcs	0.20 mm	0.40 mm	PLA	52 g	Prusa MK3/S/S+

Household > Outdoor & Garden

Tags: fence gate fencepost fences

These are scale models of horizontal fences and gates I make for my clients. They are all created at 1:25.4 scale: 1 mm in the model represents 1" in real life. The lumber is all nominal 1x1s, 1x4s, 1x6s, 2x4s and 4x4s and the fence boards are all nominal 1x6s. The actual size of these are:

- 1x1 is 0.75" x 0.75"
- 1x4 is 0.75" x 3.5"
- 1x6 is 0.75 x 5.5"
- 2x4 is 1.625" x 3.625"
- 4x4 is 3.625" x 3.625"

If you're looking for fences and gates with vertical fence boards, you can find them here: https://www.printables.com/model/617147-wood-fences-gates

I show these models to clients to help them understand their choices. I make more designs than these, but these are the most common horizontal designs. I do intend to add a few more here as I get time to create and print them.

When the fence boards are horizontal they need a stiffener halfway between the posts to keep the fence boards from warping and looking weird and uneven. The stiffener connects the horizontal boards to each other but isn't itself mounted in or even touching the ground. Horizontal boards can be mounted on posts that are 8 feet apart or 6 feet apart and the stiffener is always in at the midpoint of the span between posts.

Often with horizontal fences there is a vertical fascia board covering the seam where the individual boards meet. This fascia board is usually the same width as a post, but the post is on the inside of the fence and the fascia board is on the outside, over the tops of the fence boards which are sandwiched between the fascia board and the post. It looks nice and means the ends if the boards do not have to end exactly at the center of the post.

Often with horizontal fences there is top rail made of 2x6 that covers the top of the posts and the top of the topmost fence boards. The 2x6 runs the entire length of the fence. It looks particularly good when there are vertical fascia boards over the seams.

The fence section models end in half a post and half a fascia board. If you put two next to each other it is clear that where they meet is a full 4x4 post and a full 1x4 fascia board.

The current list includes:

- Basic horizontal fence with no top rail. Six feet between posts, one stiffener at 3 feet.
- Horizontal fence with a 2x6 top rail and vertical fascia boards. Six feet between posts, one stiffener at 3 feet.
- Horizontal fence with a 2x6 top rail and vertical fascia boards. Eight feet between posts, one stiffener at 4 feet.
- Horizontal gate with a 2x6 top rail. The diagonal is actually solid but it printed with a thin slot in the middle that would not be there in a real gate with a solid 2x4 diagonal.
- Example post in post base.

I also included a model of a post in a concrete post base that is half cut away. It shows how the post only needs to be 14" (355mm) in the

concrete. More than that is a waste of wood. It shows that the post above ground level should not exceed 72" (1.83 meters) - the post base should be 1⁄3 the height of the post above ground level. This post base is 24" deep (610mm) and has additional concrete on top that gently curves down so it doesn't collect water. That curve is above ground level to keep dirt away from the post. Dirt rots the post.

There is a portion of the post at the end that would be cut off. It is very, very hard to mount every single post so that the top would not need to be cut, and it would go too far into the post base if you tried to leave 6' above ground level. A post sitting on the ground with concrete around it simply rots from the bottom up. It takes a while, but it is poor practice and will eventually fail. The excess guarantees that you can cut the tops to exactly align with each other without fussing with raising and lowering the post inside the post hole. It is hard enough to mount it perfectly vertical and not at an angle to the fence line.

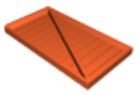
I know people like to use those steel stirrups to hold posts, but I don't like to use them. They are problematic. Yes, it is easier to replace the post. But, you are much more likely to need to replace the post. All of the force of the fence (e.g. wind) is transferred to the two bolts that hold the post. And, the transfer is at a mechanical advantage because the post acts as a long lever. The force can split the post. Also, because there is a hole through the post, it allows for a slow rotting process which enlarges the hole. Movement of the fence exacerbates this by crushing the wood around the bolt. The end result can be a wobbly post. They also make it hard to keep the post vertical because the steel base must be precisely level and the post must be exactly flat on the bottom. Posts aren't always exactly flat on the bottom but they can be cut so. Whereas, making a post in concrete be vertical is much easier because the post is first made vertical and then the concrete is added. I replace posts in existing post bases. You can see how I do that here: https://timefold.com/posts About half my business is replacing posts in existing fences, which saves money and gets the rest of the life out of an existing fence, without damaging landscaping or plants the way a new fence project definitely would.

Most of these need supports and the .3mf files include snug supports for them.

I printed these in Light Brown Overture Matte PLA. I printed them all flat on the print bed even though they required supports, because the result looks even more like real wood.

More about fences and gates: https://timefold.com/fences and https://timefold.com/handyguy/pages/blog.html

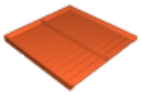
Model files



horizontal-6x40-gate.3mf

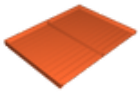
horizontal-6x6.step

post-base-2x.3mf

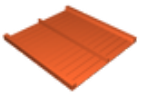


horizontal-6x6.3mf

horizontal-6x40-gate.step



horizontal-6x8.3mf



basic-horizontal-6x6.3mf

horizontal-6x8.step

basic-horizontal-6x6.step

post-base-2x.step

Print files

horizontal-6x40-gate_02mm_pla_mk3s_43m.gcode

PLA | 0.40 mm | 0.20 mm | 0.71 hrs | 7 g | Prusa MK3/S/S+

horizontal-6x6_02mm_pla_mk3s_1h1m.gcode

PLA | 0.40 mm | 0.20 mm | 1.01 hrs | 10 g | Prusa MK3/S/S+

horizontal-6x8_02mm_pla_mk3s_1h18m.gcode

PLA | 0.40 mm | 0.20 mm | 1.29 hrs | 13 g | Prusa MK3/S/S+

basic-horizontal-6x6_02mm_pla_mk3s_49m.gcode

PLA | 0.40 mm | 0.20 mm | 0.82 hrs | 8 g | Prusa MK3/S/S+

post-base-2x_02mm_pla_mk3s_1h19m.gcode

PLA | 0.40 mm | 0.20 mm | 1.32 hrs | 14 g | Prusa MK3/S/S+

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