

IMPORTANT: Read all sections before you start

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Prior to installing the railing, please consult local zoning laws in regards to load requirements and bottom space requirements for rails. All supporting structures must be in accordance with applicable building codes. Neighborhood associations and/or historic districts may regulate size, type, placement and ability of railing. Apply for permits if required by local authorities and codes. Ensure compliance prior to installation. Local building code requirements will always supersede any and all suggested procedures and measurements in the following installation. The following installation instructions are intended as a general guideline based on common building practices used in railing installation.

Safety

When dealing with any type of construction project it is necessary to wear appropriate safety equipment to avoid any risk of injuries. NewTechWood recommends but is not limited to the following safety equipment when handling, cutting, and installing NewTechWood: gloves, a respiratory protection, long sleeves, pants, and safety glasses.

Tools

Standard woodworking tools may be used. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws and nails are recommended.

Surface Condition

This railing installation guide only covers installations that are straight and flat. It does not pertain to any installation with any type of sloped railing, for sloped railing please look at our stair rail installation guide

Post Condition

This railing installation guide only covers using composite posts (made by NewTechWood) or wood posts for the post sleeve to go over.

Railing Post Kit Parts

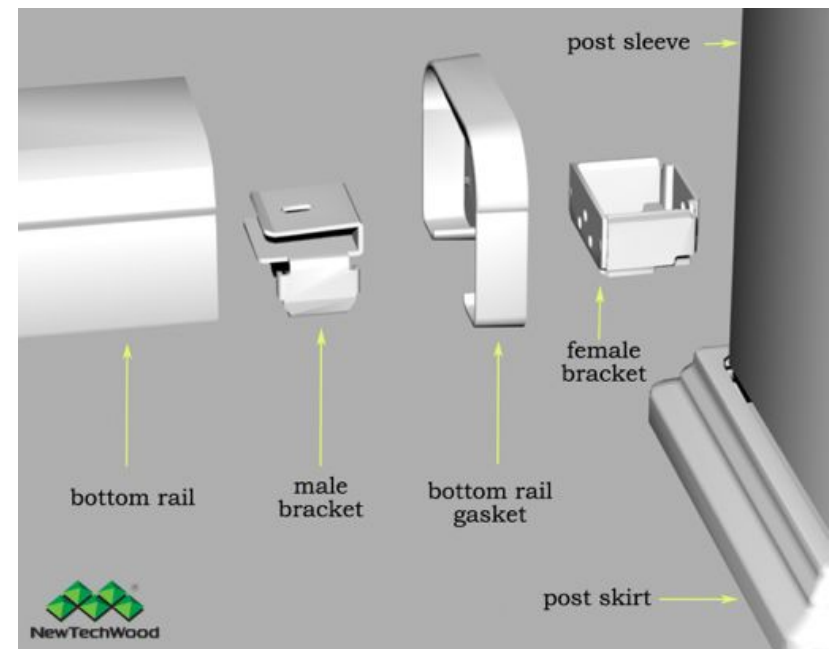
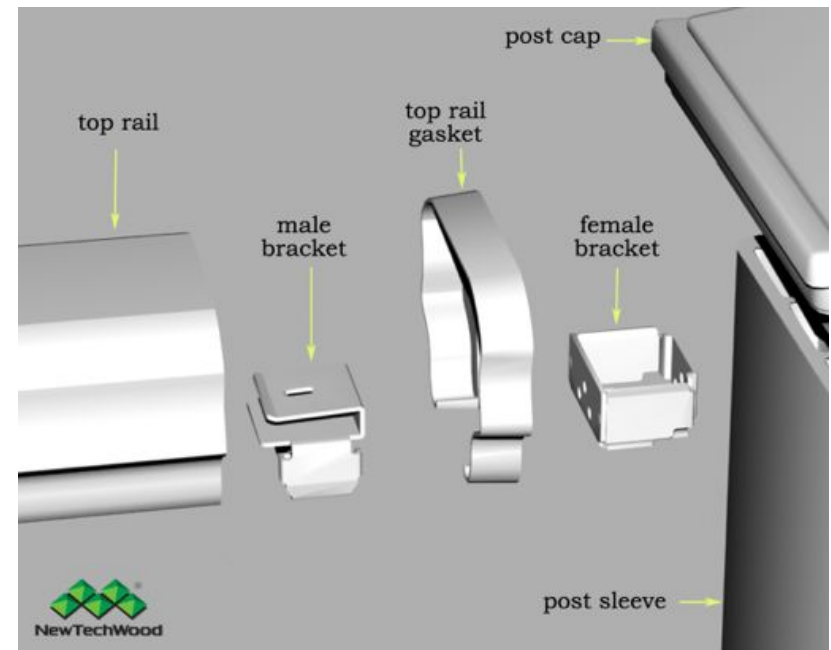
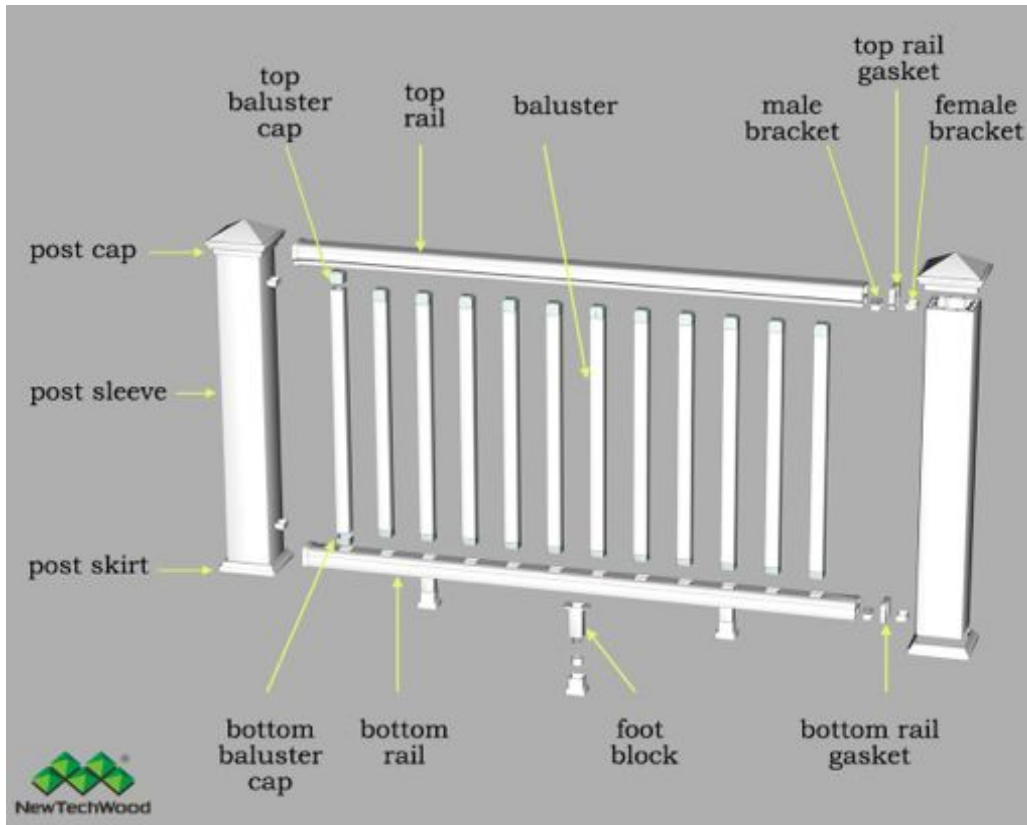
1. 0.991 meters (3.25 feet) Post Sleeve - 1 piece
2. Post Cap - 1 piece
3. Post Skirt - 1 piece
4. Post Installation Template - 1 Piece



Railing Kit Parts

- | | |
|--|------------------------------------|
| 1. 1.71 meter (5.6 feet) Top Rail - 1 piece | 10. Top Rail Gaskets - 2 pieces |
| 2. 1.71 meter (5.6 feet) Bottom Rail - 1 piece | 11. Bottom Rail Gaskets - 2 pieces |
| 3. Balusters - 13 pieces | 12. Foot Block Fastener - 3 pieces |
| 4. Male Railing Bracket - 4 pieces | |
| 5. Female Railing Bracket - 4 pieces | |
| 6. M4 x 80 screws - 12 pieces | |
| 7. M4 x 30 screws - 3 pieces | |
| 8. M4 x 15 screws - 4 pieces | |
| 9. M4 x 12 screws - 4 pieces | |





Railing Installation

This railing installation guide takes into account that you have both kits: Railing and Post kits are shown on page 2 and 3.

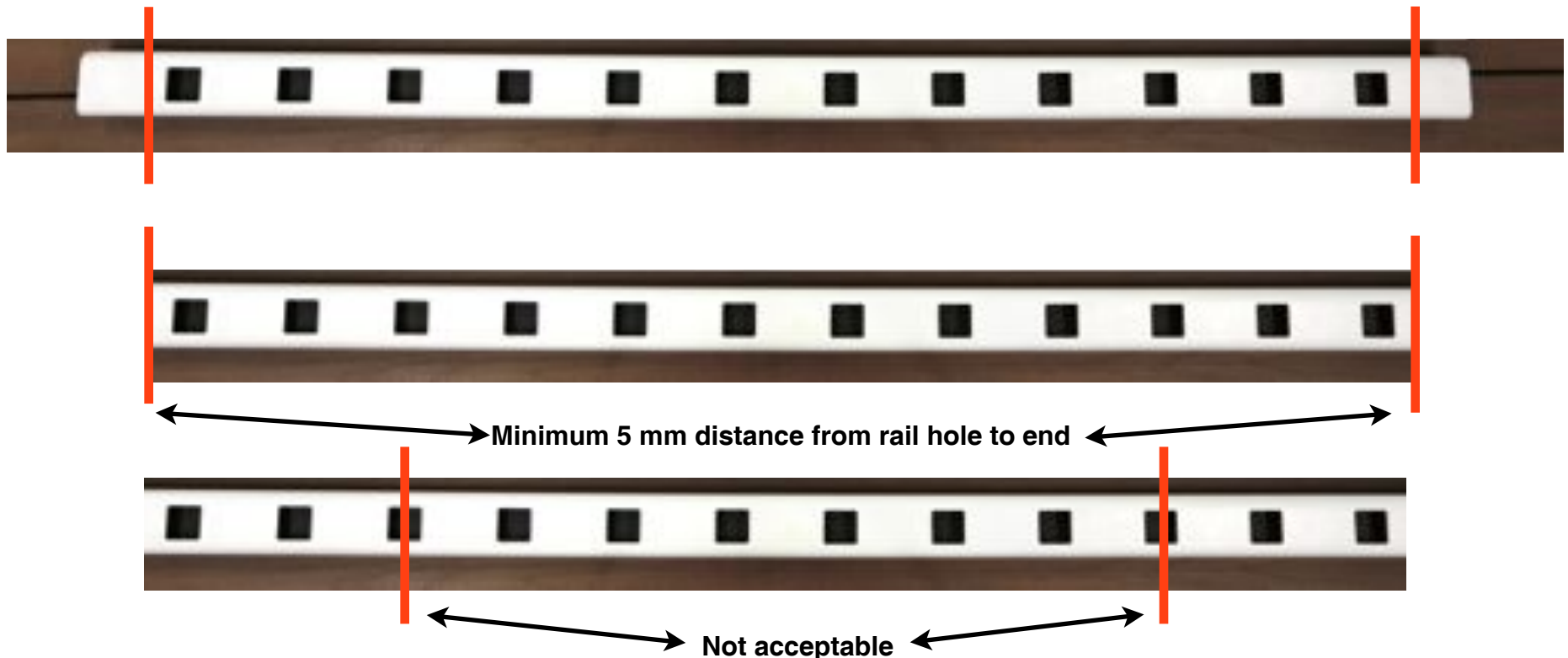
Option 1: Installing Railing without cutting:

The distance the rails can be installed from post to post is 1.714 meters without cutting, this already takes into account the gasket's distance, as shown in Figure 11.

Option 2: Installing Railing when cutting shorter

All rails shorter than 1.714 meters need to leave an extra 2 mm on each side to ensure that the gaskets can be put on. If there is not at least a 2 mm gap at the ends of each rail, the gaskets will be difficult to install correctly.

For example: If you wanted to install a 1.2 meter rail, you would need to cut 2 mm on both ends of all the rails leaving the distance of the rail 1.196 meters.



Continued Railing Installation

1. First, take the post and lay it flat and use the template to start the pilot holes onto the top female railing bracket as shown in Figure 1 and 2.

Note: Remember to place the back of the female bracket directly against the post sleeve while making the installation. If you use the front side of the female bracket, the installation will be incorrect and the gaskets will not be able to fit properly. The front and back side of the bracket are shown in Figure 3.



Figure 1



Figure 2



Figure 3

Continued Railing Installation

2. Mark the pilot holes using the post template.
3. Repeat and do the same for the bottom and top of the post.
4. Once the holes are marked, pre-drill through the post as shown in Figure 5.
5. Repeat and pre-drill for the bottom and top of the post.
6. Once both the top and bottom are pre-drilled, place the post sleeve over the wood post as shown in Figure 6.
7. Once the post sleeve is over the wooden post, install the post skirt over the post sleeve as shown in Figure 7 and 8.



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8

Continued Railing Installation

Note: After putting the pre-drilled post sleeve over the wooden post, remember to place the post skirt over the post sleeve before you drill the brackets onto the post sleeve, if you don't do this, it will be difficult to install the post skirt later on.

8. After the post skirt is pulled all the way to the bottom, the female brackets can now be installed into their pre-drilled holes as shown in Figure 9 and 10.
9. Repeat and do the same for all the post sleeves and female brackets.
10. Your installation setup should look similar to Figure 11. As you can see all female brackets are now installed onto the posts sleeves, and post skirts are at the bottom of each post sleeve.



Figure 9



Figure 10



Figure 11

Continued Railing Installation

11. Now you are ready to install the bottom railing by first measuring the span for the foot blocks.

Note: The foot blocks will be installed at the following measurements:

A. If the railing is between 1.25 - 1.71 meters (4.1 - 5.6 feet), then there needs to be 3 foot blocks placed on the bottom rail at equal distance from each other.

B. If the railing is between 0.850 - 1.25 meters (2.79 - 4.10 feet), then there needs to be 2 foot blocks placed on the bottom rail at equal distance from each other.

C. If the railing is 0.850 meters (2.79 feet) or less, only 1 foot block needs to be placed in the middle of the bottom rail.

12. Once the appropriate distance is measured, pre-drill each position where the foot block will be installed as shown in Figure 12.
13. Once the hole has been pre-drilled, place the foot block fastener over the hole and screw it down into place using a M4 x 30 as shown in Figure 13.
14. Next, take the foot block and cut it to 0.123 meters (0.40 feet)

Note: Not all foot blocks will be cut to 0.123 meters, it could be potentially higher or lower depending on how level the floor is.



Figure 12



Figure 13

Continued Railing Installation

15. Next, take the cut foot block and insert it into the foot block fastener as shown in Figure 14 and 15.



Figure 14



Figure 15

Continued Railing Installation

16. At the ends of each bottom rail, you will need to install the male railing bracket as shown in Figure 16, 17, and 18 using a M4 x 15.

Note: Ensure when installing the male railing bracket that it is centered evenly from each side. **DO NOT** install the male railing bracket to the far left or the far right because it will be difficult to line up with the female railing later.



Figure 17



Figure 16



Figure 18

Continued Railing Installation

17. Your railing setup should look like Figure 19.
18. The bottom rail can now be installed as shown in Figure 20 by taking the bottom rail's male clips and sliding them into the female clips attached to the bottom of the post sleeve.
19. The railing setup should look like Figure 20 when the bottom rail goes in. You will have two gaps on either side which will be covered up by the gasket as shown in Figure 21 and 22.



Figure 20



Figure 19



Figure 21



Figure 22

Continued Railing Installation

Now the balusters are ready to be installed into the bottom rail by pushing down each baluster into the pre-drilled holes on the bottom baluster as shown in Figure 23.

Note: All balusters will have clear caps pre-installed on their tops and bottoms in the railing kit. The caps will help the railing from rattling, ensure the fit is tight, and keep water from going in.

You can see in Figure 24 and 25, the cap for the top of the baluster will have a slightly raised shape to it as opposed to the cap for the bottom of the baluster. Make sure that you are installing each one in the right direction or it could cause the railing installation to be off.



Figure 23



Figure 24



Figure 25

Continued Railing Installation

21. Your railing should now look like Figure 26 with all the balusters installed into the bottom rail.
22. Now, take the top rail with both male brackets on each end and install it in a similar fashion to the bottom rail as shown in Figure 27.
23. Ensure that the bottom of the top rail bracket is clipped into the female bracket on the top of both post sleeves as shown in Figure 28.



Figure 27



Figure 26



Figure 28

Continued Railing Installation

24. After the top rail is installed, the bottom of the bracket for the top rail on either side needs to be fixed in position with M4 x 12 screws as shown in Figure 29 and 30.



Figure 29



Figure 30

Continued Railing Installation

25. The gasket can now be put around the top rail as shown in Figure 31 and 32.

Note: Remember there will be a gap of at least 2 mm left between the railing and the post for the gasket to fit properly.



Figure 31



Figure 32

Continued Railing Installation

26. Now for the final step, place the cap over the post sleeve as shown in Figure 33 and 34. The final railing should look like Figure 35.



Figure 34



Figure 33



Figure 35