

Building an A-Frame Structure

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The information in this article applies to:



QUESTION

I want to build an a-frame structure but can't seem to get my roof to build right. How can I do that?







ANSWER

The trick to making an a-frame house, is to get the roof planes correctly set, then work on the rooms inside.

For this example, we will walk you through creating a basic a-frame structure in a new plan created using the Default style template. Once you understand this process, you can then take that knowledge and apply it to your own design.

To build the structure

1. Use the **Straight Exterior Wall**  tool to draw a basic 30' x 40' rectangular structure.
2. On the first floor, use the **Select Objects**  tool to select one of the 30' exterior walls.
3. Click on the **Change to Gable Wall**  edit tool.


You can also **Open**  the wall up to specification and select the **Full Gable Wall** option located on the **Roof** panel.

4. Use the same procedure to change the opposite 30' wall to be a Full Gable wall as well.

In Home Designer Pro, you can group select both walls to set them as Full Gable at the same time.


Once you have created a fully enclosed structure, you are ready to create a second floor.

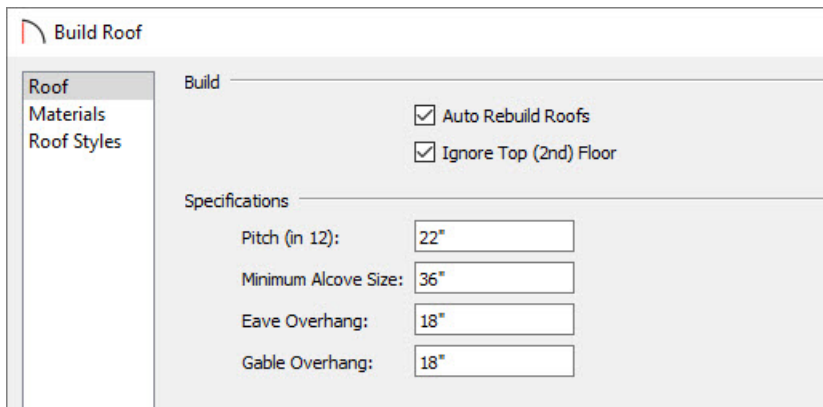
To create a second floor

1. Select the **Build> Floor> Build New Floor**  from the menu, and in the **New Floor** dialog, select **Derive new 2nd floor plan from the 1st floor plan**, then click **OK** to display the Floor 2 Defaults.
2. For the purposes of this example, we will not make any modifications to the Floor 2 Defaults, so click **OK** to build the second floor.

Now that you have the second floor created, you are ready to have the roof build the roof at the appropriate pitch.

To set the roof pitch

1. Select **Build> Roof> Build Roof**  from the menu.
2. On the **Roof** panel of the **Build Roof** dialog:

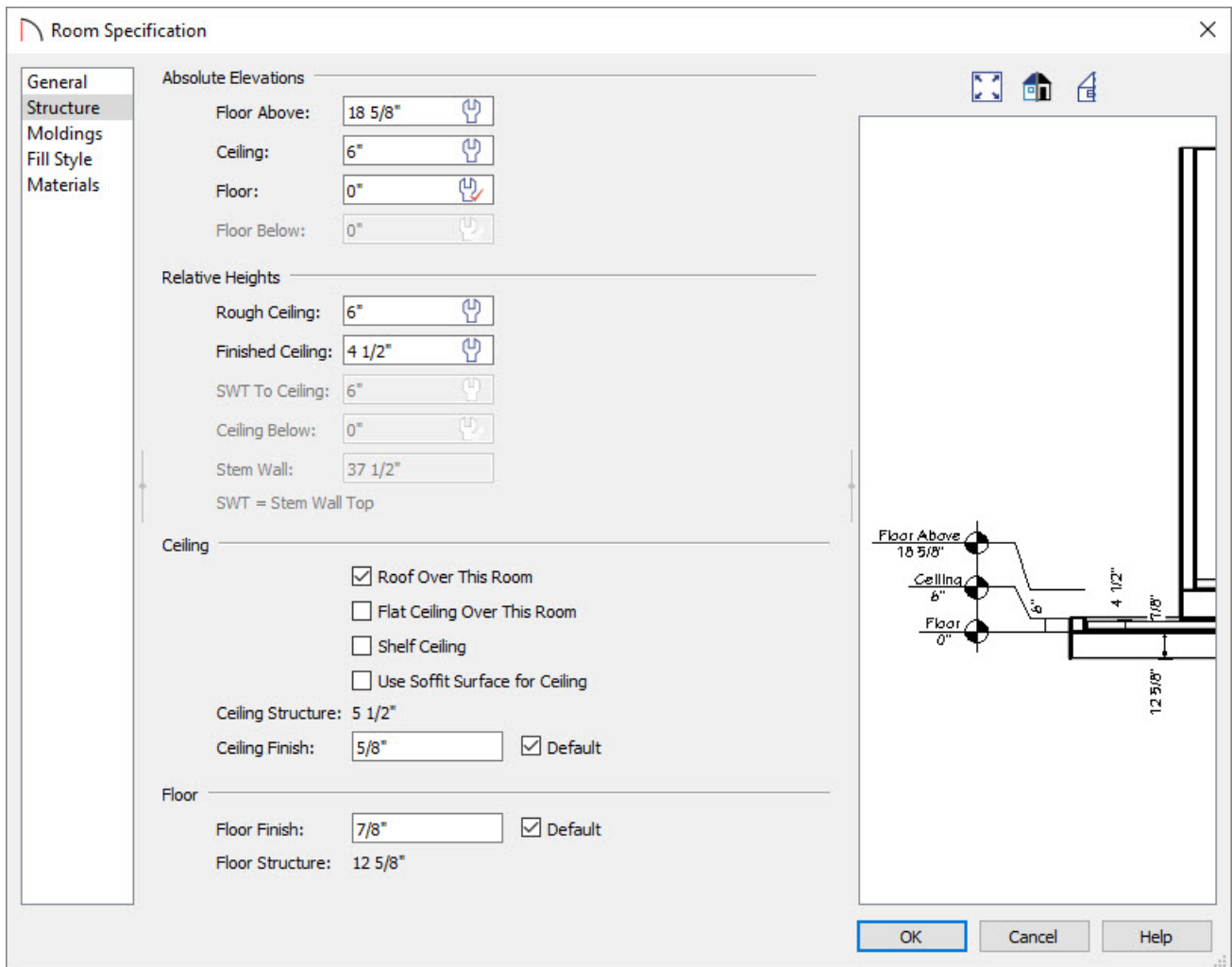


- Check **Ignore Top (2nd Floor)**.
- Increase the **Pitch (in 12)** to **22"**.
- Click **OK** to build the roof using the new pitch.

Now that you have both of the opposing walls on your first and second floors set to Full Gable so that they will not generate the automatic hip roof that Home Designer would create by default, you have your roof pitch set, and the second floor will be ignored for automatic roof generation, you need to adjust the height of the first floor so that the roof planes will extend all the way to the ground.

To lower the height of the first floor

1. Return to the first floor and use the **Select Objects**  tool to select the room, then click on the **Open Object**  edit tool.
2. On the **STRUCTURE** panel of the **Room Specification** dialog:



- Lower the **Ceiling** to **6"**.
- Uncheck the **Flat Ceiling Over This Room** box.
- Click **OK**.


3. Take a **Camera**  view to see the results.

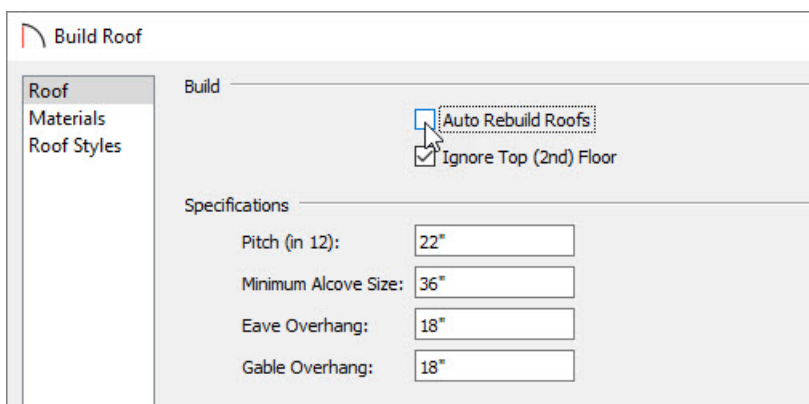




If you do not see a gable roof at this point, or the roof is too high, either you did not lower the Ceiling in the room on the first floor, or you have already turned off Auto Rebuild Roofs.

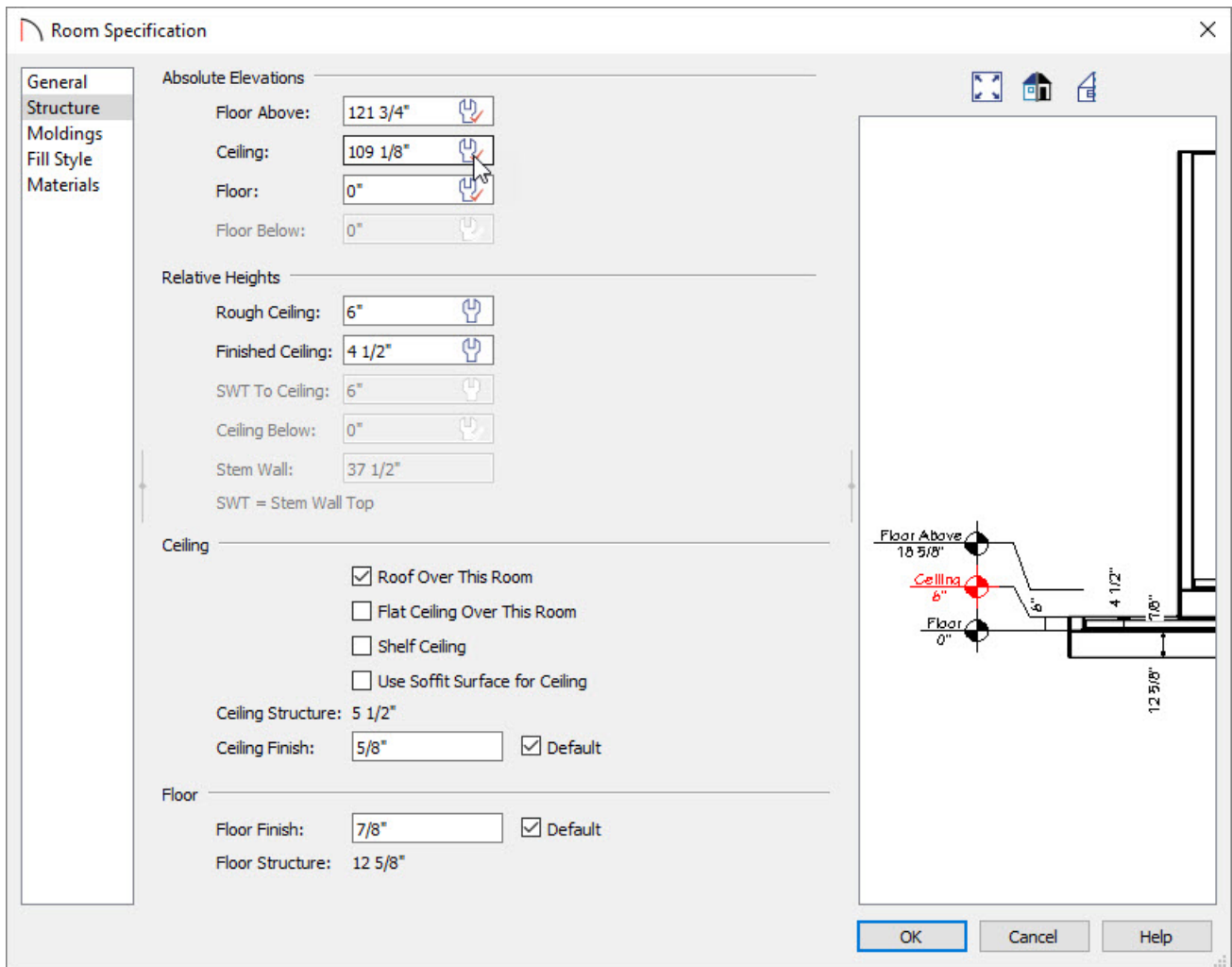
Now that you can see you have created the type of style you want, and do not want any future changes you make in the rest of the design to affect the roof, you need to turn off the automatic generation of your roof planes.

To turn off auto rebuild roof and readjust the walls

1. Select **Build> Roof> Build Roof**  from the menu.
2. In the **Build Roof** dialog that displays, uncheck the **Auto Rebuild Roofs** box, then click **OK**.



3. Now that roofs will not regenerate, return to the floor plan view.
4. Use the **Select Objects**  tool to select the room on the first floor again, then click on the **Open Object**  edit tool.
5. On the **STRUCTURE** panel of the **Room Specification** dialog, click once on the wrench icon next to **Ceiling** to use the default ceiling value, then click **OK**.



6. Now you have a 2 story a-frame house with a small attic in the peak. You are now ready to customize your a-frame plan by adding interior walls, fixtures, furniture, etc.

Note: You may also need to move the second floor walls so that they do not extend outside of the roof. In this example, the 40' sections of walls on the second floor were moved 60" in.