DRAWING AN OCTAGONAL STRUCTURE

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The information in this article applies to:

PRO Architectural Suite Essentials Interiors Landscape

QUESTION

I am trying to draw a structure the shape of an octagon, like a gazebo, and I want all eight sides to be of equal length. I am having a difficult time accomplishing this. Every time I adjust the length of one wall, another wall changes.

How do I draw an octagon shaped structure with equal sides?
Creating an octagonal building with railings is easiest to accomplish using the versions of the software that have the Polygon Shaped Deck tool. You can, however, still create this type of structure in the less advanced versions as well using a manual process, and both methods are discussed in this article.

The Chief Architect Premier (http://www.chiefarchitect.com/products/premier/) version of the software also has a Polygon Shaped Room tool, which automatically creates walls, instead of railings.

To create an octagonal room
In versions of the software which have the Polygon Shaped Deck tool, follow the instructions in this section. Scroll down for steps on how to create these types of structures in Home Designer Essentials and Home Designer Interiors.

1. Select **Build> Decks> Polygon Shaped Deck** to display the **New Polygon Shaped Deck** dialog.

   ![New Polygon Shaped Deck dialog](image)

   - Set the **Number of Sides** and **Side Length**.
     - For the purposes of this example, specify 8 sides, with a length of 6' (72").
     - Leave the checkmark next to **Include Railing**.

2. Once you have set these values, select the **OK** button, then simply click in plan view at the location you want to place your new polygon shaped deck.

   To customize the railings

1. Once you have placed the deck, choose the **Select Objects** tool and click on one of the deck railings.

2. Click on the **Open Object** edit tool to display the **Deck Railing Specification** dialog.
Select the RAIL STYLE panel, move the Railing Type radio button to Panels, and under Newels/Posts, select Post to Beam.

On the NEWELS/BALUSTERS panel, under Panels, click the button labeled Library.

Choose a panel for your railing.

For the purposes of this example, browse to Architectural> Fences & Railings> Decorator> Acapulco.

On the MATERIALS panel, choose appropriate materials for your railing.

3. Click OK to apply these changes and exit the dialog. Repeat this procedure for each of the subsequent railings until they have all been changed.
By default, a roof does not generate over a deck room, however, you can tell the program that you do want a roof over this area by following the instructions below.

To generate a roof over the structure

1. Using the Select Objects tool, click inside of the room enclosed by the Deck Railings, then click on the Open Object edit button to display the Room Specification dialog.

2. On the Structure panel, place a checkmark next to Roof Over this Room, then click OK.

3. If you have Auto Rebuild Roofs enabled, then your structure will update to have a Roof over it, based on the pitch and material settings in the Build Roof dialog.

Manually Creating an Octagonal Room

In Home Designer Essentials and Home Designer Interiors, which do not have the Polygon Shaped Deck tool, you will need to use a manual procedure to achieve these results, as discussed in the steps below.
To draw an octagonal room

With a blank floor plan open, select **Build > Wall > Straight Exterior Wall**, then in a clockwise fashion, draw your eight railings roughly the size you want them to be. You will want to observe the wall angle in the status bar at the bottom of the program window.

If you start from the left vertical wall, then going clockwise you will draw walls of the following angles:

- 90
- 45
- 0
- -45
- -90
- -135
- 180
- 135

Please see Figure 1 below and notice how each wall is numbered.
If you do not get the wall angles perfect as you draw them, then you can always go back to change the angle in the Wall Specification dialog.

To set the wall angles

1. Use the Select Objects tool to select one of the walls, then click on the Open Object edit tool to display the Wall Specification dialog.

2. On the GENERAL panel, notice the Wall Angle field.

If your wall angles are not correct, in a clockwise fashion, open each individual railing’s specification dialog, and enter the corresponding wall angles below.

<table>
<thead>
<tr>
<th>Wall #</th>
<th>Wall Angle 1</th>
<th>902</th>
<th>45 3</th>
<th>0 4</th>
<th>315 5</th>
<th>270 6</th>
</tr>
</thead>
</table>

3. At this point, you should have a perfect 135 degree angle between any two walls.

To dimension the plan

1. Select CAD> Dimension> Automatic Exterior Dimensions, then select Window> Fill Window.

If you created Railings, instead of standard walls, these will have No Locate selected by default on the General panel of the Railing Specification dialog. You will have to remove the checkmark from this
option for each railing in order for them to be dimensioned using the Auto Exterior Dimensions tool.

2. Select wall number 8 and, as illustrated in Figure 2, click on the dimension that appears to measure the length of the wall clockwise to it; in this case, wall number 1.

3. In the Move Object Using Dimensions text field, change the dimension to 8' then press Enter on the keyboard.

4. Next, select wall number 7, then click on the dimension that displays the length of wall number 8. Again, in the Move Object Using Dimensions text field, enter 8'.

Proceed in this counter-clockwise fashion until all walls are exactly 8'.
By using this procedure, you will be able to define an octagonal structure of any size.

Related Articles

- Creating a Covered Patio (/support/article/KB-01010/creating-a-covered-patio.html)
- Creating a Custom Pergola (/support/article/KB-00889/creating-a-custom-pergola.html)