

# Creating Custom Balusters and Railing Panels

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## QUESTION

I have a custom railing I need to create for a client. How can I create custom balusters and panels?




## ANSWER

Custom railing panels, newels, and balusters can all be created using shapes or solids, and then converting them into millwork symbols, allowing them to be used in the Railing Specification dialog.

This article discusses how to create different space intervals for balusters and creating a custom panel. Newels, balusters, and panels can be created with any 3D item that has been added to the library as millwork. For this example, 3D solids are used.

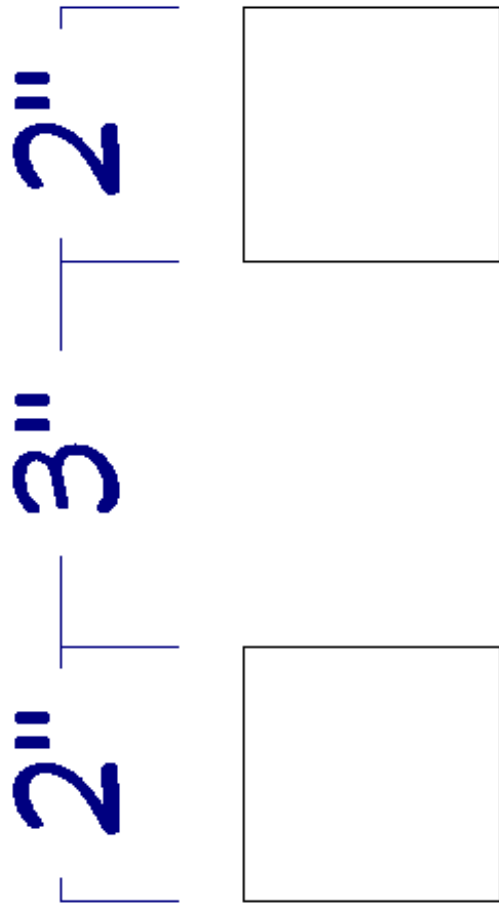
- [Creating a custom baluster or newel](#)
- [Creating a custom panel](#)
- [Applying the custom baluster, newel, or panel to a railing](#)


## To create a custom baluster or newel

1. Select **Build> 3D Solid> 3D Solid**  , and click and drag to draw two 3D solids 2" in size, spaced vertically, 3" apart.

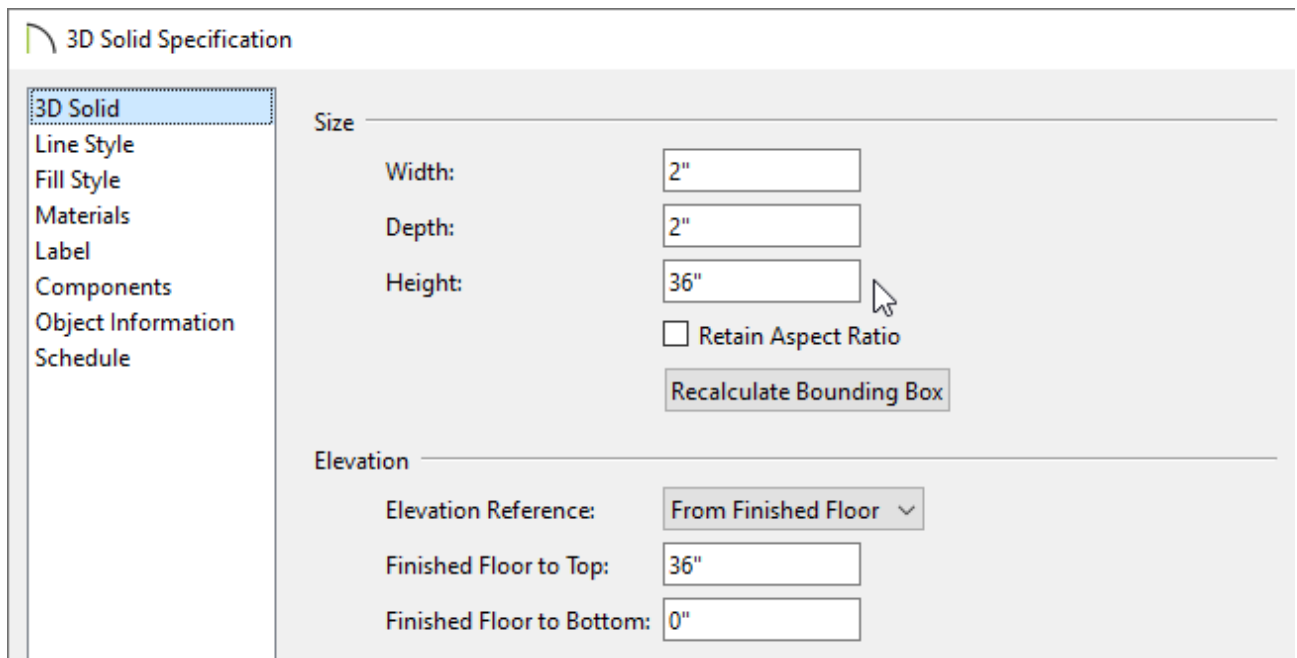
In X15 and prior versions, navigate to **Build> Primitive> 3D Solid**  instead.


When creating a custom newel or baluster, it's imperative that it's drawn vertically in the drawing space. Otherwise you will need to rotate the symbol before it's applied to a railing.



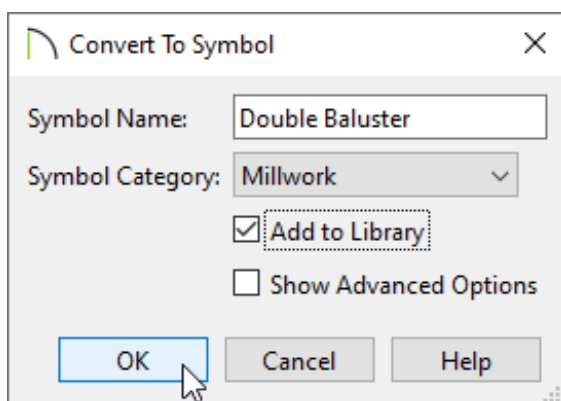
2. Group select the two solids, click the **Open Object**  tool to open the **3D Solid Specification** dialog, specify the **Height** as 36", which will act as the total height of the baluster, then click **OK**.


Materials can be specified on the Materials panel at this time, if desired. If materials are not changed now, it's possible to change them later when the balusters are applied to the railing.



3. With the two objects still group selected, click on the **Convert Selected to Symbol**  edit tool.
4. In the **Convert To Symbol** dialog, specify an appropriate **Symbol Name**, select **Millwork** from the **Symbol Category** drop-down menu, check the **Add to Library** box , then click **OK**.


In this example, the name "Double Baluster" is used.



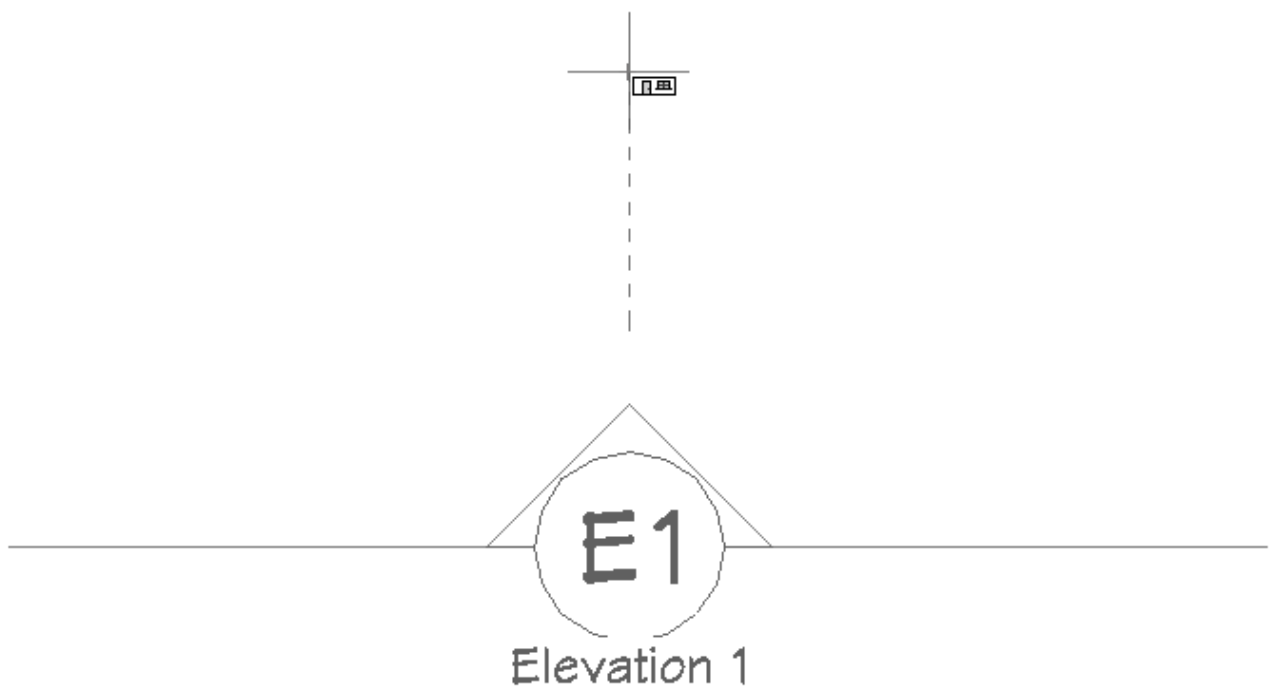
5. This millwork item will now be added to the **User Catalog** section of the Library Browser, and it will be following your cursor waiting to be placed. Click the **Select Objects**  tool to deselect the newly created object.


## To create a custom panel

Panels can be created using a single 3D solid with a hole cut into it, or by using several pieces put together.

1. In an empty area of your plan, select **3D> Create Orthographic View> Cross Section/Elevation** , then click and drag to create a view.

When creating a custom railing panel, it's imperative that it's drawn horizontally in the drawing space. Otherwise you will need to rotate the symbol before it's applied to a railing.







2. In the cross section/elevation view, select **Build> 3D Solid> 3D Solid**  from the menu, then click and drag to create a 3D solid the desired size for the panel.

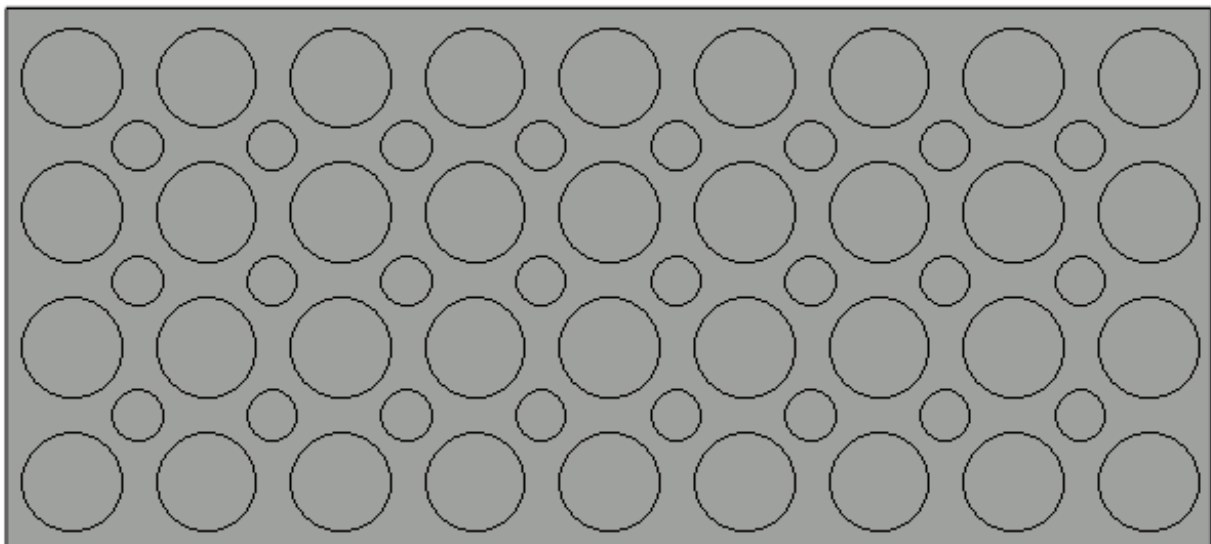
In X15 and prior versions, navigate to **Build> Primitive> 3D Solid**  instead.

Materials can be specified on the Materials panel of the 3D Solid Specification dialog now, or you can wait and change the material when you apply the symbol to your railing.

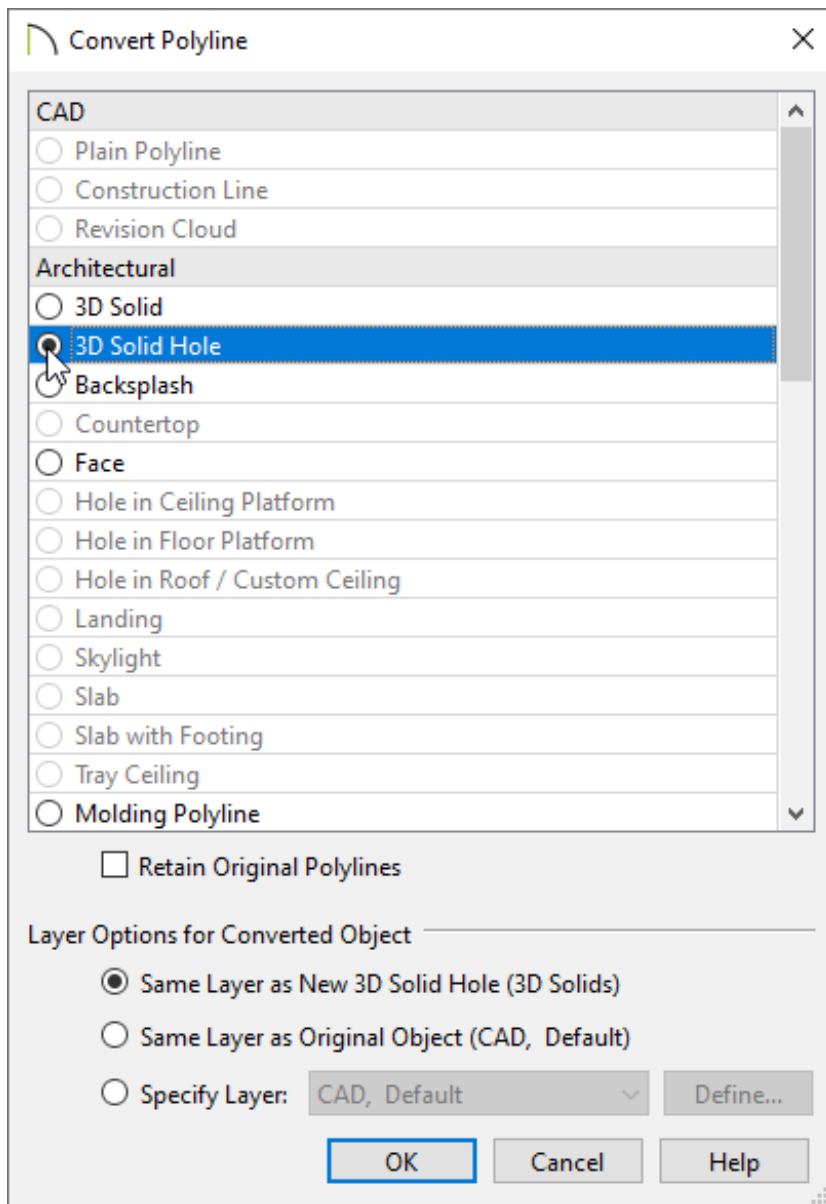


3. Next, select **CAD> Circles> Circle**  and click and drag several circles within the 3D solid, of which will be cut out to create several holes. Continue drawing circles or other shapes that will be cut out of the solid.

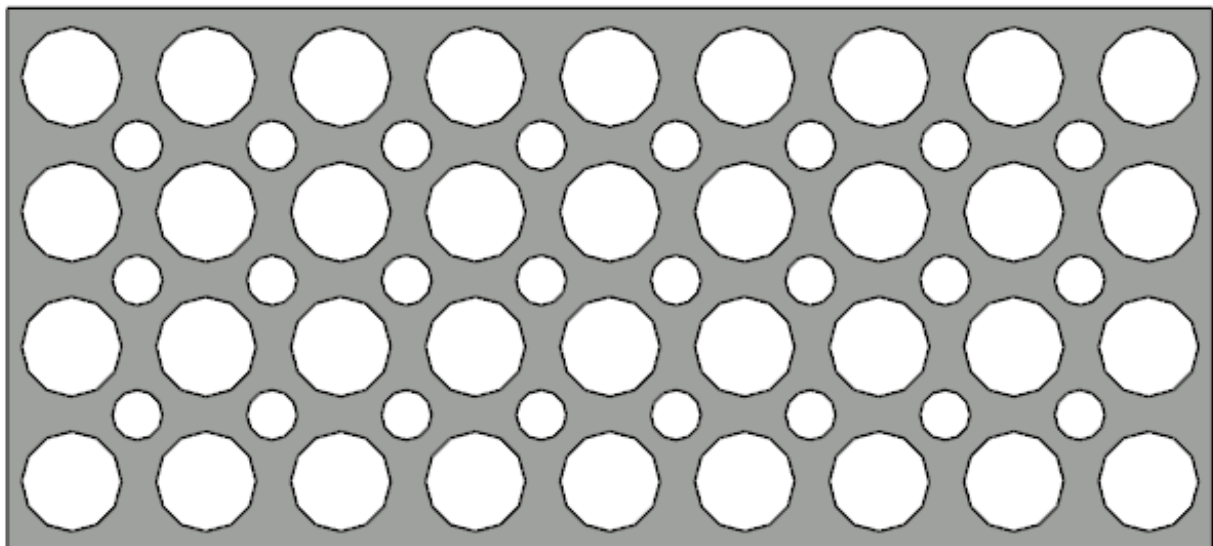
You may want to use a variety of edit tools, such as **Multiple Copy** , **Transform/Replicate Object** , and **Align/Distribute Along Line**  to create copies of the circle or preferred shape within this panel.





4. Group select the CAD circles, click the **Convert Polyline**  edit button, and in the **Convert Polyline** dialog that opens, select **3D Solid Hole** from the list, then click **OK**.

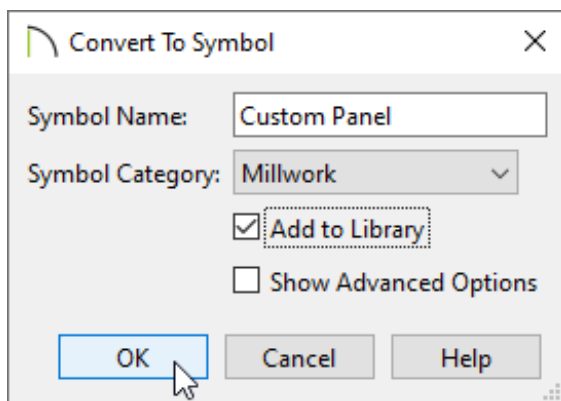



5. In the **3D Solid Specification** that opens next, ensure that the holes have been cut, the dimensions for the panel are to your liking, then click **OK**. Your panel may now look similar to the image below.






6. Select the 3D solid panel using the **Select Objects**  tool, then click the **Convert Selected to Symbol**  edit tool.
7. In the **Convert To Symbol** dialog, specify an appropriate **Symbol Name**, select **Millwork** from the **Symbol Category** drop-down menu, check the **Add to Library** box , then click **OK**.

In this example, the name "Custom Panel" is used.

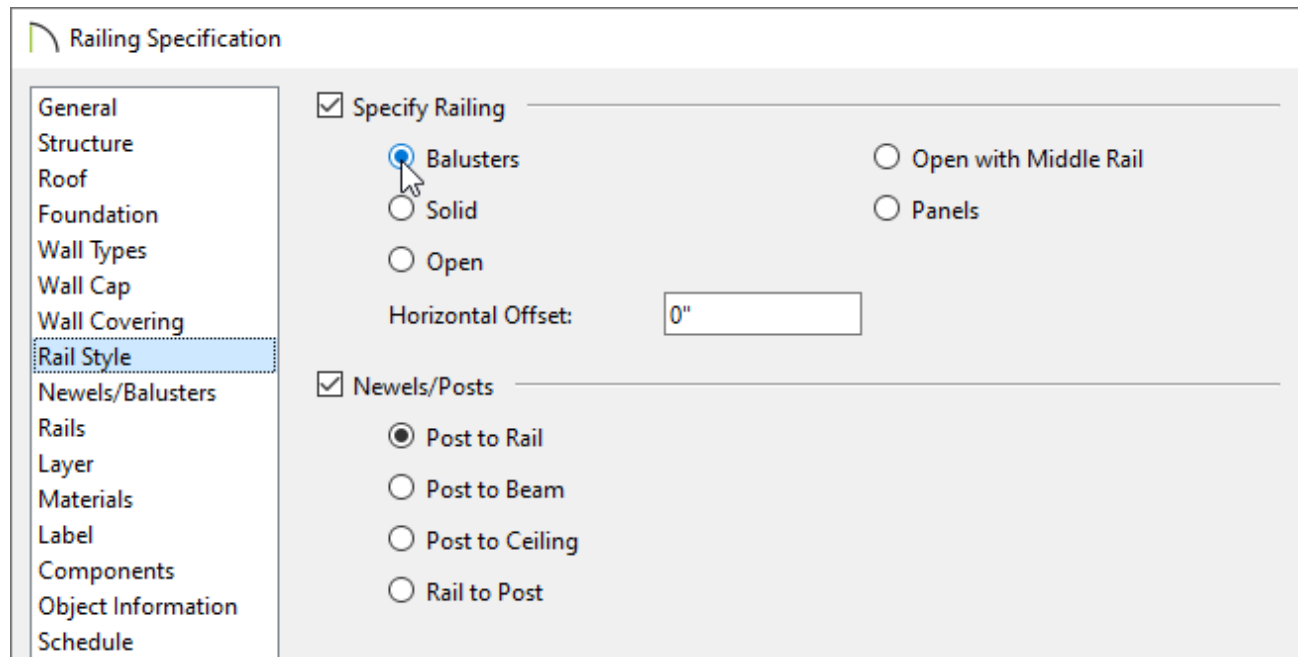


8. This millwork item will now be added to the **User Catalog** section of the Library Browser, and it will be following your cursor waiting to be placed. Click the **Select Objects**  tool to deselect the newly created object.

To apply the custom baluster, newel, or panel to a railing

1. Select an existing railing or select **Build> Railing and Deck> Straight Deck Railing**  or **Straight Railing** , then click and drag to create a railing.
2. With the railing selected, click the **Open Object**  edit tool.
3. On the RAIL STYLE panel of the **Railing Specification** dialog that opens, select either **Balusters** or **Panels** under the **Specify Railing** section.

In this example, Balusters is selected.



The image shows a software dialog box titled "Railing Specification". On the left is a vertical list of categories: General, Structure, Roof, Foundation, Wall Types, Wall Cap, Wall Covering, Rail Style (highlighted in blue), Newels/Balusters, Rails, Layer, Materials, Label, Components, Object Information, and Schedule. The main area of the dialog is divided into two sections. The first section, "Specify Railing", is checked and contains three radio button options: "Balusters" (selected), "Solid", and "Open". To the right of these are two more radio button options: "Open with Middle Rail" and "Panels". Below these is a text field labeled "Horizontal Offset:" containing the value "0". The second section, "Newels/Posts", is also checked and contains four radio button options: "Post to Rail" (selected), "Post to Beam", "Post to Ceiling", and "Rail to Post".

4. On the **NEWELS/BALUSTERS** panel, there are different sections for **Newels/Posts**, **Balusters**, and **Panels**. Depending on the option chosen in Step 3, either the Balusters or Panels section will be grayed out.

Railing Specification

General  
Structure  
Roof  
Foundation  
Wall Types  
Wall Cap  
Wall Covering  
Rail Style  
**Newels/Balusters**  
Rails  
Layer  
Materials  
Label  
Components  
Object Information  
Schedule

**Railing**

Height: 36"

**Newels/Posts**

Width: 2"  Use Wall Width

Height: 36"

Horizontal Offset: 0"

Bottom Offset: 0"

Spacing Method: Automatic

Max Spacing: 96" On Center

Type: Square

**Balusters**

Width: 1 1/4"

Spacing: 5" On Center


Type: Square

**Panels**

Thickness: 1 1/2"

Type: Solid

- To specify a custom Newel/Post, click the **Library** button next to the **Type** option in the Newels/Posts section.
  - To specify a custom Baluster, click the **Library** button next to the **Type** option in the Balusters section.
  - To specify a custom Panel, click the **Library** button next to the **Type** option in the Panels section.
5. In the **Select Library Object** dialog which opens next, browse to the **User Catalog** and select the custom baluster, newel, or panel created earlier, then click **OK**.
  6. Back in the **Railing Specification** dialog, it may be necessary to adjust spacing - for example, if you chose the "Double Baluster" created in the first section of this article, you might want to set the Width to 5" and the Spacing to 12".

7. Once all desired changes have been made, click **OK** and create a **Camera**  view to see the results.




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 [Modeling Custom 3D Objects \(/support/article/KB-00761/modeling-custom-3d-objects.html\)](/support/article/KB-00761/modeling-custom-3d-objects.html)

 [Specifying Glass, Cable, or Decorative Railing Panels \(/support/article/KB-01029/specifying-glass-cable-or-decorative-railing-panels.html\)](/support/article/KB-01029/specifying-glass-cable-or-decorative-railing-panels.html)



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