### Instant Fence & Railing  Rails and Handrails

#### Rail Types

*Note: Rails are cut between posts when “Stepped” is selected but will be continuous when “Sloped”*

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of Rails</th>
<th>Width / Diameter</th>
<th>Vertical Thickness</th>
<th>Top Rail Height</th>
<th>Bottom Rail Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rectangle-Center</td>
<td>2</td>
<td>1 1/2”</td>
<td>3 1/2”</td>
<td>2 10 1/2”</td>
<td>7 1/2”</td>
</tr>
<tr>
<td>Rectangle-Offset</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectangle-Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round-Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round-Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round-Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Rectangle-Center**
- **Rectangle-Offset**
- **Rectangle-Side**
- **Round-Center**
- **Round-Side**
Rail Parameters

Number of Rails

Width / Diameter

Vertical Thickness

Top Rail Height

Bottom Rail Height

Rail Continuity *Applies to sloped condition.*
Handrail Types

- **Rectangular Cap Rail**
  - Width/Diameter: 8"
  - Vertical Thickness: 3"
  - Top: 6'

- **Round Cap Rail**
  - Width/Diameter: Round
  - Vertical Thickness: Round
  - Top: Round
  - Location: Iron 1

- **Rectangle**
  - Width/Diameter: Rectangle
  - Vertical Thickness: Rectangle
  - Top: Mushroom
  - Location: Radius Edge

- **Mushroom**
  - Width/Diameter: Rectangular Cap Rail
  - Vertical Thickness: Rectangular Cap Rail
  - Top: Mushroom
  - Rail Continuity: Iron 1

- **Radius Edge**
  - Width/Diameter: Round Cap Rail
  - Vertical Thickness: Round Cap Rail
  - Top: Radius Edge
  - Location: Iron 2

- **Iron 1**
  - Width/Diameter: Iron 1
  - Vertical Thickness: Iron 1
  - Top: Round
  - Location: Wood 1

- **Iron 2**
  - Width/Diameter: Iron 2
  - Vertical Thickness: Iron 2
  - Top: Wood 1

- **Wood 1**
  - Width/Diameter: Wood 1
  - Vertical Thickness: Wood 1
  - Top: Wood 1

Vali Architects - Instant Scripts SketchUp Plugins - Instant Fence & Railing - www.valiarchitects.com
"VA_sample_cap_rail" is shown here. But any user profile can be used.
Example: Custom Railing Profile

1. **Draw custom 2D shape and make it into a component**

2. **Set axis where center of railing is to be. Z direction should be out of face.**

3. **Start Instant Fence Railing as usual. Choose “User Component Profile” and select the new component from the menu.**

The output is a railing using the new custom profile and aligns material textures. Note: This differs from the SketchUp follow me tool because it twists the railing to maintain a vertical / horizontal cross section.
### Handrail Parameters

#### Width / Diameter

<table>
<thead>
<tr>
<th>Type</th>
<th>0 Iron 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width / Diameter</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Vertical Thickness</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Vertical Thickness

<table>
<thead>
<tr>
<th>Type</th>
<th>0 Iron 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width / Diameter</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Vertical Thickness</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Top

<table>
<thead>
<tr>
<th>Type</th>
<th>0 Iron 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width / Diameter</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Vertical Thickness</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Location: Center

<table>
<thead>
<tr>
<th>Type</th>
<th>0 Iron 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width / Diameter</td>
<td>2 1/2</td>
</tr>
<tr>
<td>Vertical Thickness</td>
<td>3</td>
</tr>
<tr>
<td>Top</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Location: Offset

<table>
<thead>
<tr>
<th>Type</th>
<th>0 Iron 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width / Diameter</td>
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</tr>
<tr>
<td>Vertical Thickness</td>
<td>3</td>
</tr>
<tr>
<td>Top</td>
<td>3</td>
</tr>
<tr>
<td>Location</td>
<td>Center Offset</td>
</tr>
<tr>
<td>Offset Distance</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Offset Distance

| Vertical Thickness | 3 |
| Top                | 3 |

#### Rail Continuity: Warp

- Applies to sloped condition
- Warp allows breaks
Handrail Ends

- Extension
- ADA
- Return
- Return-Level
- Return -Radius
- To Post
- To Post -Radius
- To Grade
- To Post -Radius

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Note: A volute will only be modeled if the handrail is sloped. It will be located at the low end or ends. Not all rail profiles will have a decorative end cap.