

OPEN
Compute Project

Open Rack Filler Panel Standard V0.2

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1 Revision History

Date	Name	Description
2017/02/21	HJT	0.1 Preliminary Release
2017/03/24	HJT	0.2 Update Spring Clip

2 License

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Rack Solutions

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3 Overview

This product is an attempt to create a series of filler panels (also known as blanking panels) to fit into the Open Rack v1.0 / v1.1 / v1.2 / v2.0 series of standardized racks. Filler Panels are commonly used in the data center industry to manage the flow of cool air in a 'cold aisle' of a data center to prevent 'cold/hot aisle' mixing. These filler panels are suitable for an environment where there may be a variety of different Open Racks built to different standards.

Since the release, the specification has been updated to add an Open Rack v1.1/v1.2 only version of the spring clip and revise the clip geometry. The main body of metal panel has remained the same. This change was done to address the overall engagement force with the rack.

The filler panel product follows the specifications laid out by Facebook 06-000050 (referred as v1) / 06-000060 (referred as v2) and intermediate designs such as the Fidelity Open Bridge Rack.

4 Specifications

The metal Open Rack Filler Panel consists of a stationary metal panel with bent flanges and two spring clips attached to the sides. The filler panel is aligned and inserted into the correct OU space as desired. As an assembly, they are designed without an 'up' orientation to ease installation for the end user.

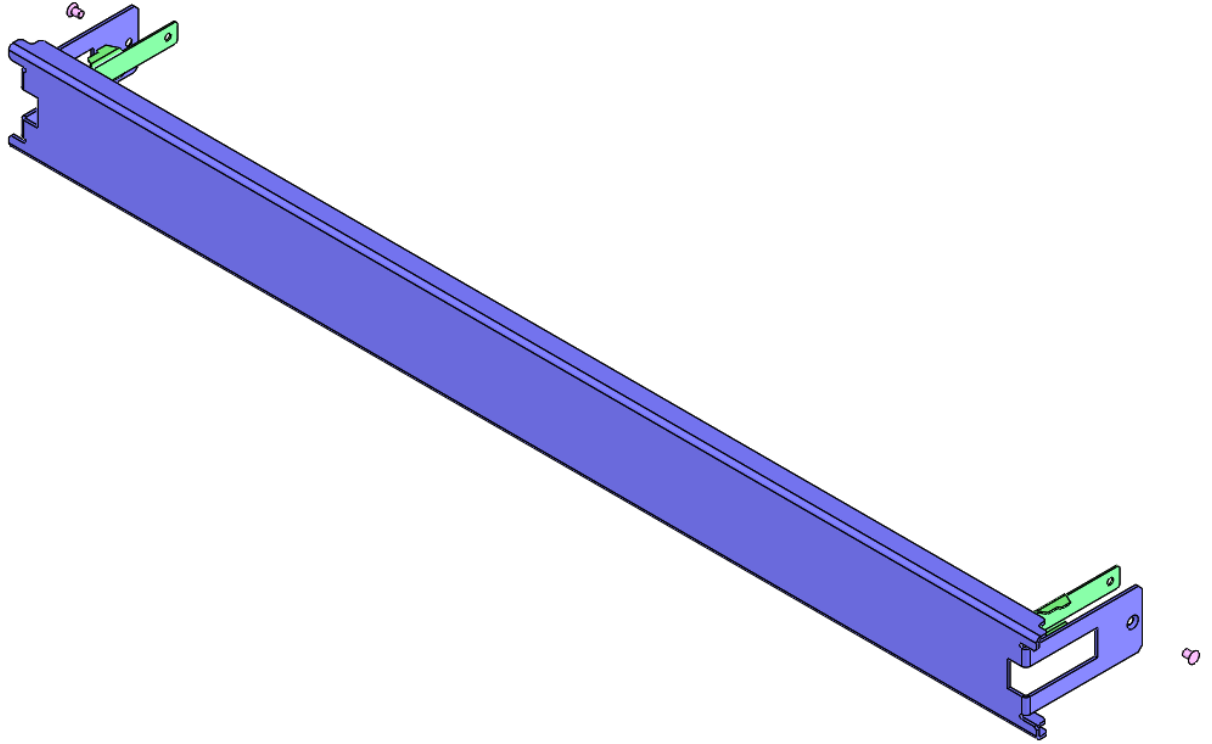


Figure 1: Filler Panel Overview

4.1 Metal Panel

The metal panel is the primary component and blocks air flow through the OU. The panel is typically finished to match the rack. Material and finish should follow the same guidelines as the IT Support Shelves referenced in section 3.2 in the OCP Open Rack Standard v1.2 The cutouts in the left/right of the main body allow the spring clip to protrude for finger access but also prevent overtravel and damage to the spring clip.

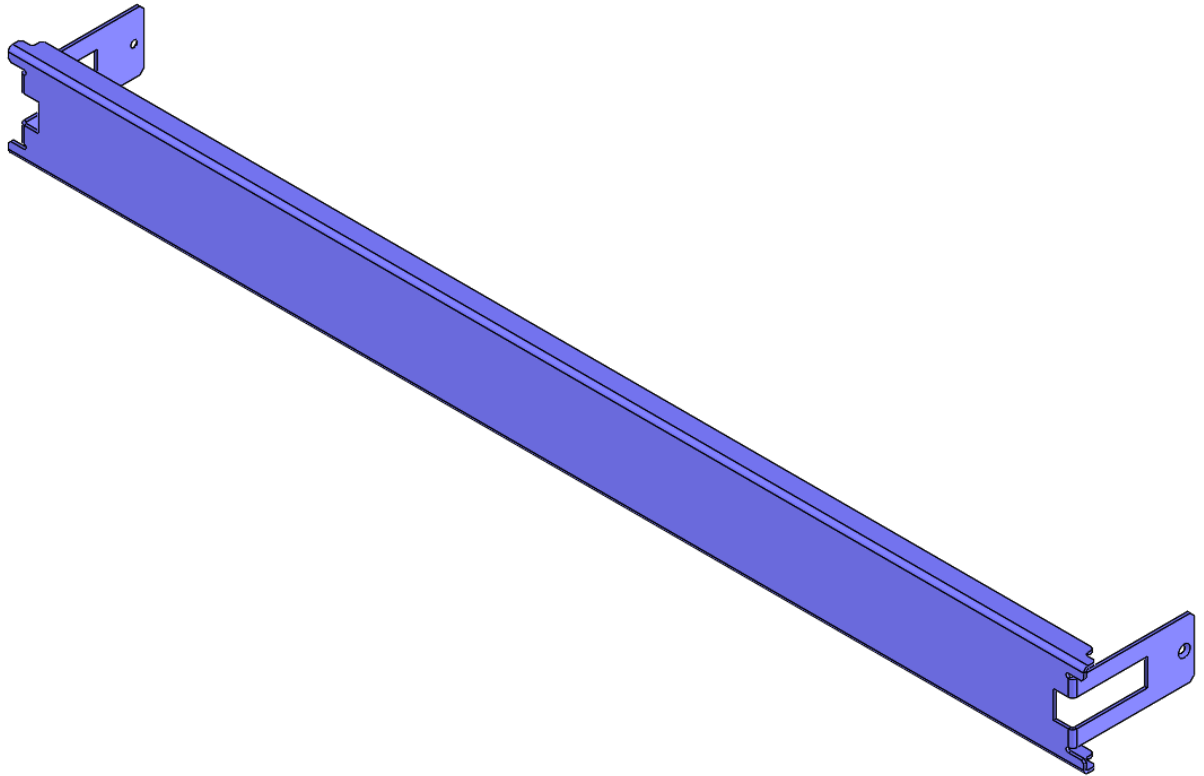


Figure 2: Filler Panel Main Body

4.2 Spring Clip

The filler panel has a latching spring clip that has geometry to provide retention on both the 'v1' and 'v2' style of Facebook Open Rack. This geometry should also work with other racks that are patterned after these designs such as the Fidelity Open Rack. This clip in conjunction with the metal panel described in section 4.1, must be made of a material that will not plastically deform under typical usage such as 301 Stainless Steel ½ Hard.

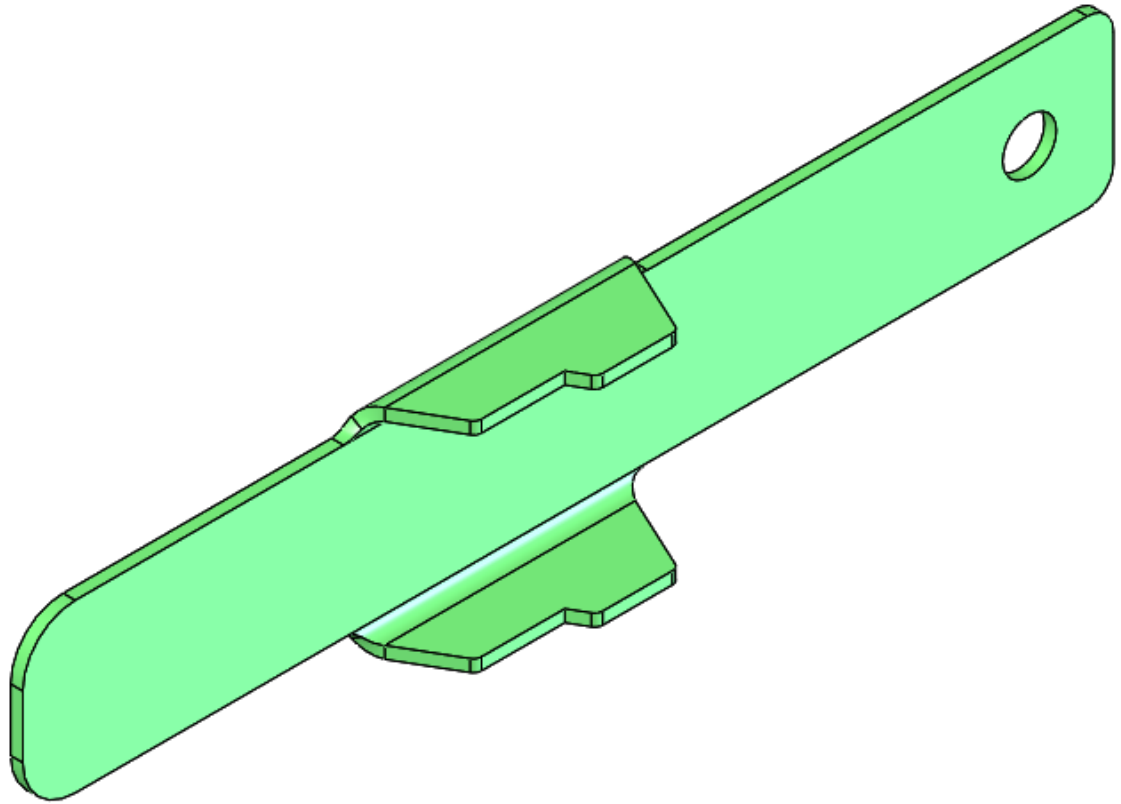


Figure 3: FB Open Rack v1 & v2 Clip

The spring clip shown in Figure 3 has both the v1 and v2 geometry built into the side flanges. The bent flange design allows less tolerance stack up over an equivalent design made up of joggle bends. This design can scratch the surface finish of the rack when inserted but provides high retention force in the rack and provides perpendicular surfaces to rest in the rectangular cutouts on the front rack upright.

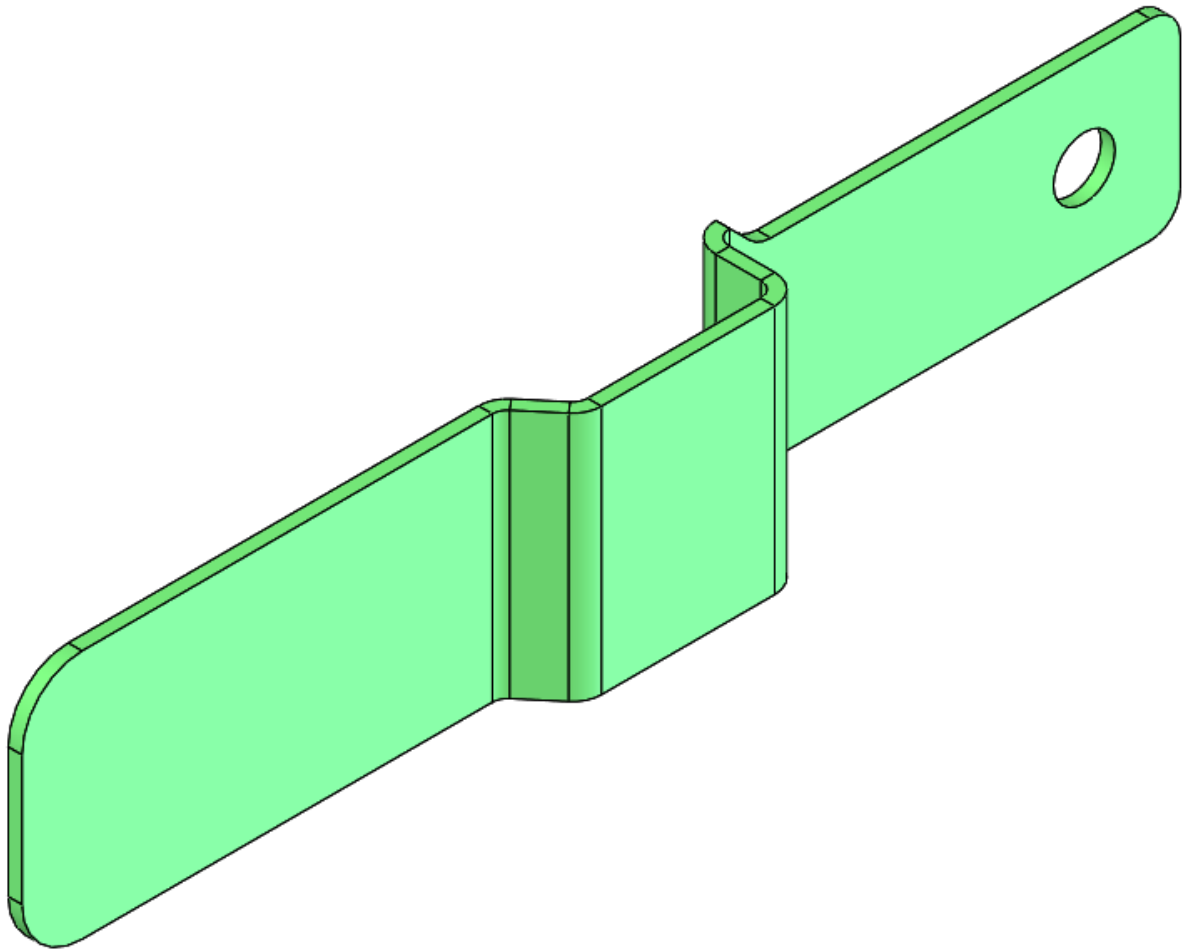


Figure 4: FB Open Rack v2 Clip

The spring clip shown in Figure 4 provides easier transition surfaces when installing into the rack but only supports the v2 version of the rack. A modified version with a different joggle position can support a v1 version of the rack but is not currently included in the scope of this spec.

4.3 Attachment Method

The attachment method as shown involves a countersunk solid rivet but this can be done with a variety of different methods. The outer surface facing the rack must be flush as to not catch on any features of the rack.