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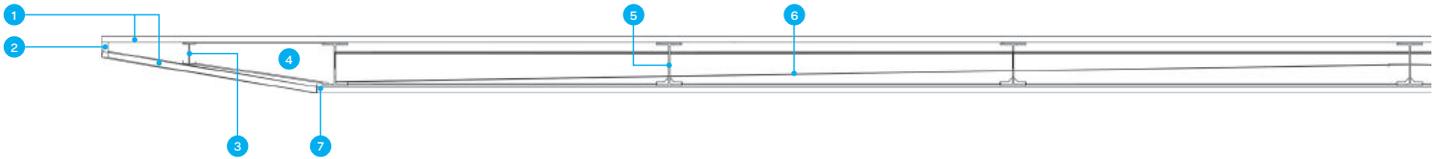
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Innovative Detail: Ateliê Wäls Brewery Porte Cochère

TEXT BY TIMOTHY A. SCHULER



Carved into a steep hillside in the outskirts of Belo Horizonte, the capital of Minas Gerais in southeast Brazil, Ateliê Wäls' ribbon-like wood porte cochère stands out, beckoning passersby to the brewery's new restaurant and tap room, both designed by the local firm Gustavo Penna Arquiteto & Associados (GPA&A).

A stair and elevator shaft take visitors from street level down two stories to the reception area. Since the elevator shaft essentially has no façade, says GPA&A senior architect Oded Stahl, the firm conceived of the undulating wood-and-steel canopy curving from the restaurant roof over a sidewalk and vehicular drop-off area, reaching down to the ground, and then curling inward to form a long bench. "It's like somebody opened a huge barrel and stretched it over" the entrance, he says. "By making this canopy, we enlarged the presence of the building on the street level."

The architects began with sketches and detailed drawings that helped them explore scale, which they then translated into models in Trimble SketchUp and Autodesk AutoCAD. GPA&A worked with structural engineering firm Misa Engenharia de Estruturas to minimize the canopy's underlying steel frame, beveling its edges to create a thin profile. The canopy rises 17 feet above street

level, forming a tunnel that is 38.5 feet deep and, if it were unrolled onto the ground, 104 feet long. Wood slats clad its inward and outward faces, sandwiching the steel frame, a sheet metal roof, and rain gutters.

The steel frame comprises 7.9-inch-deep, 40-foot-long wide-flanged-beams welded together to form a grid that ties into the elevator core. To create the fine edge GPA&A envisioned, the steel beams running along the canopy's longitudinal edges are just 4 inches deep. The transverse beams taper to meet them. Wood slats cap the sides, concealing the steel structure.

The wood slats fasten invisibly to the steel structure via small steel knife plates spaced roughly every 2 feet. The connection allowed for a clean appearance devoid of screw holes, but was a challenge for construction workers, Stahl says. With the structure just 6 inches deep, there was very little room for error, he says. "That was the headache on the site."

Completed in June 2017, the porte cochère has helped showcase how wood can be used in a way that Stahl says is "very plastic and very precise." GPA&A had never used wood in this fashion before. "The wood here was the king," he says. "It was the material that spoke."

1. 4"-wide by 0.75"-thick teak cladding, 6.5' to 19.5' long
2. Teak cap on edge
3. 3.9" × 2.3" wide-flanged beam
4. Metal corbel beam
5. 7.9" × 4.7" wide-flanged beam with cutouts for drainage
6. Sheet metal roof trough
7. Drainage pipe (not shown)

