

**Project Description:**

This is a 1,650 sf residence for a couple in the midwestern United States. It uses structural bamboo poles and bamboo planks in a column and beam application but also explores bamboo's tensile properties as reinforcement in a translucent, solid poured resin wall, exploring basket-weaving methods to create a decorative and functional structural cage. To make the resin wall, green bamboo rods are shaped into a reinforcing cage. Bamboo splits are then woven throughout the cage at varying densities to respond to programmatic requirements of light and privacy on the interior. Formwork is then made to surround the cage and the resin is poured. During the day, light passes through the wall and exposed structure, and at night it glows, silhouetting or screening figures inside. The floor slabs, constructed of vertical core cross laminate bamboo joists and built-up beams are cantilevered at two sides, freeing the façade and resin wall from the columns; and split bamboo louvers and an aluminum and glass curtain wall system hang from the floor and roof slabs. The louvers are also spaced to serve programmatic light and privacy requests. The portion of the façade where louvers are held back from the resin wall allows light penetration and open view from the full-height, open stairway. Two mechanical cores become space dividers in a mostly open floor plan, enclosing plumbing, electrical, roof drainage, and HVAC.

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