

Metal Architecture

July 2012

MTC™

www.metalarchitecture.com

2012 Design Awards

Also Inside:

- + An Architect Who Connects with Metal
- + High-Tech Façade
- + Hotels & Resorts



On the Right Path

Steel welcomes vibrant visitor center

By Mark Robins, Senior Editor

The **University of Texas at Dallas** needed a **visitor center and university bookstore** that could act as a visual gateway to the campus welcoming visitors, prospective students and alumni to the **Richardson, Texas**, campus. The space would be the origin for all campus tours, the source for visitor parking passes and the nexus of campus life. To create this beacon, the university reached out to the Dallas branch of the international architectural firm, **PageSoutherlandPage**.

The new building consists of two intersecting volumes with a common, connecting linear axis. The south volume containing the tenant spaces like the bookstore, coffee shop, visitor center and copy shop is wrapped in an opaque material while the north volume is a transparent box with large gathering spaces. The building's most prominent feature is its steel rotunda.

RADIANT STEEL ROTUNDA

The 35-foot-tall, steel and clipped-glass rotunda is the building's front porch. It's a 700-square-foot area of refuge, rest and congregation that welcomes visitors and students as they enter the campus from University Drive.

"The rotunda's unique appearance is created by a series of radiused steel tube frames which support the steel plate and pipe sunshades," says Lindsey Leah Brigati, AIA, associate architect at PageSoutherlandPage. "These concentric rings cantilever 6 feet from the tower's steel pipe columns, increasing the overall shaded area of the space by 100 percent. The rotunda's intricate steel detailing, simple materiality and drastic display of shadow and light transforms this building element into a jewel box. The rotunda is a constant hub of campus activity from early morning to after dusk."

The rotunda is designed to be naturally conditioned by a stack ventilation system. The moving air is circulated around the height of the tower by a 20-foot-diameter, low-energy fan from Lexington,

Ky.-based Big Ass Fans. A single-pane glass shell is attached to the steel armature with aluminum clips. The fan draws the warm air up to the top of the tower and pulls in cool air from below. At the top of the tower, the glass is replaced by bird netting. This allows air to move freely in and out of the space and prevents birds from entering the space. On a hot, Texas summer day, it can be 105 degrees outside and a cool 80 degrees inside the rotunda. During the winter, the fan is designed to operate at a low speed to gently push the warm air to the floor without causing a draft.

INNOVATIVE INTERIORS

The interior of the two largest spaces, the bookstore and the reception room, is exposed steel and glass. The 22-foot-tall walls of glass allow for the building's exterior sunshades to visually become an interior building element. The intricate detailing of the column-beam connections and light trays transforms the steel from ordinary building element into the interior design feature. All of the exposed steel,



design awards



electrical fixtures and fire suppression systems are painted white in contrast to the wood paneled accent walls, which feature the University's colors: green and orange. Ten-inch cast aluminum signage marks the doors above each of the retail spaces.

Exposed perforated acoustical steel roof decking is utilized in the reception space. The decking provides a finished ceiling with noise reduction capabilities with very little increase in project costs. In all of the tenant spaces, the first 20 feet of ceiling features Lancaster, Pa.-based Armstrong Ceilings' MetalWorks Open Cell ceiling system. This modular system gracefully exposes the building's mechanical, electrical and telecom networks into an organized design feature. Walker, Mich.-based Tubelite Inc.'s 10-foot-tall sliding aluminum and glass doors into the tenant spaces recess completely into the wood-paneled wall to provide for maximum customer flow during the day and product visibility at night.

STEEL'S SIMPLICITY

Steel was chosen for the building's structural system due to its simplicity and clarity. "Steel offers architectural and design flexibility due to its inherent strength," Brigati says. "The use of an exposed steel column and beam system was selected early in the schematic design phase. Utilizing a steel structural system allows for long, uninterrupted spans and unique connection details to be easily incorporated into the design. Steel pipes and wide flanges from Justin, Texas-based Irwin Steel Inc. are the perfect balance of robust strength and svelte shaping."

A steel column-and-beam system on the north-eastern half of the building and a steel column-and-truss system for the southern half were chosen for the building's structural system. The northern half's three large open areas required a structural system with minimal physical obstructions and maximum visual impact. Steel's long-span capabilities, low cost, ease of constructability and modular components turned this constraint into an opportunity.

For the entry portal at the rotunda and the cornice, the team utilized aluminum ALPOLIC panels from Mitsubishi Plastics Composites America Inc., Chesapeake, Va. "These anodized aluminum panels seamlessly integrated with the aluminum curtainwall system," Brigati says. "The non-reflective surface of this material creates clean, crisp lines without any optical distortion or reflection."

For the mechanical penthouse enclosure the team utilized 2,000 square feet of HR-16 series corrugated steel panels from San Antonio-based, Berridge Manufacturing Co. These rigid panels are capable of spanning great distances with minimal steel frame structural support. The horizontal texture of the painted metal echoes the horizontal Leuders stone banding at the southern corners of the building.

It was steel's modularity and availability that was essential in meeting the university's expedited nine-month construction schedule. Portions of the trellis, light trays and sunshades arrived in pre-assembled units ready to be installed on-site. The combination of glass and steel has made an economically simple, aesthetically sophisticated, visually powerful and iconic structure that reflects the vibrancy and talents of the university. 

University of Texas Visitor Center and University Bookstore, Richardson, Texas

COMPLETED:
June 2011

TOTAL SQUARE FEET:
32,000 square feet

BUILDING OWNER:
University of Texas at Dallas

ARCHITECT:
PageSoutherlandPage, Dallas, www.pspaec.com

GENERAL CONTRACTOR:
Turner Construction Co., www.turnerconstruction.com

STRUCTURAL ENGINEERS:
Datum Gojer Engineers, Dallas,
www.datumengineers.com

METAL INSTALLERS:
Irwin Steel, Justin, Texas; TFC Co., Garrett, Ind.

CAST ALUMINUM SIGNAGE:
Casteel & Associates Inc., Dallas,
www.casteelsign.com

CURTAINWALL:
Oldcastle BuildingEnvelope, Santa Monica, Calif.,
www.oldcastlebe.com

DOORS:
Tubelite Inc., Walker, Mich., www.tubeliteinc.com

FANS:
Big Ass Fans, Lexington, Ky., www.bigassfans.com

METAL CEILING PANELS:
Armstrong Ceilings, Lancaster, Pa.,
www.armstrong.com

METAL WALL PANELS:
ALPOLIC-Mitsubishi Plastics Composites America Inc., Chesapeake, Va., www.alpolic-usa.com; Berridge Manufacturing Co., San Antonio, www.berridge.com

STEEL DECK, STEEL JOINTS, STEEL PIPES, WIDE FLANGES, PLATES AND CABLES:
Irwin Steel, Justin, Texas, www.irwinsteel.net