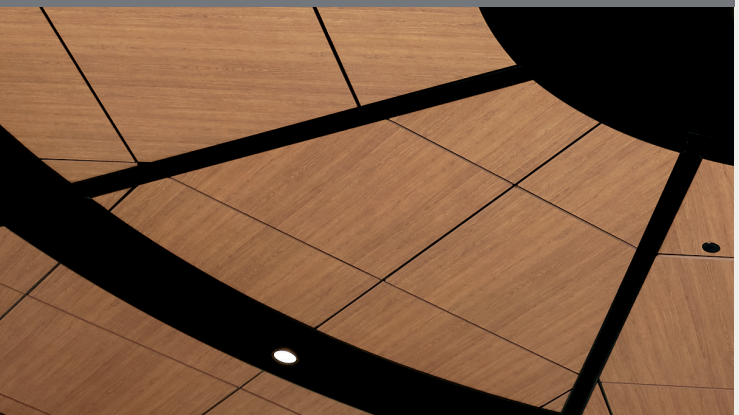
Minneapolis American Indian Center

Case Study

Location: Minneapolis, MN

Product: Lyra® PB Wood-Look Ceiling Panels; Axiom® Classic Trim; Suprafine® 9/16" Exposed Tee; ProjectWorks® Design & Pre-Construction Service

Architect: The Cuningham Group/Full Circle Indigenous Planning and Design



The Challenge

When designing the interior of the rotunda, a circular space inside the newly renovated Minneapolis American Indian Center, the architects from the Cuningham Group understood the importance of incorporating circles into the design.

"Circles are very important within the Indian community," explained Eric Lagerquist, associate principal, Cuningham Group Architecture, Minneapolis. "The medicine wheel and the drum circle are big elements of Native culture."

These two concepts figure prominently in the ceiling design for the 1,906-square-foot room which serves as a ceremonial space within the building. "We wanted to design around the idea of the center of the medicine wheel and its four directions while aesthetically having some representation of the inside of a drum," explained Lagerquist. "It's a little bit of the drum itself."

While the design team originally wanted the ceiling to be made from wood, they learned that a wood ceiling would not meet the acoustic requirements for the space. "Because it's a gathering space, there's a certain acoustic reverberation requirement – or maximum noise level – that must be met so we had to be sure we were addressing that," said Lagerquist.

The Solution

While finalizing the design, the architects were introduced to Lyra® PB Wood-Look Ceiling Panels, a new product from Armstrong that would provide the natural beauty of wood while absorbing up to 95% of the noise in the space. "There was a cost savings over real wood," he said, "and the Bourbon Cherry finish that we chose for the panels aligned with the color of the Western Red Cedar we already had in the building."

Made with a plant-based binder, Lyra PB panels are also part of the Armstrong® Sustain® portfolio, meaning they meet the most stringent industry sustainability standards today. "This helps us move toward the guidelines for state-funded projects that we build more sustainable buildings," he said.

The circular design creates the illusion of eight wedge pieces extending out from the center of the ceiling. The design was achieved by suspending 16 ceiling clouds, which form the inner and outer circles of the design, from the plenum. The plenum is painted black and has suspended pendant lights flush with the level of the ceiling clouds, creating an illusion of a floating ceiling.

Each ceiling cloud was created using 4' × 4' Lyra PB panels field cut to fit the design. The panels are installed in a black Suprafine® 9/16" Exposed Tee grid system, which was field cut to accommodate the shapes of the panels. Black 4" Axiom® straight and curved perimeter trim encloses the outer edges of each ceiling cloud.

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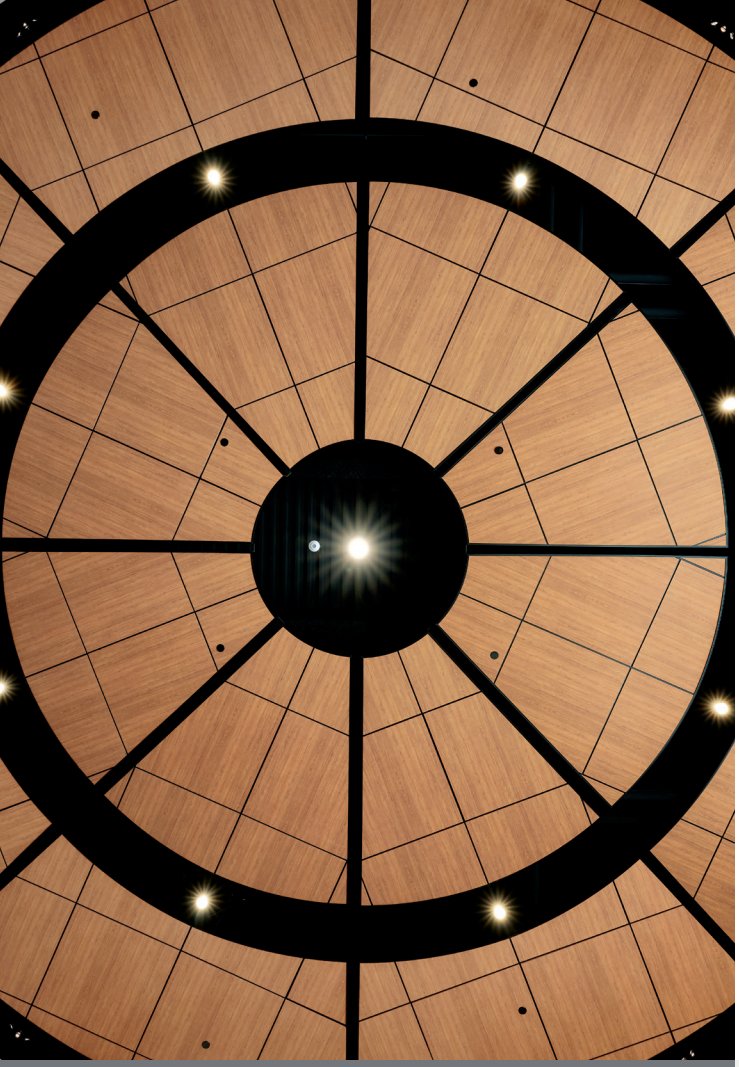

The Solution (continued)

The complexity of the design prompted ceiling contractor TJ Rokke of Architectural Sales of Minnesota, to reach out to the Armstrong® ProjectWorks® Design & Pre-Construction Service for guidance with the installation. In addition to a drawing package, which included detailed layouts of the panels, suspension system, hardware, and trim, ProjectWorks provided its manufacturing team with a detailed trim schedule showing the exact length, radius, and miter of every Axiom® trim piece in the project. The Axiom trim was then pre-cut, pre-mitered, pre-curved, and shipped to the job site.

The Axiom trim pieces, which would form the outer edges of the 16 ceiling clouds, were assembled on the ground and suspended 20 feet above the floor. Working from scissor lifts, the installers were then able to lay in the grid and ceiling panels that would complete the complex design.

"This is a high-profile design," said Rokke. "These are not your standard square or rectangular ceiling panels. Measuring and cutting all the angles takes time in the field, but with the Axiom trim being cut to size in advance by the manufacturer, that saved a lot of time and helped make sure that the ceiling clouds in the inner circle and the ceiling clouds in the outer circle were the same size."

With more than 3,000 people in the building on Opening Day, the circular Lyra® ceiling proved that it could provide superior sound absorption. "The space was full and acoustically it was very comfortable," said Lagerquist. "We weren't hearing a lot of reverberation, and you were able to talk intelligibly to the person next to you."

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