

# CASE STUDY



Project | *Iron Forge Educational Center*  
Location | *Boiling Spring, PA*  
Architect | *Crabtree, Rohrbaugh & Associates, Mechanicsburg, PA*  
Product | *Serpentina® Classic Clouds*



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## the challenge:

Over the course of its 95-year history, the Iron Forge Educational Center underwent seven separate renovation projects, so the building no longer appeared unified. The construction periods were very apparent while walking through the facility. As a result, school officials decided to renovate the entire building to create a more unified environment.

According to Senior Project Designer Arif Hasanbhai, the existing cafeteria provided a number of design challenges, including a low ceiling height and the need to provide a level of noise-reducing acoustical performance. "We also had to be creative in transforming the space to one that reflected both the building's new overall design motif and the progressive vision of the school district," he states.

## the solution:

To meet the objectives, the design team selected Serpentina® Classic Clouds from Armstrong Ceiling Solutions. Ideal for use in exposed structures, the pre-engineered 3D curved metal ceiling system provides a dramatic visual along with acoustical control when using perforated panels. The clouds are offered in ten standard colors, ten standard perforation patterns, and 28 standard sizes. Custom colors and perforations are also available.

Hasanbhai explains that the team wanted to create an acoustical ceiling that would complement the new "natural" design motif of the school. As a result, the clouds are a custom green in color and are intended to act as "tree" elements. The exposed plenum was painted black to make the ceiling clouds pop visually and also hide the piping and conduit above them.

"The Serpentina waves define the space and provide interest in the ceiling without sacrificing ceiling height," he continues. "They also allow us to expose the structure permitting the space to be as open as possible while still maintaining acoustics."

To provide the desired noise absorption level, acoustical infill panels were placed behind the perforations in the Serpentina clouds. When backed with acoustical infills, perforated clouds provide greater sound absorption than a continuous ceiling of the same surface area because sound is absorbed on both the front and back surfaces. "We always use an acoustical backer because it goes hand in hand with an exposed structure and a comfortable acoustic environment," Hasanbhai notes.

He also notes that the new cafeteria ceiling is a hit with school officials and students alike, both acoustically and aesthetically. "The officials like how the ceiling ties into the new building motif," he says, "while the students say the green ceiling makes them feel like they're in a whole other world."