

case study

Project . . . Optima Engineering
Location . . . Charlotte, NC
Product . . . DC FlexZone™ grid

the challenge:

As one of its primary corporate values, Optima Engineering incorporates sustainability in all of its designs. It also makes use of many of the same concepts it advocates to its clients, as evidenced by the LEED® Platinum certification for its office interior. To demonstrate its commitment to sustainable design, the firm continually looks for new technologies to showcase.

the solution:

As part of that commitment, Optima Engineering recently installed the nation's first use of direct current-based solar energy to drive LED lighting and controls. The application is based on the new EMerge Alliance® technology standard for direct current (DC) power distribution in buildings.

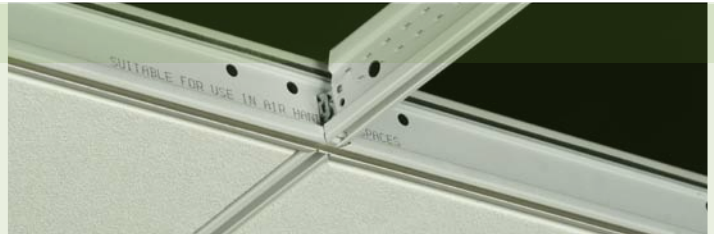
The application is in the form of two "free-floating" acoustical ceiling clouds, both of which feature the use of DC FlexZone grid, a new suspension system from Armstrong that has the ability to distribute safe, low voltage DC power to light fixtures, sensors, and other electrical devices in a space.

Other components from EMerge Alliance members include power supply modules by Nextek Power Systems, cabling and interconnects by TE Connectivity, and demonstration lighting and controls from Acuity Brands.

According to Optima Engineering president, Keith Pehl, the clouds are currently installed for demonstration purposes. "Architects and contractors are constantly touring our facility," he explains. "We want to show them that it's possible to have a Class A space without sacrificing the environment. With that in mind, this system was a perfect fit."

Pehl notes that while there are potential energy saving benefits by linking the rooftop solar panels directly to LED lighting, he believes the greatest benefit of the system will be the ability to reconfigure work areas without the need for rewiring.

"Commercial office space can change greatly from design to occupancy, so the plug and play capabilities of the system are perfect," he says. "Not only for moving light fixtures, but also for other low voltage devices such as motion and daylight sensors."



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