

# BUILDING DESIGN + CONSTRUCTION<sup>®</sup>

March 2015

Inspiring the Building Team

## What It Takes to Build 21<sup>ST</sup>-CENTURY SCHOOLS

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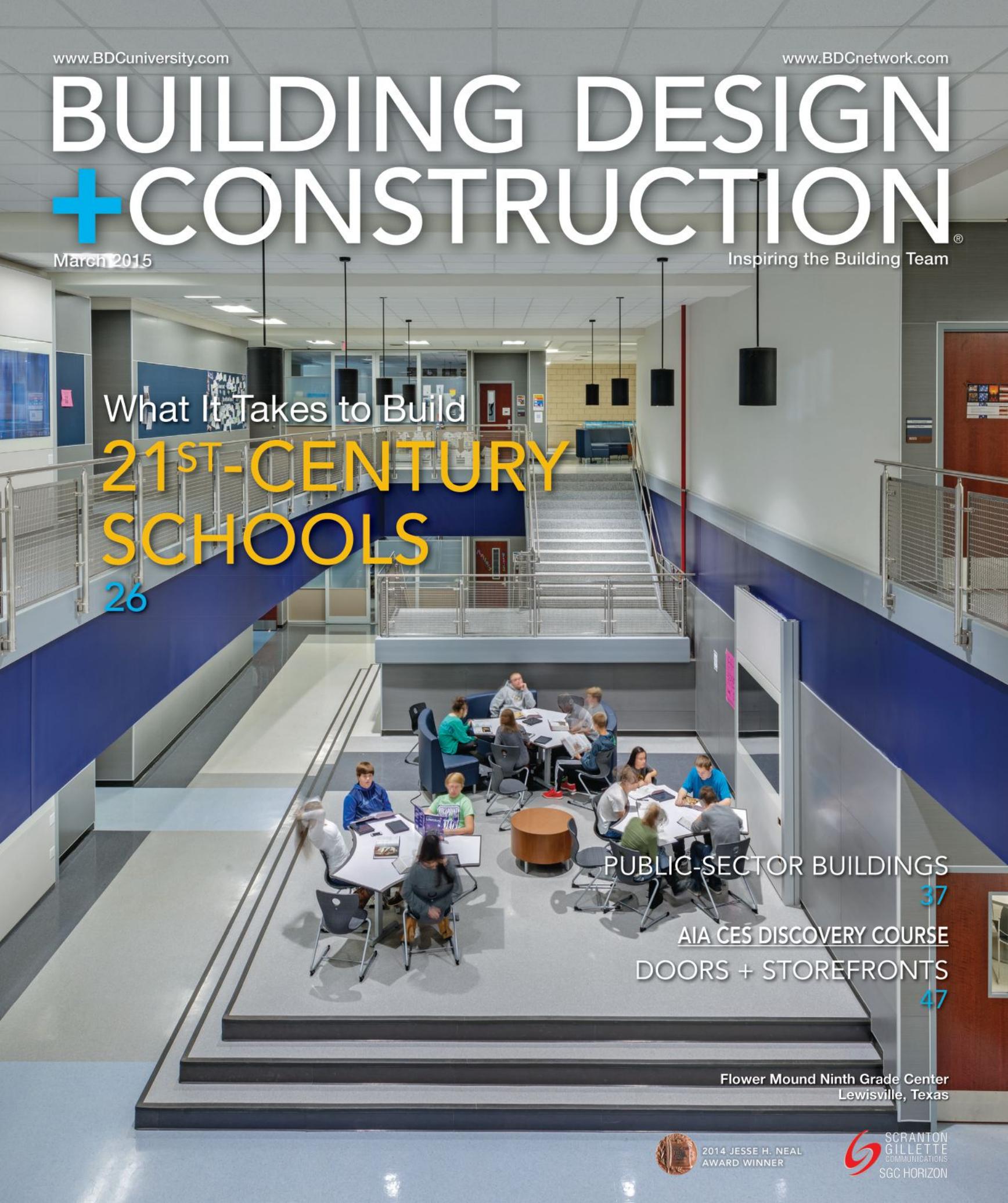
PUBLIC-SECTOR BUILDINGS 37

AIA CES DISCOVERY COURSE  
DOORS + STOREFRONTS 47

Flower Mound Ninth Grade Center  
Lewisville, Texas



2014 JESSE H. NEAL  
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# 7 sleek selections for

## CEILINGS AND ACOUSTICAL SYSTEMS

### 1 UNDULATING CEILING HIGHLIGHTS Southwest Airlines command center

The command center at the new Southwest Airlines Training and Operational Support building at Dallas Love Field is the heartbeat of the airline's operations. Because the facility supports intense, around-the-clock work, acoustic performance was a central concern when designing the new building. For this project, the airline chose to install 17,000 sf of CertainTeed's Gyptone BIG Curve. According to the manufacturer, the ceiling system is the industry's only acoustical gypsum panel that can be used to create highly curved ceilings without custom fabrication. The installation at Southwest's facility provides an NRC of 0.70 and offers high light reflectance, supporting the center's ambient blue lighting scheme.

#### CertainTeed

CIRCLE NO. 800 ON READER SERVICE CARD

### 2 thermoformed ceilings always welcome AT SAN FRANCISCO'S NOIR LOUNGE

Decorative ceilings can be an attractive feature in the themed decor of a hospitality venue. Yet traditional decorative elements made from plaster, wood, or metal may not be compatible with project budgets and functional requirements. Thermoformed ceilings may be an affordable design option. San Francisco's Noir Lounge, for example, is a Jazz-



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era inspired brewpub with a screening room that plays noir films. The room's ceiling has a classical relief pattern appropriate to the period. The panels, manufactured by Ceilume, are made from translucent material that "creates a gentle glow and avoids glare on the screen," according to architect Gi Paoletti of G. Paoletti Design Lab.

#### Ceilume

CIRCLE NO. 801 ON READER SERVICE CARD



### 3 STANFORD ART GALLERY TOPPED with a complex, doubly curved ceiling

The Anderson Collection of 20th-century American art at Stanford University has a convex, doubly curved ceiling. It rises from a height of 28 feet near the building's center to 38 feet around the perimeter, where a continuous clerestory introduces daylight into the hall. Ennead Architects defined the ceiling's contours. Installer J&J Acoustics turned to RadiusTrack, a provider of curved cold-formed steel framing solutions, to design and fabricate the suspension system. Factory-curved, cold-formed steel ribs, each with a unique profile, were positioned four feet on center. To meet California's stringent seismic requirements, the ribs were suspended from cold-formed channels instead of more commonly used suspension wires. The channels penetrate the roof deck and are attached to horizontal cold-formed angles on top of the deck so fasteners are in shear, not tension. Pre-curved hat channels span between ribs at 16 inches on center to provide transverse seismic resistance and a substrate for an acoustical plaster system.

#### RadiusTrack

CIRCLE NO. 802 ON READER SERVICE CARD



### 4 acoustic panels combat reverberation AT A CHURCH IN NORTH CAROLINA

The parishioners of Smith United Methodist Church in Roanoke Rapids, N.C., wanted to make use of the facility's large multipurpose room, but 3.5-second reverberation times made it extremely difficult to communicate effectively within the space. With a goal of achieving a 1.5-second reverb time, parish leaders specified Sound Seal's S-2000 Acoustical Wall & Ceiling Panels for the 800-sf room. In all, 450 sf of acoustic

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paneling was installed on the pitched ceilings and walls to achieve the desired performance.

**Sound Seal**

CIRCLE NO. 803 ON READER SERVICE CARD

**5 CINEMA FEATURES**  
 box-in-box design  
 for acoustic separation

In developing the 300,000-sf, \$25 million Cinemacity complex in Beirut, Lebanon, the project's developers—a partnership between Solidere, Prime Pictures, and Empire Cinemas—spared no expense to create a one-of-a-kind experience for patrons. To achieve optimum acoustic performance, a box-in-box construction approach was utilized for the 14 theaters in the complex. Each theater required mechanically isolated floating floors, mechanically isolated floating walls, and mechanically isolated spring-hung ceiling assemblies. Acoustiblok 4.88 sound isolation membrane was used in the construction of the walls, floors, and ceilings to attain maximum airborne sound isolation. Independent lab tests show that one 1/8-inch layer of Acoustiblok added to a stud wall can reduce more sound than 12 inches of poured concrete.

**Acoustiblok**

CIRCLE NO. 804 ON READER SERVICE CARD



**6 HISTORIC CHICAGO CLUB UNDERGOES**  
 a makeover with monolithic ceilings

The Union League Boys & Girls Clubs recently completed the first major upgrade in 90 years on its historic Club One facility in Chicago's Pilsen neighborhood. Rockfon provided multiple ceiling suspension systems, ceiling panels, and perimeter trim for Club One's new and renovated classrooms, offices, lobbies, corridors, and activity areas. The most difficult application, according to architect Antunovich Associates and contractor Tandem Construction, was in the gymnasiums, where durability and acoustic performance were paramount. The solution, Rockfon Impact stone wool ceiling panels, provides a durable, clean appearance with good acoustic performance and withstands regular impact from

errant balls and other daily athletic activities. Rockfon Impact panels achieve an NRC of 0.85, offer high light reflectance (0.86), and are 50-75% lighter than traditional ceiling panels for easier installation.

**Rockfon**

CIRCLE NO. 8005 ON READER SERVICE CARD

**7 ceilings get cloudy at Southern Nazarene's**  
 CURVY NEW SCIENCE LABORATORY

Designed with a modern, high-tech aesthetic, the new 25,890-sf J.D. & Mary West Science Laboratory at Southern Nazarene University in Bethany, Okla., is adorned with curved surfaces throughout the structure, including the ceilings. Approximately 800 linear feet of 3 5/8-inch, 20-gauge Flex-C Trac was used to create ceiling "clouds," which were designed to create a curved ceiling effect. "Creating these clouds can be challenging, but with Flex-C Trac they are easier to build," said Ronnie Nail, President of Nail Commercial Interiors. Nail said the system makes creating consistent, smooth radiuses much easier.

**Flex-Ability Concepts**

CIRCLE NO. 806 ON READER SERVICE CARD