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SWEETS NEWS AND PRODUCTS

FIRST IMPRESSIONS
Spectacular facades pack a punch
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HEALTH-CARE PRODUCTS
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The magazine of sustainable design
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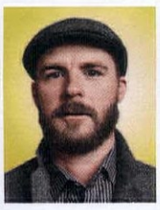

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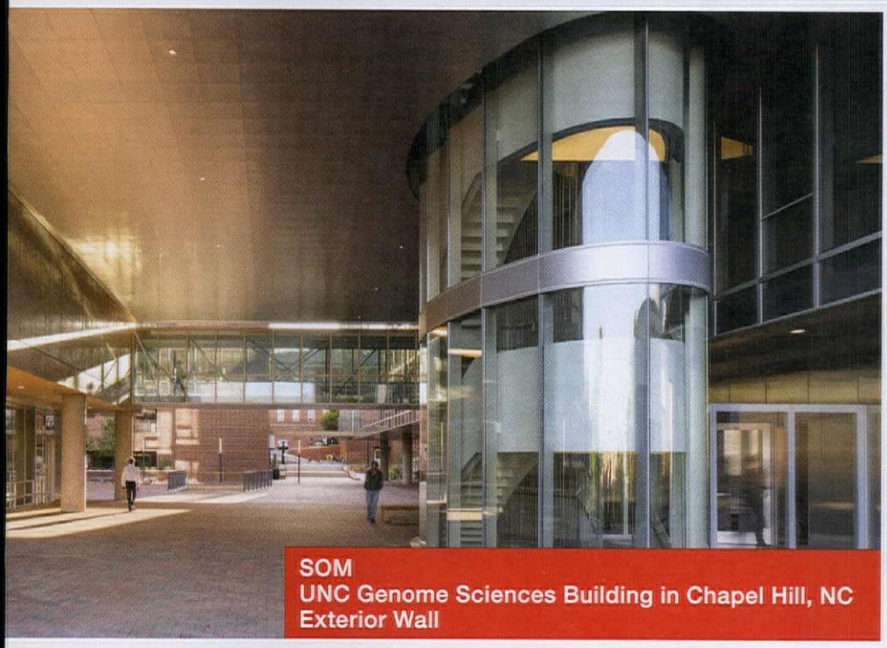

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Exterior Wall

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Interior Walls

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Salute!

HEALTH AND WELL-BEING are on the minds of many people as the new year starts, so we're beginning the first issue of 2015 with like topics. In this edition's **Case Study** (page 22), we look at a cancer center in Pennsylvania where Ballinger implemented light-filled spaces with views and access to greenery to aid in the healing process, followed by a section on **Health-Care Products** (24) that includes furnishings geared toward the caregiver and a realistic skylight simulation. **Daylighting + Sun Control** (30) continues on this theme, showcasing products that maximize natural light for occupants' comfort and psyche but also keep glare and heat under control. And in **Profile** (21), we hear from Dallas architect Yen Ong about an award-winning urgent-care facility, Legacy ER, a project he designed in Allen, Texas.

A product category closely associated with health-care settings, **Resilient Flooring** (28) is evolving way beyond the bland flecked floors you remember from elementary school. Read about the latest introductions from the luxury vinyl tile (LVT) and hybrid markets that offer high performance with edgier designs.

Wellness isn't always one size fits all, so practitioners of universal design are finding clever solutions, whether through thoughtful placement and dimensions or by specifying ADA-compliant products. A few of these are highlighted in **Accessible Design Solutions** (26), along with a kitchen in a Midcentury Modern–style home with two wheelchair users.

And finally, whether or not you believe in the efficacy of chromotherapy, it can't be denied that color can influence mood as well as create strong design statements. The feature, **First Impressions** (16), examines three projects with facades enlivened by hues to varying degrees. Yet you probably won't believe that these dynamic buildings are a parking structure, a chiller plant, and a low-income housing complex.

Welcome to 2015!

Sheila Kim

SHEILA KIM *Editor*

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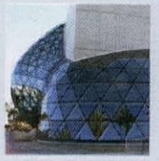

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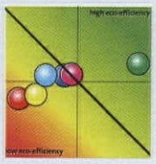

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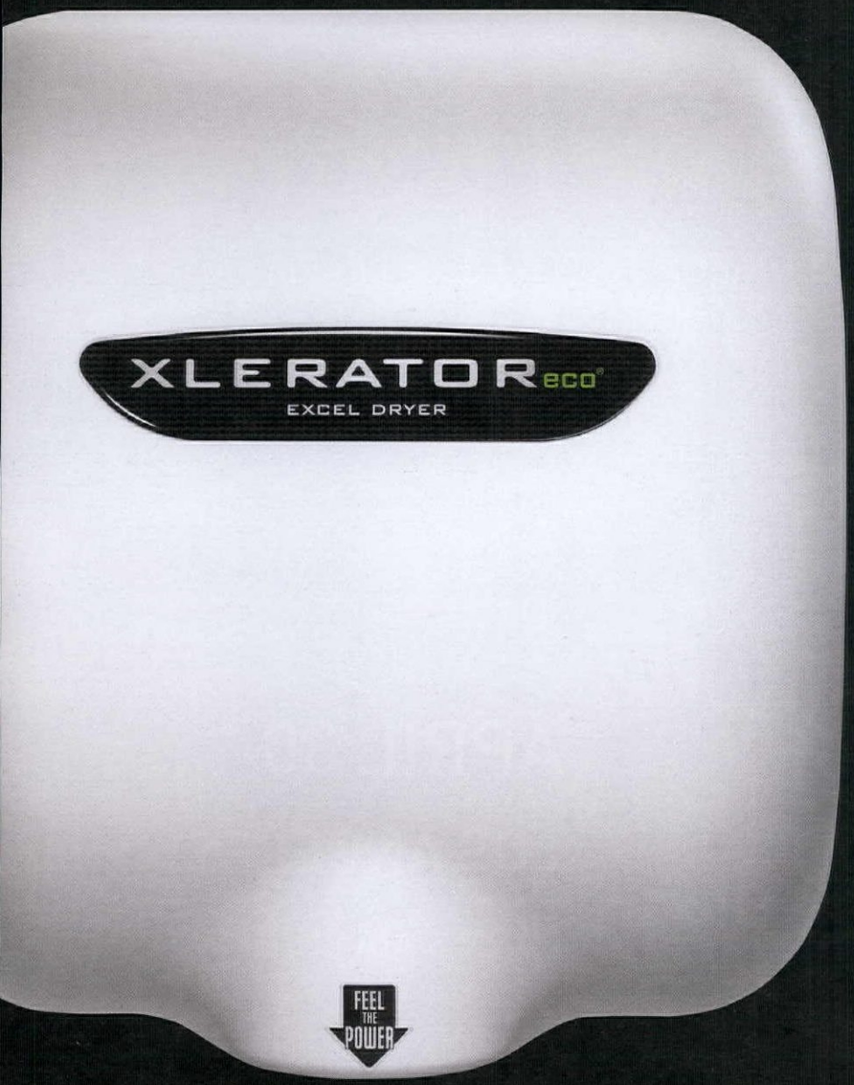

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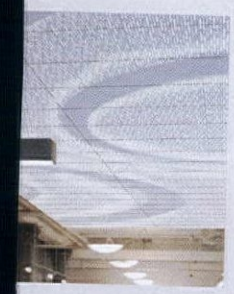
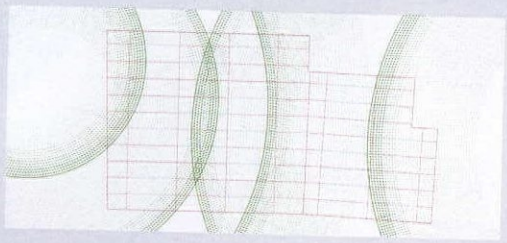

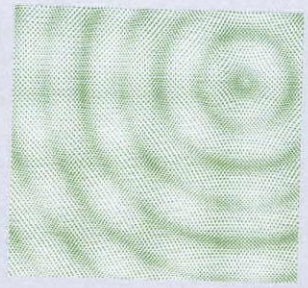

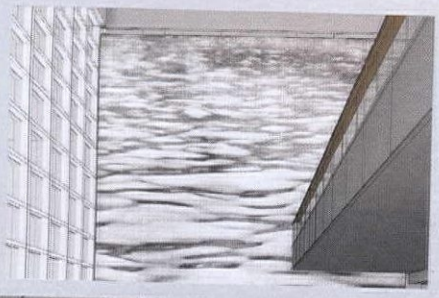
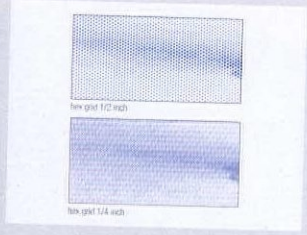

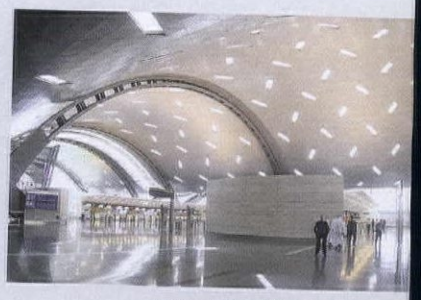
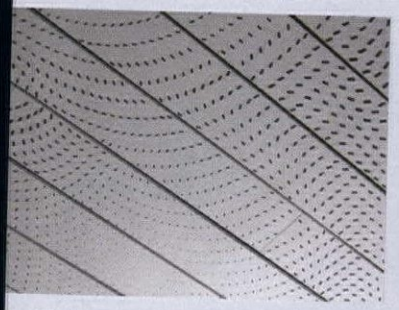
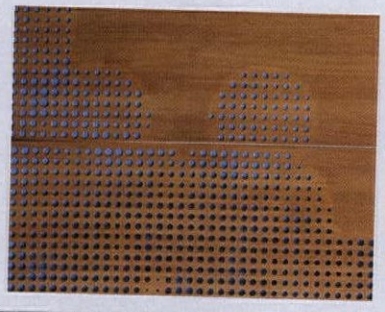

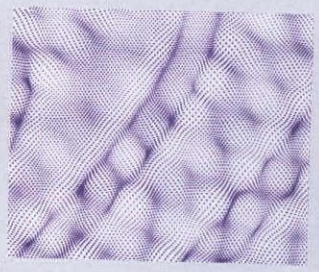

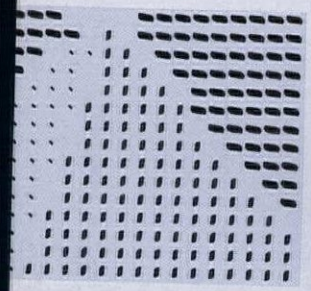
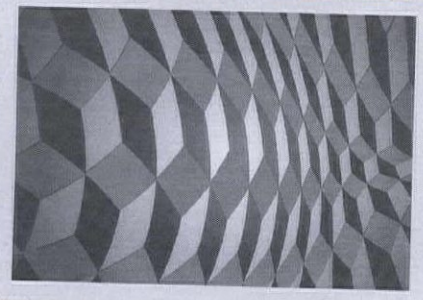
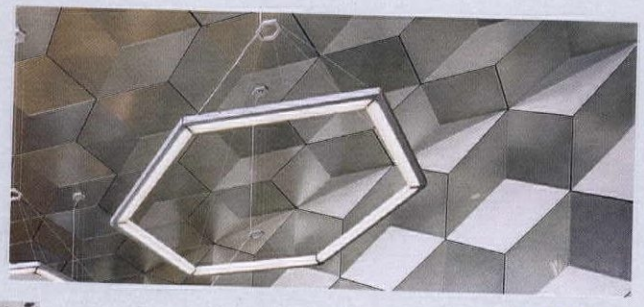
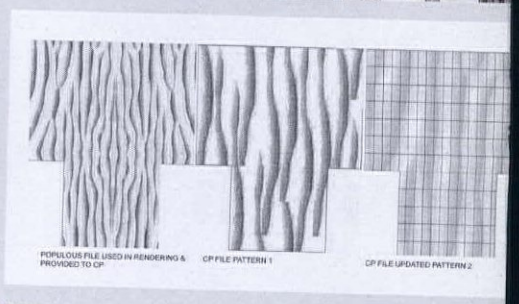

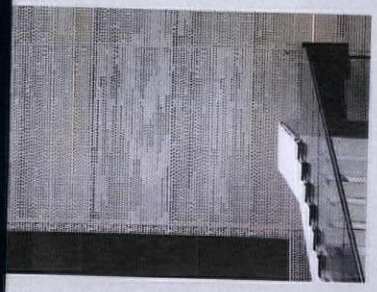
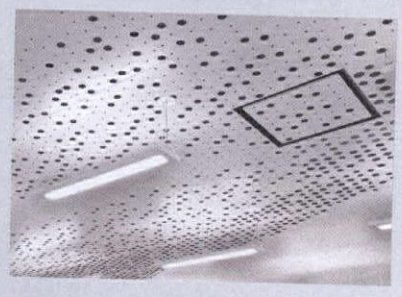
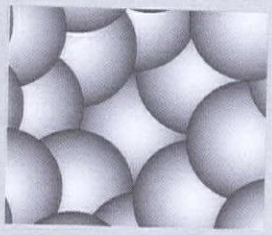
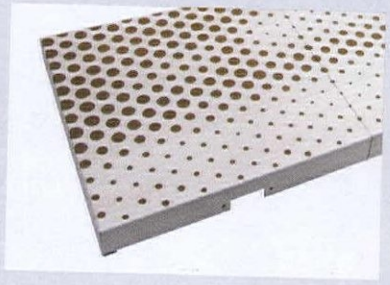
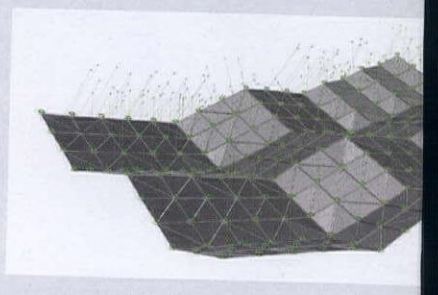
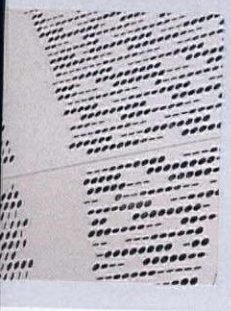

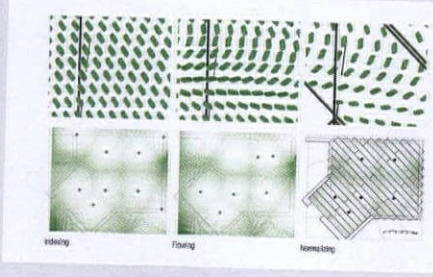

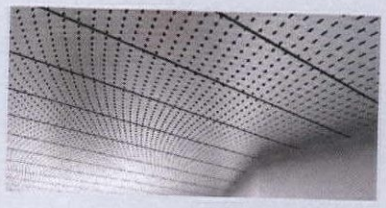
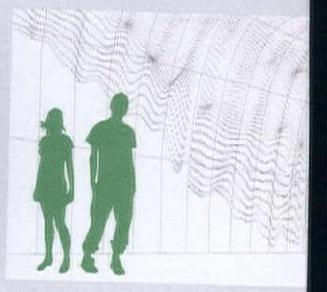

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in brief

"Glass is a material of disclosure and transparency. It liberates and illuminates the imagery and veterans' voices in a way that carving them into stone would not have done."

—JEROME CLOUD, ON THE AMERICAN VETERANS DISABLED FOR LIFE MEMORIAL

SNAP MATH

1,800 LBS.

The approximate weight of each five-layer panel making up the etched glass walls of the new American Veterans Disabled for Life Memorial.

SOURCE: AVDLM.ORG

NEWS BRIEFS

Look, Do Touch!

LIFT ME. PLEASE HANDLE. Museums don't usually invite visitors to touch the items on display, to say the least. But the newly renovated **Cooper Hewitt, Smithsonian Design Museum** in New York City challenges the very idea of passive observation with its Process Lab. Almost everything in the exhibit can be felt, handled, or grasped, and viewers are urged to actively participate.

The offer to "play designer" is openly communicated, making it clear there's hands-on fun to be had in every part of the design process. Visitors are encouraged to try each step: defining problems, generating ideas, prototyping, and finally testing and evaluating. The audience is exposed to design methodology—how ideas are fostered and realized—through interactive workstations that guide users of all ages to try their hand at innovating (although the younger set might benefit most).

Pocket Brainstorm is a dedicated spot where willing participants can hunker down and draw before pinning up final sketches on a Share Ideas wall. In Prototyping with Light, budding inventors fasten a variety of materials to a light fixture, manipulating the level of illumination emitted; they then choose from materials like felt, tissue, construction paper, cellophane, and plastic to realize their vision; finally, they can take photographs, immortalizing the result.

Testing stations, another feature, present objects for participants to rate based on criteria such as sustainability, user-friendliness, and materiality. In a small room off the Process Lab, the technology behind rapid prototyping is explained via 3-D printed pieces like *Saw Dust Screen II* (2014), demonstrating how sustainable materials like sand, wood, and salt can be integrated into designs.

Reopened in December, the museum was transformed by a team of 13 design firms including **Gluckman Mayner Architects**, **Beyer Blinder Belle Architects & Planners**, **Diller Scofidio + Renfro**, and **Local Projects** among others. —*Lauren Palmer*

INTERACTION WELCOME The revamped Cooper Hewitt unveils a new display: the Process Lab (below), where visitors are encouraged to explore the design process through hands-on trials, such as by choosing materials to fasten on a light fixture (left).

MAIN EVENT

One Tile at a Time

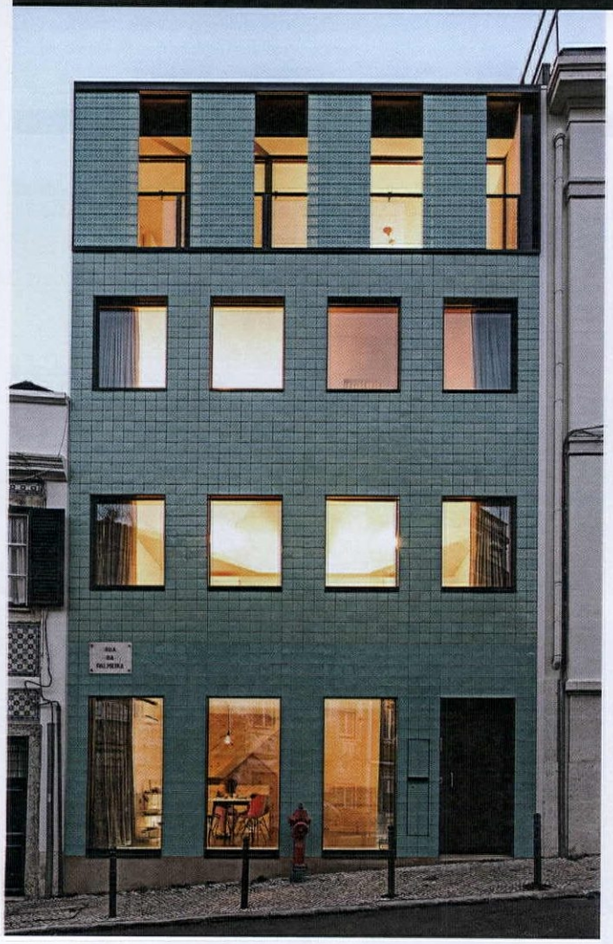
NOW IN ITS 13TH YEAR, the **Tile of Spain Awards** recently honored international projects distinguished by a significant use of Spanish-produced tile. Recognition was made in architecture, interiors, and student design.

Top honors in the architecture category went to a single-family townhouse in the historic quarter of Lisbon, by **Camarim Arquitectos Studio**. The contemporary punched-window facade is covered in textured pale aqua glazed tile; the contextual contrast was what caught the jury's attention.

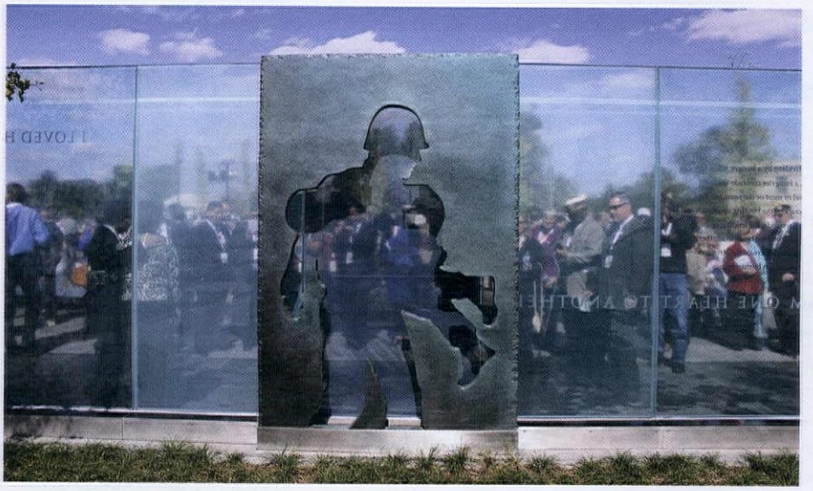
The jury also cited two projects for special mention in architecture. Casa El Enroque, by **Ángel Luis Rocamora**, is a residential project clad in traditionally patterned ceramic tile, which serves to (*continued*)

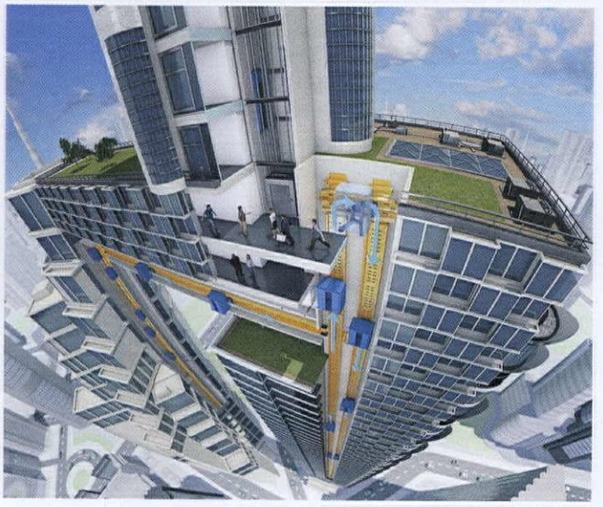
BEAUTY TREATMENT Ángel Luis Rocamora strategically clad portions of Casa El Enroque with traditional tile, earning the project a special mention in the architecture category of the annual Tile of Spain Awards.

in brief



ALL TILED UP This Lisbon house (above), covered in aqua tiles by Camarim Arquitectos Studio, won in the architecture category.





COURAGE ON DISPLAY A new memorial in Washington, D.C. (left) is the first to honor disabled veterans; it includes three etched walls of Starphire glass. A rendering illustrates how ThyssenKrupp's Multi lift system (center) could revolutionize elevator transport in the future.

(*Tile of Spain Awards continued*)

emphasize the shadow and light created by the deep geometric openings on the facade. And Casa Andamio by **Bosch Capdeferro Arquitectures** features matte and glazed tiles that define different planes of the house's exterior, generating an arresting play of sunlight on the surfaces.

El Fabricante de Espheras's inventive restoration of a Renaissance-era cloister in Betxí, Spain, won the interiors category. The firm utilized terra-cotta tile in its conceptual transformation of the structure, completing partially ruined walls with the material.

In the student design category, the winner was a proposal by **María González Aranguren**, of the Madrid School of Architecture, to restore the ceramic tile facades of the Alfama, Lisbon's oldest district.

Organized by the **Spanish Ceramic Tile Manufacturers Association** (ASCER), the annual competition is open to design professionals around the world and awards cash prizes and publication in *Ceraspaña* magazine. The 2014 jury was chaired by architect **Emilio Tuñón**, cofounder of Mansilla + Tuñón Arquitectos and winner of the Mies van der Rohe and Spanish National Architecture awards.

The panel of judges included Italian architect **Cino Zucchi**; **Martha Thorne**, executive director of the Pritzker Architecture Prize; Indian architect **Anupama Kundoo**; architect **José María Sánchez**, a recipient of the BSI Swiss Architectural Award; **Fernando Márquez Cecilia**, editor of *El Croquis* architecture journal; and Castellón architect **Ramón Monfort**. —*Lisa Caldwell*

Uplifting News

IN 2016, THYSSENKRUPP Elevator will commence testing of a lift technology with the potential to substantively impact the architecture of mid- and high-rise structures. Utilizing a linear-drive motor located on the elevator cabin itself, inductive power transfer between cabin and shaft, and a multilevel brake system, the Multi design model eliminates cables; as a result, several cabs could run simultaneously within a single shaft. Moreover, the scheme would allow elevators to run not only vertically but horizontally as well, in a looping route.

The self-propelled cabins will be fabricated from ultralight materials that in addition to reducing energy consumption will shrink the footprint of the cab and shaft. Precious square footage formerly occupied by elevator components could then be converted to usable, revenue-producing space.

Statistics abound underscoring the inefficiency of conventional elevators. Andreas Schierenbeck, CEO of ThyssenKrupp, quantifies a real-life scenario that may sound distressingly familiar to some.

"Each year," Schierenbeck says, "New York City office workers spend [the equivalent] of 16.6 years waiting for elevators and 5.9 years in [them]." The system's operational target—cabins running in circular patterns at 16 feet per second—would reduce the average wait to a mere 15 to 30 seconds.

In the meantime, we'll be counting the minutes. —*Lisa Caldwell*

Tribute to Disabled Vets a Clear Success

THE MESSAGE OF GRATITUDE to our wounded warriors comes through loud and clear in the recently dedicated **American Veterans Disabled for Life Memorial**. The landmark near Washington, D.C.'s Bartholdi Park incorporates granite walls, bronze sculptures, a ceremonial flame, a reflecting pool—and three walls of Starphire glass, etched with stirring photographs and quotations that tell the stories of soldier in their own words.

The low-iron and -lead glass, manufactured by Pittsburgh's **PPG Industries**, is ultratough and ultraclear, making it the ideal canvas for the project. The fabrication of the walls was a joint effort led by Jerome Cloud, of **Cloud Gehshan Environmental Graphics** in Philadelphia.

Savoy Glass of Portland, Oregon, served as overall glass contractor. A veteran-owned Seattle firm, **Hartung Glass Industries**, cut, polished, and tempered the glass, which began as ¾-inch-thick, 360-pound sheets measuring 48 by 106 inches. **Moon Shadow Glass** of Sandy, Oregon, etched the sheets. Finally, five sheets were laminated by Portland's **Glass Strategies** to make each panel before the panels were trimmed and their edges polished, all with a crane's assistance. At 1,800 pounds apiece, the 48 panels are designed to withstand hurricane-force winds.

How dependable is Starphire? Top aquariums use it, as does the National Archives Museum in displaying the Declaration of Independence. It even performs military duty, in the Apache helicopter. Reliable, like those the memorial honors, the glass ensures this significant addition to the national landscape will endure in perpetuity. —*Kathryn Daniels*

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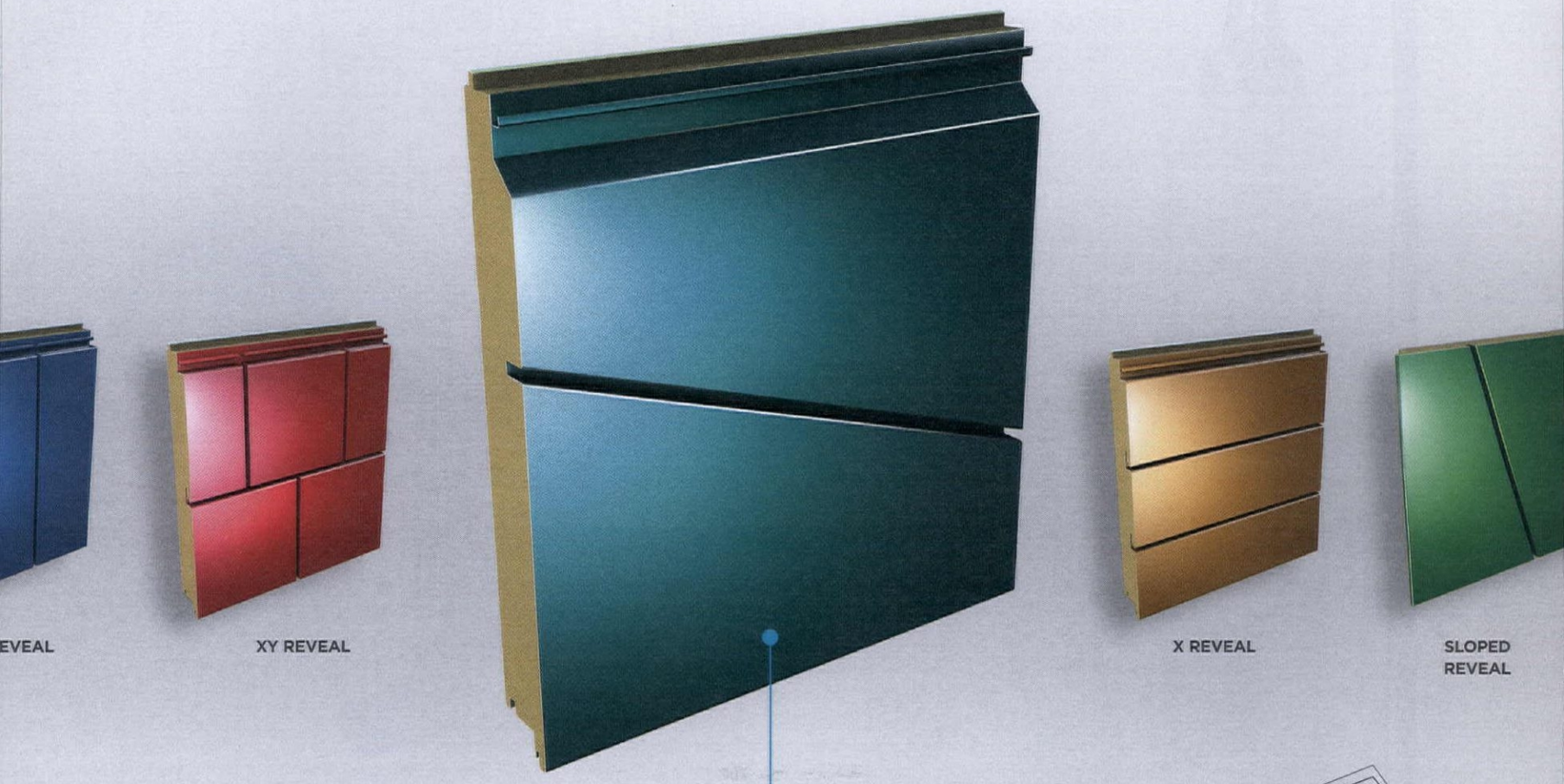

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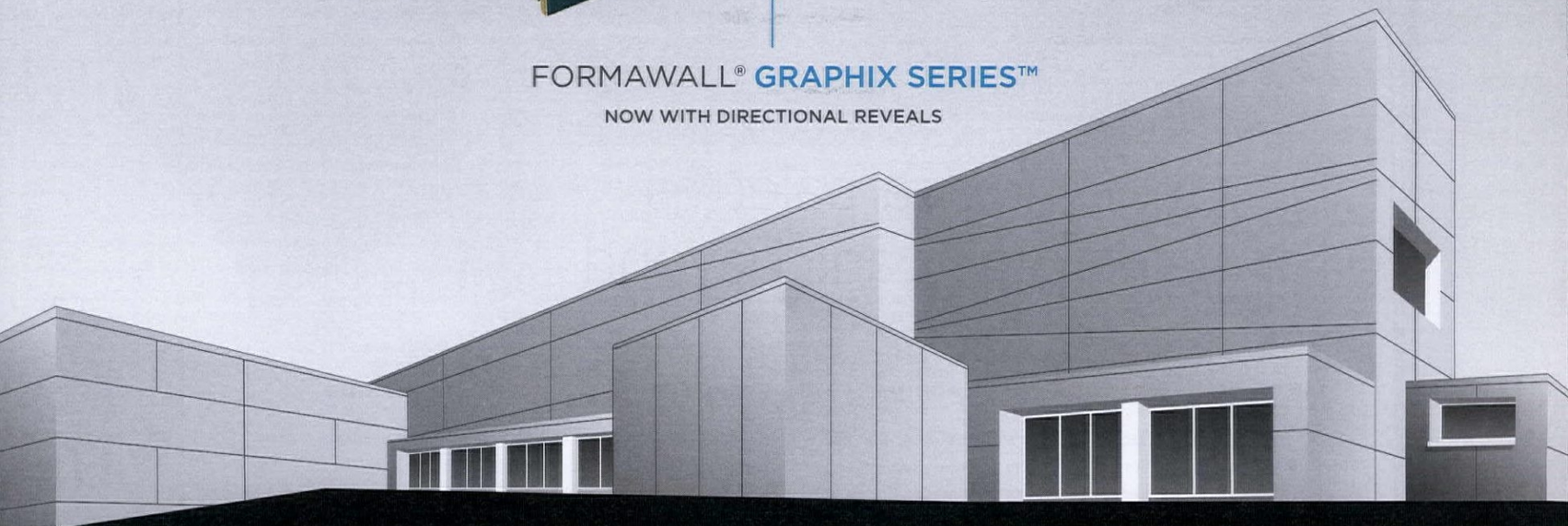

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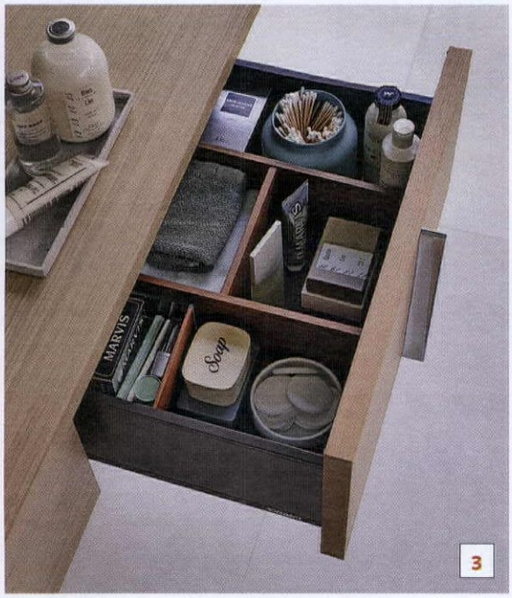
SNAP 58

1

2



3

4

Designs in neutral palettes for home, office, and beyond

1. SANTORINI

MANUFACTURER: Marset
PERFORMANCE: Traditional fishing-boat lanterns influenced the design of this luminaire, available as a floor lamp, pendant, and wall sconce with a white, gray, or mustard shade.
PRICE RANGE: $$$
APPLICATIONS: For both interior and exterior settings.
MARSET.COM
(SNAP #01)

2. SABI CLADDING

MANUFACTURER: Windfall Lumber
PERFORMANCE: The ½-inch-thick by 4½-inch-wide planks are composed of wood reclaimed from deconstructed buildings.
PRICE RANGE: $$
APPLICATIONS: The *wabi-sabi*-inspired weathered wood adds character to walls in retail and residential settings alike.
WINDFALLLUMBER.COM
(SNAP #02)

3. VERO FURNITURE

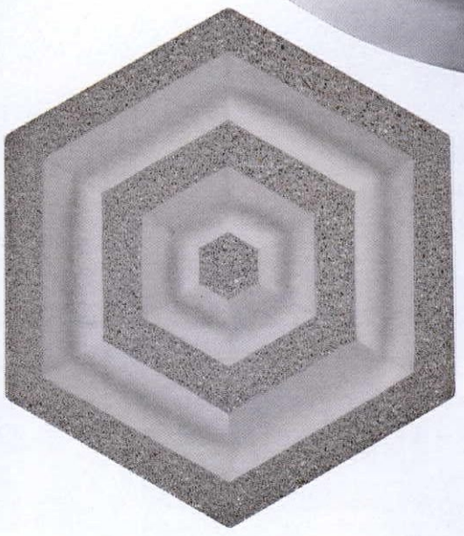
MANUFACTURER: Duravit
PERFORMANCE: The sleek bath-furniture series includes solid-wood, wall-mount, LED-lit sink storage units with compartmentalized drawers and mirror cabinets.
PRICE RANGE: $$$
APPLICATIONS: Best suited to residential bathrooms, the line comes in six finishes.
DURAVIT.US
(SNAP #03)

4. SIDE BY SIDE

MANUFACTURER: Davis Furniture
PERFORMANCE: The modular lounge seating series offers options for high backs and bridging or freestanding tables.
PRICE RANGE: $$–$$$
APPLICATIONS: Arrange pieces side by side, back-to-back, and tête-à-tête in office, hospitality, and other lounges and lobbies.
DAVISFURNITURE.COM
(SNAP #04)

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END

= ECO-FRIENDLY ATTRIBUTES



5.

NEXUS COLLECTION

MANUFACTURER: KnollTextiles
PERFORMANCE: Kari Pei designed three patterns for this wallcovering line of high-performance vinyl with a 30% recycled-polyester backing.
PRICE RANGE: $$
APPLICATIONS: Suitable for health-care, hospitality, office, and other commercial settings.
KNOLLTEXTILES.COM
(SNAP #05)

6.

POLISHED ALUMINUM HAIKU 84

MANUFACTURER: Big Ass Fans
PERFORMANCE: The polished, aircraft-grade aluminum fan utilizes rare-earth magnets that allow the motor to triple its torque output while drawing a maximum 63.8 watts.
PRICE RANGE: $$
APPLICATIONS: Commercial and residential projects.
BIGASSFANS.COM
(SNAP #06)

7.

EUROPEAN UNION

MANUFACTURER: Interface
PERFORMANCE: These monochromatic gray, subtly textured carpet tiles are produced with 65% recycled content in a facility using 100% renewable energy and almost no water to manufacture them.
PRICE RANGE: $$
APPLICATIONS: For office, education, and even residential settings.
INTERFACE.COM
(SNAP #07)

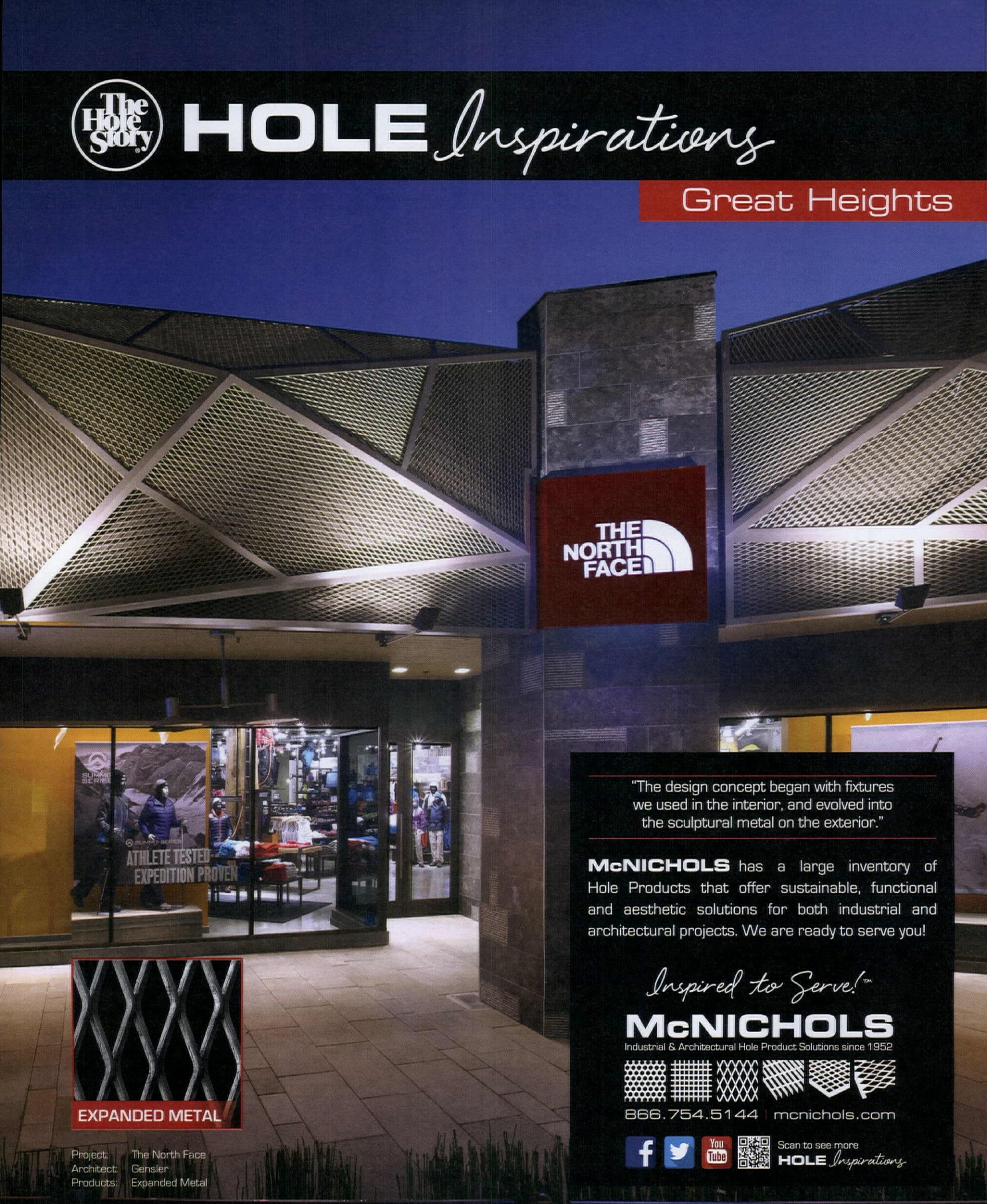
8.

GEODE

MANUFACTURER: Ann Sacks
PERFORMANCE: Concrete made from recycled materials composes the series's five dimensional designs; sizes range from 6 inches square to 12 by 15 inches (depending on style), with eight colors to choose from.
PRICE RANGE: $$$
APPLICATIONS: Suitable for indoor wall applications.
ANNSACKS.COM
(SNAP #08)

The Hole Story HOLE Inspirations

Great Heights



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A Sound Idea

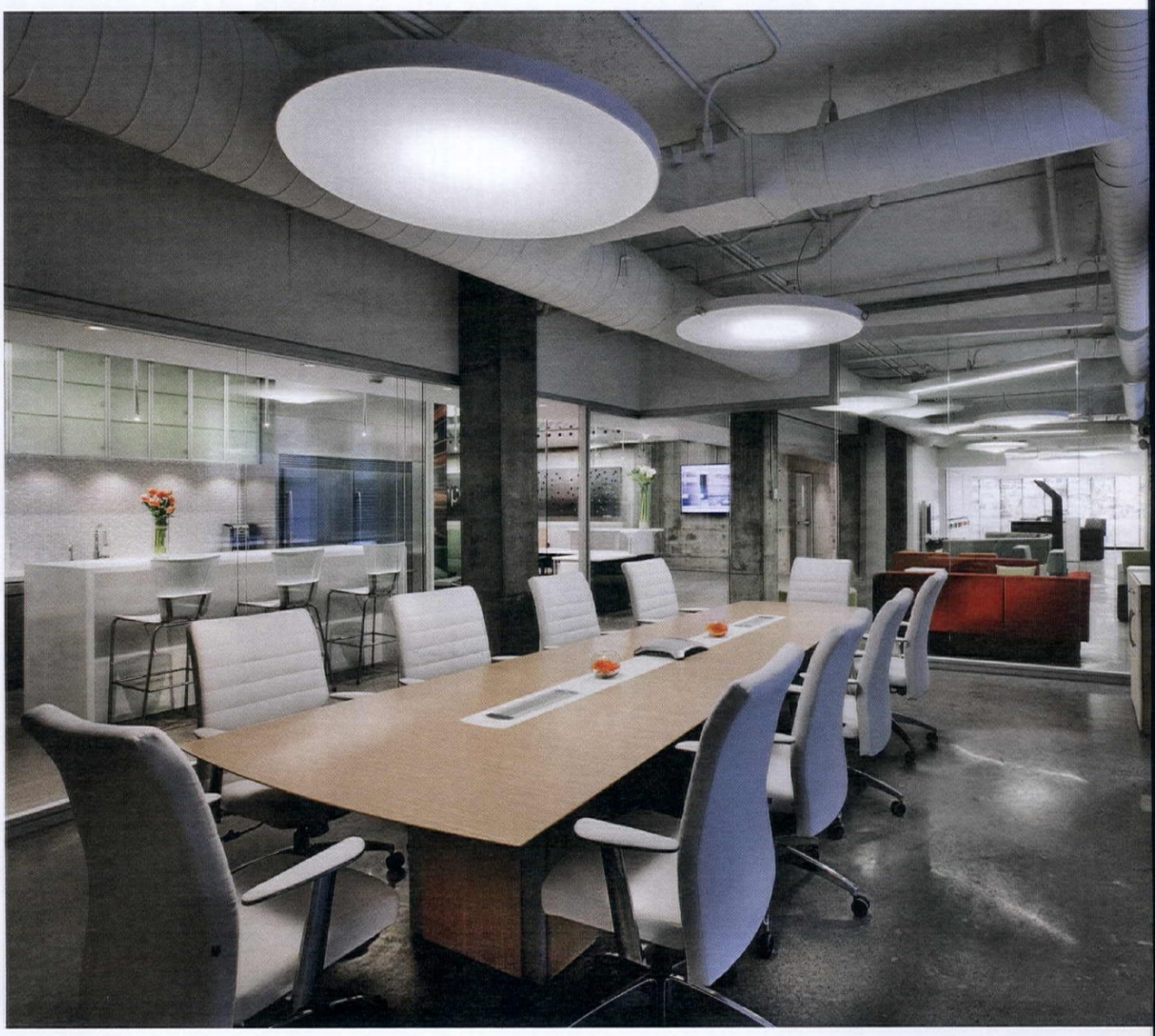
Studio Odile Decq creates a ceiling cloud that doubles as a pendant. BY SHEILA KIM

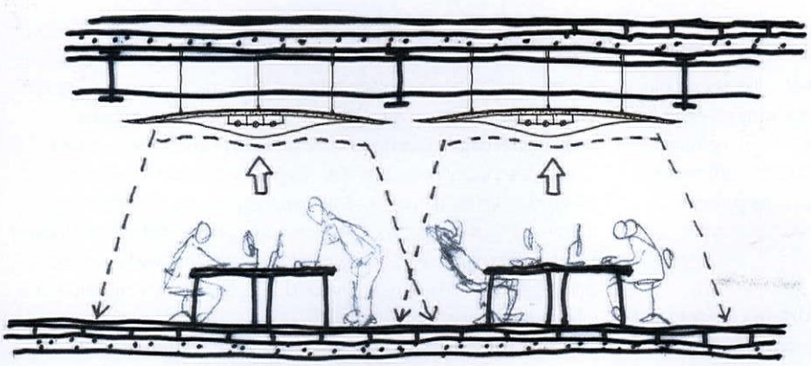
IT WOULD SEEM like a logical leap to combine acoustics and lighting into a single ceiling fixture but, surprisingly, few such products exist, especially in the realm of high design. French architect Odile Decq sought to remedy this while designing the open and airy—translation: noisy—GL Events headquarters in Lyon, France (ARCHITECTURAL RECORD, July 2014).

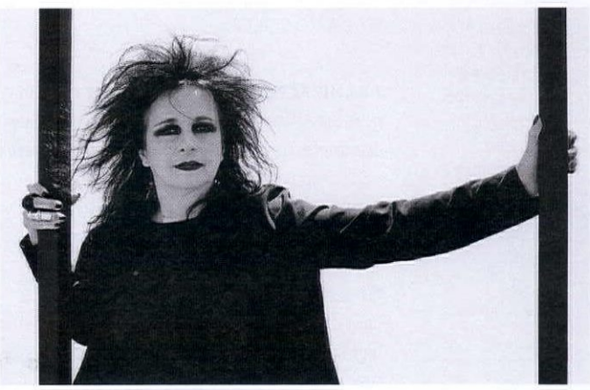
To reduce energy consumption in the all-glass building, Decq left the ceilings exposed and used concrete surfaces as a thermal mass. "But this created the problem of sound and a need for special lighting," she explains. "Thinking about how to solve the two problems in one object, I designed Pétale."

The luminaire, fabricated originally for the GL project and now mass-produced by Luceplan, possesses a light, ethereal look with white fabric stretched over a petal-shaped frame. Underneath, a round polycarbonate lens at the center diffuses a choice of LED or fluorescent lamping, and bulges against the fabric to create a gentle contour on the pendant's face. An optional strip of LEDs lines the frame's perimeter for more general illumination. But the real innovation of this floating sculpture is what isn't visible: A 2½-inch-thick glass-wool core runs from the diffuser to the frame, absorbing sound from above and below.

For the best results in a given project, specifiers can either work with their own acousticians or Luceplan. Two biomorphic models—55 by 33 inches and 60 by 47—are available, as is a round version 47 inches across. According to Luceplan USA CEO Giuseppe Butti, Pétale has become the company's top-selling product because "it's really three things: an acoustical panel, light fixture, and design element." **SNAP #10**







Pétale (top) by Odile Decq (left) addresses both lighting and sound control. For the Artopex showroom in Montreal (above), lighting designer Nicolas Brassard of LumiGroup used the round versions above a meeting table. A sketch by Decq (far left) illustrates how the product's sound absorption and downlighting work.

CHANGE OF SCENERY
In Indianapolis, a six-level parking structure located on the Sidney & Lois Eskenazi Hospital campus features the art installation *May–September*, created by the L.A.-based Urbana studio.

First Impressions

Spectacular facades pack a punch—and pique curiosity.

BY DAVID SOKOL

ARCHITECTS ARE TAUGHT THAT certain types of buildings should grab attention while others recede from view. Yet an array of recently completed projects are challenging the mere notion of background and foreground by bringing traditionally demure structures front and center. Here we examine three such facades whose utterly unique appearances suggest the rules need revising.

PARKING, ELEVATED

Launched in 2002, the Los Angeles design studio **Urbana** specializes in high-concept dimensional surfaces often intended to activate zones that might otherwise go unnoticed, such as passageways and parking structures. The latest project in its portfolio is a concrete-and-steel **garage structure** serving the HOK-designed **Sidney & Lois Eskenazi Hospital campus** in Indianapolis, which now features Urbana's art installation *May–September* on the south elevation. "When we were planning the Eskenazi Health campus," Matthew Gutwein, the president and chief executive officer of Health & Hospital Corporation of Marion County, said in a statement, "we knew that parking garages do not typically contribute to a visually enjoyable and vibrant landscape."

Challenging banality, Urbana set *May–September* within the beveled steel edge surrounding the garage's five upper levels and filled

TWO-FACED Each of *May–September*'s 7,000 folded-aluminum panels is finished in two colors of Durethane; the east-facing flaps boast a golden glow while their west-facing brethren are indigo.

that frame with structural aluminum spandrels to mount nearly 7,000 folded-aluminum panels. The system, manufactured by **Indianapolis Fabrications**, features **Ryerson**-made aluminum in three sizes bent at three angles and attached right side up or upside down.

"There are 18 possible variations of the fins," says Urbana principal Rob Ley. Moreover, one face of each panel is finished in gold **Durethane**, the other in indigo. The result is a cross between a lenticular billboard and a topographical map. It offers glimpses of changing color and opacity levels depending on a viewer's vantage point along with a perspective of hospitals as places of healing rather than transaction.

A FORMULA FOR DIVERSITY

Like parking facilities, infrastructure buildings are often unremarkable. For its prominently located **South Campus Central Chiller Plant**, **Ohio State University** set out to defy the norm. The school initially envisioned the structure with a glass skin, to expose the facility's functions. Soon, however, as **Ross Barney Architects** (RBA) principal Carol Ross Barney recalls, "we learned that with such a design, we would have to add cooling to the building."

The Chicago-based design team chose precast concrete panels from **High Concrete Group** to create thermal mass and finished them using **Final Finish's RetroPlate Concrete Polishing System** to prevent staining and streaking. To approximate the visual excitement of the chiller's founding concept, RBA specified High Concrete's panels in 11 different styles for the more than 200 required for the project. "By changing the orientation of these limited number of panel types," explains Ross Barney, "we were able to create a more dynamic facade."

Fenestration inserted in the vertical openings between panels still allows passers-by to glimpse the building's inner workings. Dichroic fins—fabricated by Canadian company **Goldray Industries**—run alongside these slots, animating the concrete with bursts of color as they reflect and transmit daylight. And because RBA's building proved cost-efficient and passive, the university was able to construct four additional chillers originally budgeted for a later date.

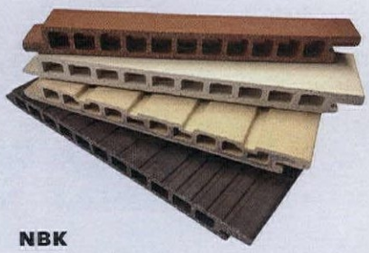
SCREEN GEMS

DRESS YOUR BUILDING IN ONE OF THESE LAYERS.

DRI-DESIGN

The friendly faces enveloping the Franciscan Medical Building parking structure at St. Joseph Medical Center in Tacoma were created using Dri-Design's Perforated Imaging technology. Variations in the size, density, and location of perforations on the .08-inch-thick aluminum panels produce the images' light and dark areas.

DRI-DESIGN.COM



NBK

NBK Terrart Light is a terra-cotta facade system available from Hunter Douglas Contract. Its high-fire clay modules feature multiple internal channels, resulting in a weight per unit area so low, the panels can be mounted to facades with fewer holes and dowels.

HUNTERDOUGLASCONTRACT.COM

HEYCO METALS

CopperPlus combines the metal's rich appearance with the sturdy performance properties of steel. The ASTM B 506-09 architectural sheet material features two outer layers of pure copper metallurgically bonded to a Type 430 stainless-steel core.

HEYCOMETALS.COM

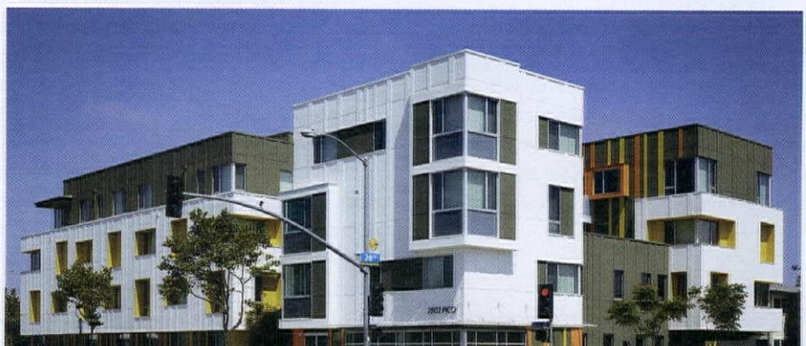
PRISM EFFECT
Ross Barney Architects transformed the facade of Ohio State University's South Campus Central Chiller Plant into a dynamic collage of precast concrete panels and dichroic fins (above and right).

STRETCHING THE DOLLAR

Whereas Eskenazi and Ohio State University are forging new paths in their respective building types, "affordable-housing developers [generally] tend to be more open to experimentation on facade design," says James Mary O'Connor, principal in charge of **Moore Ruble Yudell (MRY) Architects & Planners**. He adds, "A lower budget does not have to mean lower design aspirations."

Community Corporation is the client behind one such experiment, in MRY's hometown of Santa Monica: **2802 Pico Housing**, a trio of buildings arranged around a courtyard and encompassing 33 affordable units above retail and community space. The project demonstrates the liveliness of economical materials. Fiber cement from **James Hardie** clads most of the facades, which are peppered with projected and recessed windows by **Hardy Windows** and **Visual Glass Concepts**; flashes of yellow and orange paint syncopate the white and olive planes.

O'Connor notes that the composition creates motion on the street and de-emphasizes the volume of the high-density building. A break between volumes on the south side of the mini-campus reveals an intricate courtyard assemblage incorporating **3form** panels as balusters and **Cal-State Steel Corporation** tubular metal coated in the same yellow and orange scheme. These extra touches suggest that a building's outward expression is meant to delight occupants and the public alike. ■



POPS OF COLOR
In Santa Monica, Moore Ruble Yudell designed 2802 Pico housing to enliven its residential courtyard (top right and above) and downtown streetscape (left).

PHOTOGRAPHY: (OSU) BRAD FEINKNOPF; (PICO) JOHN LINDEN

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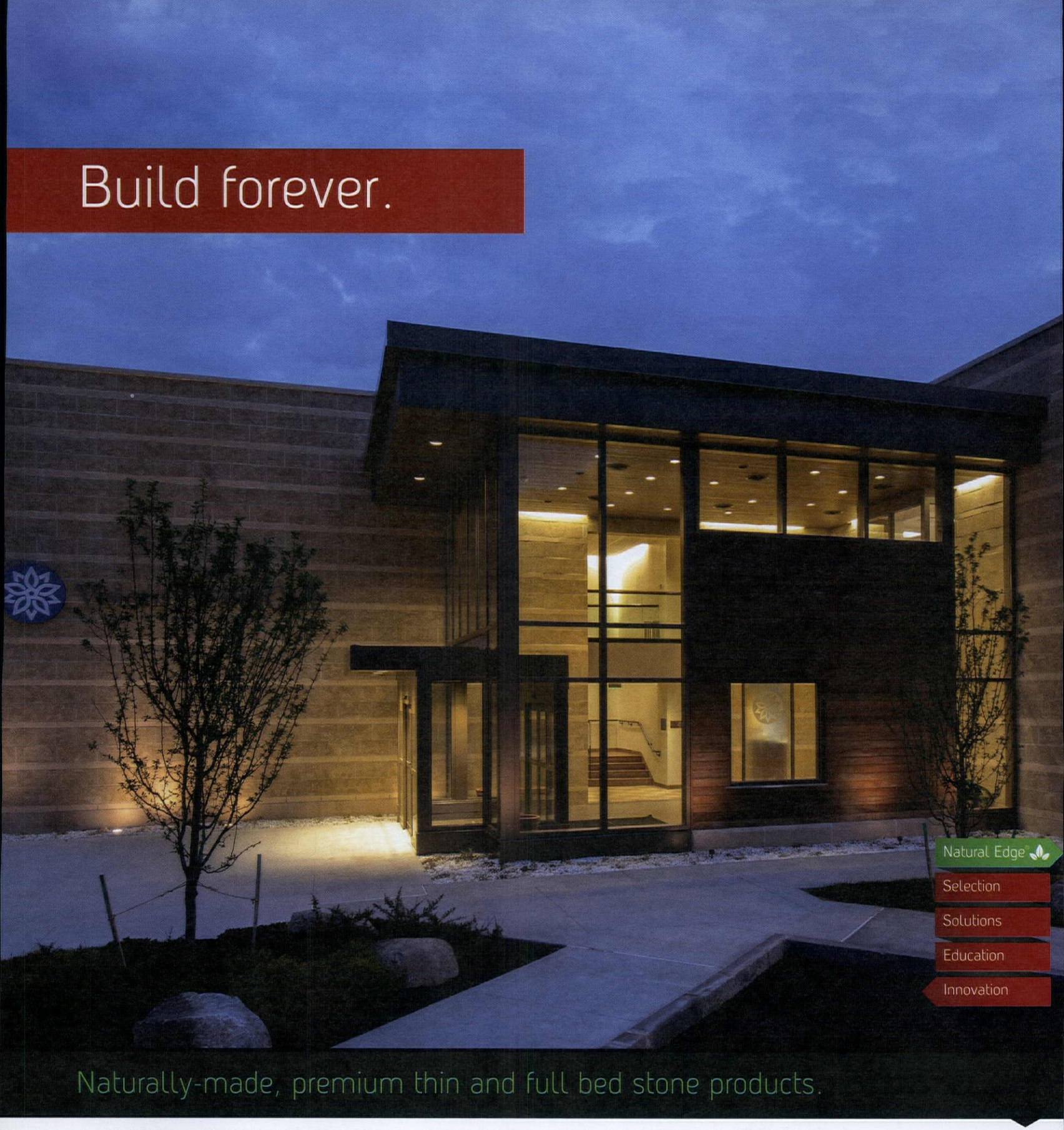
SNAP 72



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Yen Ong: Making Design Humanistic

Partner, 5G Studio, Dallas

TELL US ABOUT YOUR FIRM'S PROJECT, LEGACY ER, IN ALLEN, TEXAS.

The conceptual framework seeks to capture the duality of the emergency medical profession, projecting outward the knowledge, skill, precision, and decisiveness necessary for the practice and reflecting inward the gentle, empathic, and humanistic qualities of the people wearing the robe. It is realized simply, through a sharply folded exterior robe of zinc panels and a softly sculpted interior of plastered planes.

PLEASE LIST SOME PRODUCTS YOU USED IN THE PROJECT.

On the exterior, we used Rheinzink's PrePatina zinc, Parex's Portland Cement Plaster, PPG's Solarban glazing, and YKK AP's thermally broken window wall system [right]. Inside, there's tile by Porcelanosa and paint by Sherwin-Williams.

WHEN DESIGNING FOR HEALTH CARE, WHAT DO YOU FIRST CONSIDER?

Humanistic qualities of a health-care space are important contributing factors toward a positive patient experience. The simple provision of natural light and outdoor views positively affects the psyche. The strategic placement of functional programs and the geometry of the building can introduce the admission of light and views in uniquely refreshing ways.

WHAT ARE YOU WORKING ON RIGHT NOW?

Mega Kuningan [left] is a 40-story mixed-use tower in the heart of Jakarta's central business district. It includes commercial retail, offices, and luxury residences. There are multiple sky lobbies and amenity areas, creating a vertical city sheathed in a sculpted glass veil.

DO YOU CURRENTLY HAVE A FAVORITE MATERIAL?

Zinc continues to appeal to me for its durability, malleability, recyclability, and warm character, despite its bluish-gray hue. It has a soft, imperfect appearance. And as a building metal, its production process emits the lowest level of CO_2 pollution and consumes less energy compared to aluminum or stainless steel.

YEN ONG, *a 5G cofounder, oversees the firm's portfolio, which includes projects in the United States, Vietnam, China, Mexico, and Indonesia. Prior to 5G, the Jakarta-born partner was an associate at the Dallas-based Beck Group for nearly eight years. Among the awards and distinctions he has received is a first-place Healthcare Environment Award from the Center for Health Design and* Engineering News-Record's *Top 20 Under 40.*

17,000

The total square footage of zinc paneling used on the roof of Legacy ER, Allen.

The architect outside his project Legacy ER, in Allen, Texas [featured in ARCHITECTURAL RECORD, *May 2014], an 8,500-square-foot, freestanding emergency and urgent-care facility marked by a striking angular, folded-roof composed of zinc panels and metal mesh.*

PHOTOGRAPHY: (RIGHT) © JUSTIN CLEMONS; (FROM TOP) MICHAEL MORAN/OTTO; COURTESY TKAA; 5G STUDIO

BY ANNA FIXSEN

ANN B. BARSHINGER CANCER INSTITUTE LANCASTER, PENNSYLVANIA

A Light Touch

CHALLENGE: *Transform an outdated cancer care center and parking garage into a state-of-the-art facility.*
SOLUTION: *Fashion the new building into a light-filled, healing environment that connects to nature.*

WHEN EXPANDING a radiation facility alongside a large hospital complex in Lancaster, Pennsylvania, architects at the Philadelphia-based firm Ballinger set their sights high. Rather than simply adding space, they wanted to "change how people felt about cancer care by setting a different tone," says design principal Eric Swanson.

The architects began by orienting the new center, the Ann B. Barshinger Cancer Institute, in a curve along an original wall of a former parking ramp and replacing the parking spots with a central courtyard and garden.

The building program is divided into distinct levels: a lower floor devoted to examinations and diagnostics and an upper floor for treatments and the garden. "It's a kind of metaphor," says Christopher Gray, senior project designer at Ballinger. "The first part is more enclosed, and as you climb up through the building, you are reconnecting with the world."

A porch-style entrance welcomes patients into a double-height lobby. Illuminated glass panels and a 30-foot-long living wall by Ambius visually lead patients in the direction of the primary concourse. Skylights in the corridor encircling the courtyard draw daylight into the entire facility. Because the building shape follows the sun's trajectory, the architects specified shading and glazing products to minimize glare.

Thoughtful details contribute to a tranquil environment for patients. Cars and traffic are kept out of sight, for example. Patients on the second floor can choose to enter the central garden, with its lush plantings and water features, or merely enjoy the view from a semiprivate alcove. Walnut ceilings and wall panels by Armstrong instill warmth. An arboretum-like park and walking trail will eventually surround the hospital. Gray explains, "It's about trying to connect patients back to light, nature, and natural growth."

GRAND ENTRANCE Patients enter the cancer center's airy lobby under a generous, porch-like overhang. The facade's curve was designed to follow the path of the sun.

ARCHITECTS
Ballinger

TYPE
Health Care

PRODUCT
1600 Wall System

MANUFACTURER
Kawneer

PERFORMANCE
This pressure-glazed curtain wall, which is Cradle to Cradle certified, offers blast mitigation and hurricane resistance. Available in 6- and 10½-inch depths, it has a 2½-inch sightline.

APPLICATIONS
Ideal for low- to mid-rise buildings.

PRICE RANGE $$

KAWNEER.COM
(SNAP #11)

IN THIS PROJECT

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END

AXIS BEAM4

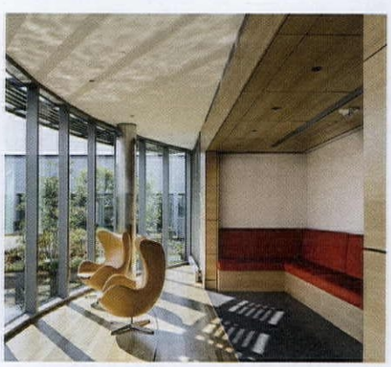
MANUFACTURER: Axis
PERFORMANCE: The sleek and compact Beam4 luminaires—made of extruded aluminum—can be specified for use with fluorescent or LED lamping for direct, indirect, asymmetric, or wall-wash lighting. Recessed, ceiling- or wall-mount, and pendant formats are available.
PRICE RANGE: $$
APPLICATIONS: General, task, or accent interior lighting.
AXISLIGHTING.COM
(SNAP #12)

EPOXY TERRAZZO FLOORING

MANUFACTURER: Roman Mosaic & Tile Company
PERFORMANCE: Because epoxy resin can be pigmented like paint, this type of terrazzo flooring is ideal for multicolored patterns. The epoxy also provides greater chemical resistance and resiliency.
PRICE RANGE: $$
APPLICATIONS: Well suited to any high-traffic projects: education, commercial, and health-care facilities.
ROMANMOSAIC.COM
(SNAP #13)

SKYLIGHTS

MANUFACTURER: Super Sky
PERFORMANCE: Sealed with silicone and finished with aluminum extrusion, these custom skylights are offered in a range of shapes as well as in louvered, stained, and electrically charged options.
PRICE RANGE: $$
APPLICATIONS: Ideal for commercial and public settings alike.
SUPERSKY.COM
(SNAP #14)



WOODWORKS

MANUFACTURER: Armstrong
PERFORMANCE: Produced in an array of sizes (up to 16 square feet), these flat or curved wood ceiling panels also have veneer and perforation options.
PRICE RANGE: $$
APPLICATIONS: Recommended for offices, schools, concert halls, and health-care applications.
ARMSTRONG.COM
(SNAP #15)

PHOTOGRAPHY: PETER AARON/ESTO; LARRY LEFEVER

GARDEN VARIETY
In the architects' hands, a former parking ramp became a second-floor garden for patients. Sunshading elements are integrated into the new curtain wall erected atop the original ramp wall.

Comfort by Design

ERGONOMIC ISSUES CAN make the jobs of hospital staff measurably more difficult. Particularly, the increased reliance on information technology in hospitals has led to a marked jump in musculoskeletal issues: Clocking two to three hours seated at a computer and two to five hours at standing workstations on a daily basis, 52 percent of nurses complain of chronic back pain. Compounding matters, an average of 15 to 30 people of varying physical statures and abilities have to share the same staff furnishings per day.

Fortunately, some manufacturers offer options that can be easily adjusted to fit individual needs. For one, the rolling Jusky stool by Keilhauer features a tablet arm that swivels 160 degrees (360 degrees on backless versions), eliminating the need to spec right- or left-handed; for another, Steelcase Health has introduced open-plan nursing hubs that support collaboration, focus, teaching, learning, and quick social exchanges, enhancing employee productivity and well-being. Components such as file drawers and monitor stands can be reconfigured to enhance point-of-use tasks.
—Lisa Caldwell

CUSTOMIZED CARE This nursing hub from Steelcase utilizes adjustable foot rails from the Sync caregiver line, a C:SCAPE beam that organizes charging stations, and mobile carts equipped with pockets for iPads.

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END

PALISADE COLLECTION

MANUFACTURER: Nemschoff
PERFORMANCE: Individual components are designed to nest, move, or provide extra functions, such as lighting and coat storage, by leveraging vertical space.
PRICE RANGE: $$
APPLICATIONS: This collection of multifunctional patient room furnishings includes seating, sleeping, storage, work space, lighting, and power outlets that focus on the comfort of family and guests.
NEMSCHOFF.COM
(SNAP #16)

REVELATION SKYCEILING

MANUFACTURER: The Sky Factory
PERFORMANCE: Suitable for retrofitting, the recessed ceiling-mount light box has an output of 6,840 lumens and a 6,500K color temperature.
PRICE RANGE: $$
APPLICATIONS: A deep, angled aluminum reveal frames 4-foot-square high-resolution photographic image panels that are illuminated by LEDs to simulate a skylight in deep interior and windowless spaces.
SKYFACTORY.COM
(SNAP #17)

U-WAVE SENSOR SWITCH

MANUFACTURER: Larco
PERFORMANCE: This touchless, LED-lit switch—FCC approved, with a motion-detection range of zero to 15 inches—fits most standard, single-gang electrical boxes.
PRICE RANGE: $$
APPLICATIONS: Ideal for sterile environments such as operating rooms, this switch can be wired to activate automatic doors, lighting controls, or call points. It is offered in three housing colors.
LARCO.COM
(SNAP #18)

TARALAY IMPRESSION WOOD DESIGNS

MANUFACTURER: Gerflor
PERFORMANCE: The vinyl flooring line is ISO 22196 compliant, FloorScore certified, and 100 percent REACH compliant. Its 28-millimeter wear layer stands up to high traffic and heavy equipment, and the surface treatment needs no waxing for 30 years.
PRICE RANGE: $$
APPLICATIONS: High-density foam backing reduces noise and foot fatigue in health-care, institutional, and education settings.
GERFLORUSA.COM
(SNAP #19)

SNAP BACK: HEALTH-CARE PRODUCTS

JOHN ANDREWS
Vice President
Leo A Daly
Omaha

"We designed a biocontainment unit that keeps staff safe by applying principles of lab design. It operates on an isolated, filtered air system that keeps patient rooms at negative pressure and prevents infectious particles from leaving. Staff, air, and materials move in one direction, from clean to dirty, to help prevent cross contamination. Employees enter and exit through separate rooms, and an autoclave and chemical dunk tank sterilize contaminated materials and lab samples before they leave the unit."

MICHAEL LIU
Vice President and Principal
The Architectural Team
Chelsea, Massachusetts

"The best skilled-nursing facilities are not only bright, airy, and spacious but also calm, noise-free environments for residents and visitors. Many also have to serve memory-loss or Alzheimer's patients. Safety features such as protection from parking and egress areas are integral. Some facilities favor bigger windows and adjustable shades and lighting so that light levels remain consistent throughout the day. This helps prevent sundowning, the agitation experienced by some memory-loss patients at dusk."

DOUG LOVEGREN
Senior Designer
Svigals + Partners
New Haven

"For health-care projects, we like to use films for glass partitions and interior windows that are custom cut to reflect the provider's mission or the building's design and art program. These decorative films are a relatively inexpensive way to enliven the interiors while helping meet privacy needs without losing daylight or visual transparency. One downside is durability; we don't recommend them in high-traffic areas. Also, these films work best for interior glazed partitions because of the strict performance criteria for exterior glass."

Kimball Embraces Health Care

HEALING DESIGN Details such as upholstery patterns and leg profiles can be matched or mixed with flooring and wall colors to create a residential ambience as well as spatial identities.

THERE'S A NEW—albeit familiar—player in the world of health-care furnishings. Kimball Office, which has manufactured contract furniture widely used in offices and education facilities for nearly a half century, launched the **Kimball Health** division at last November's Healthcare Design Conference in San Diego.

Functional flexibility and aesthetic compatibility are common denominators in the initial collections. Arm caps for guest and lounge seating, for example, can be coordinated across stylistic boundaries by specifying the same finish material. Options for leg designs can also unify or differentiate sofas and chairs.

With its beechwood exposed frames, low-slung profile, and wide upholstered cushions, the Saffron family of seating has a Midcentury design pedigree that's a welcome relief from the bland, generic furniture that typically populates hospital waiting rooms and lobbies.

Meanwhile, Alpine seating's wall-saver legs, a seat clean-out, and removable covers are practical features that are informed by the company's expertise in office furniture.

Case goods, over-bed tables, folding ancillary seating, and specialized chairs—such as sleeper and treatment models—round out the initial offerings from Kimball Health. —*LC*

SNAPSHOTS

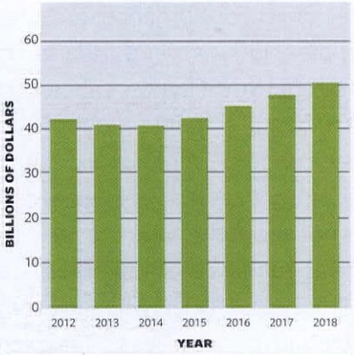
NEW MATH

Health-care construction is forecast to ramp up in 2016 and 2017 to 8.4% and 9.1% growth each year respectively, with an average **five-year growth rate of 6.7%** through 2017.

SOURCE: FMI CORPORATION

HEALTH-CARE CONSTRUCTION PUT IN PLACE

(FORECAST AS OF Q4 2014)



SOURCE: FMI CORPORATION

HEALTH-CARE EQUIPMENT MANUFACTURERS TO WATCH

HAMILTON SORTER
ASSA ABLOY
INPRO

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

SNAP FACT

SOURCE: PRICEWATERHOUSECOOPERS

HEALTH-CARE PLUMBING MANUFACTURERS TO WATCH

SLOAN
BRADLEY CORPORATION
FLORESTONE PRODUCTS CO.

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

Universally Minded

DESIGN...WITHIN REACH For a family with wheelchair users, ROM Architecture created an accessible kitchen that reflected the Midcentury Modern vernacular of the house.

THE TASK FACING ROM ARCHITECTURE principal Carol Sundstrom was daunting: renovate a 1950s Eichler-style house to meet the needs of a family with two wheelchair-using members.

Instead of building up to gain space, Sundstrom removed a large fireplace and relocated the mechanical equipment to an outdoor closet. These simple solutions created a large open kitchen in which she could insert bypass cabinet doors, a custom kitchen sink with side-mount faucet and open knee space underneath, and four counter heights to accommodate the varying needs. "In a case like this, it's not about the work triangle," the architect says. "It's about how the family lives." Cabinets feature pullout accessories, while an extended island/kitchen table with pedestal legs offers plenty of legroom and seating. Sundstrom completed the open-plan kitchen with an ADA-compliant dishwasher and a cooktop whose control knobs are easily reachable on the side.

"A smaller budget is no excuse for not doing accessible design," Sundstrom stresses. "It can be applied to any project and any budget." *—Nigel F. Maynard*

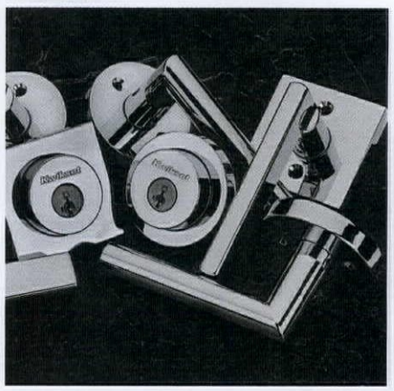
KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END

ADAPTEK SHOWER BASE

MANUFACTURER: Fleurco
PERFORMANCE: The accessible shower base offers a transfer or roll-in design that satisfies ADA requirements. The bases, which install flush to the floor, come with a trench drain and stainless-steel cover.
PRICE RANGE: $$
APPLICATIONS: Bathrooms in apartments and single-family residences.
FLEURCO.COM
(SNAP #20)

SERIES 900 TERRACE DOOR

MANUFACTURER: C.R. Laurence
PERFORMANCE: This out-swing terrace door offers a 1 x 4½-inch frame and reinforced double polyamide-glass strips that create a thermally broken system. A low-profile threshold accommodates individuals with disabilities and universal design requirements.
PRICE RANGE: $$
APPLICATIONS: High-performance doors in hotels, lofts, condominiums, and high-rise residences.
CRLAURENCE.COM
(SNAP #21)



HALIFAX AND MILAN LEVERS

MANUFACTURER: Kwikset
PERFORMANCE: The manufacturer has expanded its modern line of door hardware for homeowners seeking accessible levers and deadbolts. Available in four finishes, the levers feature an ADA-compliant push button that simplifies the locking and unlocking process.
PRICE RANGE: $
APPLICATIONS: Entry and exterior doors for residential projects.
KWIKSET.COM
(SNAP #22)

2009_PK PANIC THRESHOLD

MANUFACTURER: Pemko Manufacturing Co.
PERFORMANCE: The ½-inch-high unit makes maneuvering over thresholds easier. Made from milled aluminum, it offers a 1:2 slope and a gasket with a high-performance seal at the door's bottom.
PRICE RANGE: n/a
APPLICATIONS: Ideal for ADA-compliant openings in health-care facilities, schools, public buildings, and retail projects.
PEMKO.COM
(SNAP #23)

SNAP BACK: ACCESSIBLE DESIGN SOLUTIONS

ED BINKLEY
Design/Business Director
BSB Design
Safety Harbor, Florida

"I feel that ADA requirements will fall in line with other categories that are becoming mainstream, such as energy efficiency and durability of construction systems and materials. Codes tend to regulate methods and design criteria and often seem too stringent. But as time goes on, we realize that many do serve a higher purpose."

CYNTHIA LEIBROCK
Principal/Founder
Easy Access to Health
Livermore, Colorado

"ADA only begins the process. We need to teach all architecture and interior design students to go beyond the requirements, to inherently design universally and not to design special projects for 'special' populations: the principles should be taught as responsible design. In new construction, universal design will [raise the] cost less than 5 percent—and improve longevity and life quality."

RICHARD MORRISON
Principal
Richard Morrison, Architect–Interior Designer
Redwood City, California

"People want things to be set up so they can implement strategies down the road. It may involve putting blocking in place for grab bars, wider doors, and curb-free showers. A big concern seems to be ensuring the improvements don't look overtly accessible. It's usually a goal to make any improvement look seamless. Most of the strategies relate to placement, and the costs are pretty minimal."

Wall Flower

THE MODERN-DAY DOYEN of American product design, architect **Michael Graves** is clearly not letting partial paralysis slow him down. Instead, the wheelchair-bound talent has refocused his efforts, designing buildings and products for people who face similar challenges.

In 2014 alone, Graves received the **Presidential Citation** from the **American Institute of Architects**; his New Jersey–based firm celebrated its 50th anniversary; **Kean University** in Union, New Jersey, announced the formation of the **Michael Graves School of Architecture**; and **ILEX Architectural Lighting** launched four new fixtures designed by him, including an ADA-compliant model.

Graves's latter creation for ILEX, the Table Top sconce, recalls a classic table lamp that rests on an integrated shelf. The fixture, 8½ inches tall by 5 inches wide, projects only 4 inches from the wall (in keeping with ADA requirements, such objects—mounted between 27 inches and 80 inches above the floor—may protrude 4 inches at the most into a hallway, walkway, or corridor). The light, which features a glass shade, LED lamping, and stem that sits on a wall-mount ledge, can be finished in architectural bronze, polished nickel, or satin brass. *—NFM*

COMPLIANT SLEEK The Table Top sconce (left), designed by Michael Graves (above) for ILEX, juts 4 inches from the wall, making it ADA compliant.

SNAPSHOTS

SNAP FACT

The state with the **highest number of disabled individuals** is California.

SOURCE: U.S. CENSUS BUREAU

WHEELCHAIR-LIFT MANUFACTURERS TO WATCH

GARAVENTA LIFT
ASCENSION
BRUNO INDEPENDENT LIVING AIDS

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

SNAP MATH

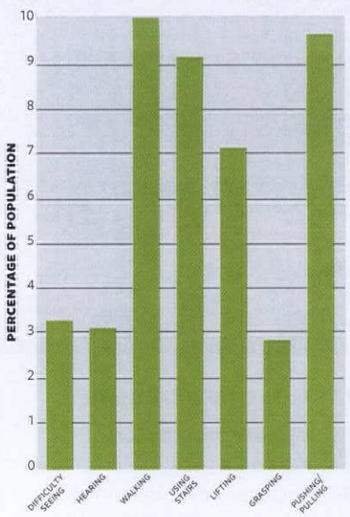
39,892,960

The number of people in the United States with **some form of disability**.

SOURCE: U.S. CENSUS BUREAU

COMMON DISABILITIES REPORTED WITHIN THE UNITED STATES

(AGES 15 AND OLDER)



SOURCE: "AMERICANS WITH DISABILITIES: 2010 REPORT," U.S. CENSUS BUREAU

AUTOMATIC-DOOR MANUFACTURERS TO WATCH

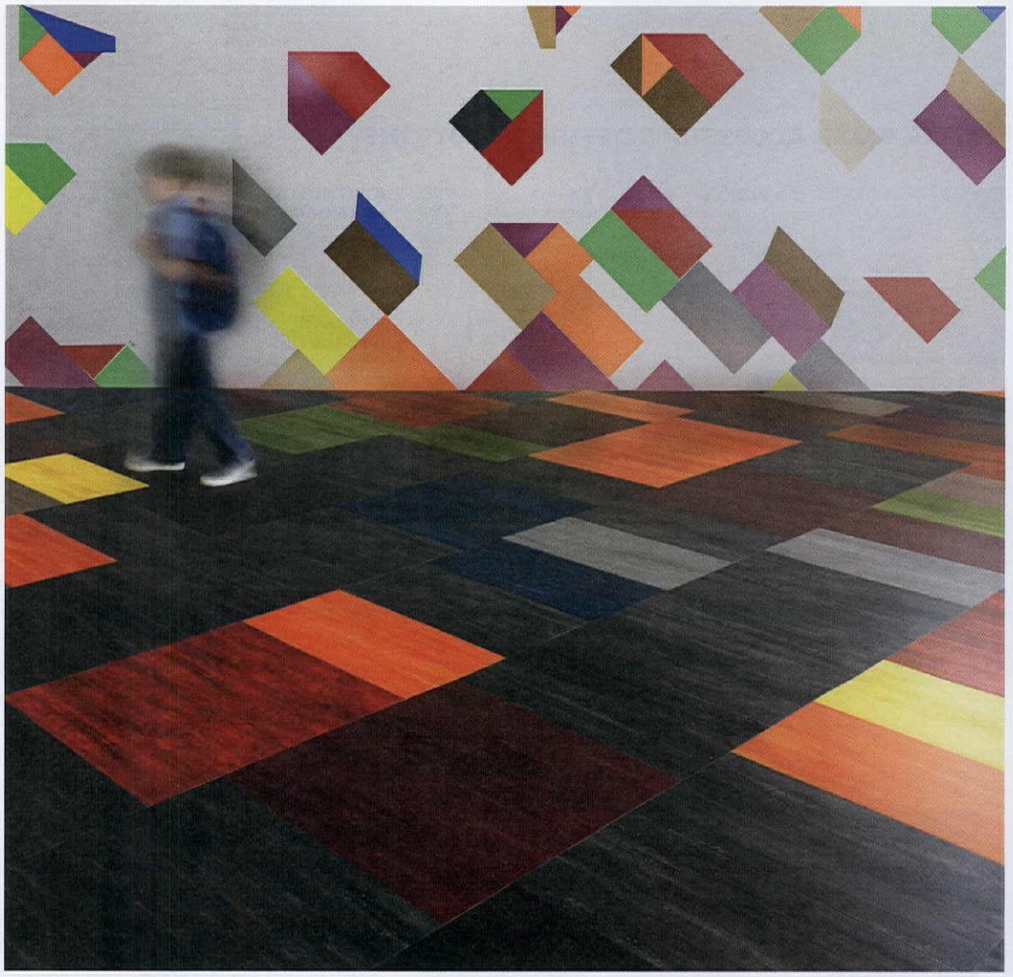
HORTON AUTOMATICS
STANLEY ACCESS TECHNOLOGIES
RIXSON SPECIALTY DOOR CONTROLS

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

Free Form

ONCE A MONOLITHIC EXPANSE of pattern or a sea of flecks, the resilient floor hasn't always been design-forward. And although high-resolution printing re-created natural materials, the category still fell short. "Since resilient has always been a part of the hard-surface category, those were the first things we tried to imitate," says Al Boulogne, senior director of commercial luxury vinyl tile (LVT) at Mannington.

"As the category matures," Boulogne continues, "we're taking the opportunity to move beyond typical looks into something different." Coupling the improved printing capabilities with modularity, LVT has further transformed designing with resilient flooring into—dare we say?—fun. Intersected, one of Mannington's bold new offerings, is a collection of tiles with three-sided grooves that tessellate beyond the rectilinear format. Other entrants: Aspecta by Metroflor launched the Abstract Collection, a line of graphic patterns ranging from geometric to pixelated. And Mohawk's Matuto series consists of brightly colored planks that coordinate with neutrals and even carpet tile to widen the options for customization. *—Emily Hooper*

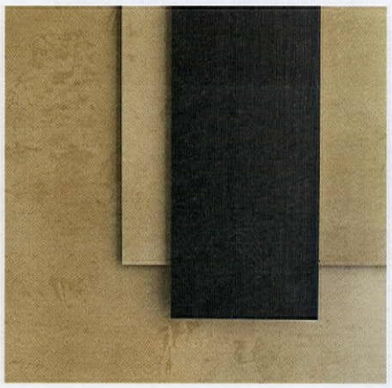


NEW TERRITORY From Mohawk's Global Entry collection is Matuto, a 12-by-24-inch plank series with a ceramic-enhanced urethane finish that comes in six vibrant hues and nine neutrals.

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END

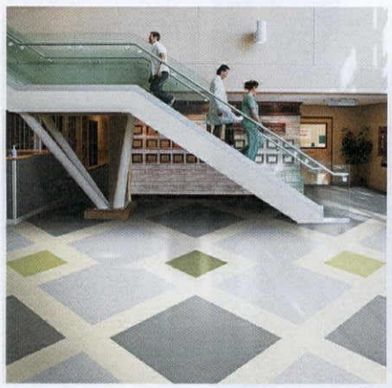
MARMOLEUM MODULAR

MANUFACTURER: Forbo
PERFORMANCE: Tiles in 10- and 20-inch-square formats and a 10-by-20-inch plank are made from 100% USDA Bio-Preferred Certified materials with antimicrobial and antistatic properties. A double coating of Forbo's water-based wear layer provides additional resistance to soil, stains, and scratches.
PRICE RANGE: n/a
APPLICATIONS: Well suited to health-care, education, corporate, and retail facilities.
FORBOFLOORINGNA.COM
(SNAP #24)



HOT & HEAVY

MANUFACTURER: Mohawk
PERFORMANCE: The exceptionally large format of this floating LVT line—tiles 3 feet square and 9-by-59-inch planks—provides weight and dimensional stability while allowing for fast installation and repairs. Twenty millimeters of Mohawk's proprietary M-Force urethane wear layer includes antimicrobial properties.
PRICE RANGE: $$
APPLICATIONS: Suitable for health-care, corporate, retail, and hospitality projects.
MOHAWKGROUP.COM
(SNAP #25)



MELODIA 2.0

MANUFACTURER: Tarkett
PERFORMANCE: These 24-inch-square resilient tiles that coordinate with a sheet offering come in 42 nondirectional colors deepened with accent granules. Sealed with a polyurethane-reinforced wear layer, the 100% recyclable collection contains 25% preconsumer recycled content.
PRICE RANGE: $$
APPLICATIONS: Combined with sheet formats, Melodia provides seamless integration in health-care environments.
TARKETT.COM
(SNAP #26)

VALLAREX

MANUFACTURER: Expanko
PERFORMANCE: A naturally antibacterial product, this floating cork floor is available with new stone and wood visuals and a ceramic-infused wear layer. An extra layer of cork provides additional acoustic- and thermal-performance attributes.
PRICE RANGE: $–$$
APPLICATIONS: Light to medium commercial including corporate and hospitality.
EXPANKO.COM
(SNAP #27)

= ECO-FRIENDLY ATTRIBUTES

SNAP BACK: RESILIENT FLOORING

LIRA LUIS
Chief Collaboration Architect
ALLL
Chicago

"Some clients prefer VCT, a popular iteration of vinyl or resilient flooring, for office buildings, factories, laboratories, gyms, and schools primarily because it's inexpensive, durable, stain-resistant, and low maintenance. Though it is not known as the most environmentally sensitive choice, recent advancements in technology allow for its being recycled back into new tile, diverting it from landfills."

SHELBY PAPP
Resource Manager/ Interior Design
FKP
Houston

"These days, there are so many design options in resilient flooring as far as shapes, patterns, and maintenance programs, it can be used in almost every type of space. Creating a fun pattern to brighten up a playroom is just as easy as giving an executive serving area a clean, sophisticated design. There are even carpeting products sneaking into the resilient flooring market as crossover products."

LINDSAY WILSON
Principal
Corgan Associates
Dallas

"The majority of available LVT emulates other materials. That is at odds with the desire for authenticity in corporate design. The concepts we developed with Mannington for Intersected focused on the graphic capabilities, with large-scale patterns and great texture. The goal was to appeal to corporate spaces with an option that leverages the product's durability and creates design value."

Soft on the Eyes—and Feet

THE LINES ARE BLURRING in flooring design, resulting in exciting hybrids that combine the attributes of resilient with soft-surface flooring. A pioneer in this category, **Bolon** collaborated with companies such as **Missoni** to create fashionable styles that caught the public's eye early on. The resulting products read like woven textiles, using bold palettes and synthetic fibers to achieve texture, depth, and high performance. **J+J Kinetex** is a modular product that tightly weaves face fibers for a slip-resistant, durable solution with one of the highest NRC and IIC ratings in commercial flooring.

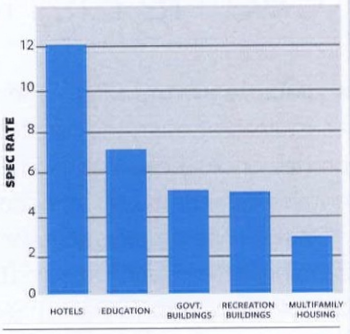
"Hybrid flooring offers not only lower maintenance than traditional resilient products that require stripping and resealing but also enhanced acoustic performance and visual warmth," attests Alison Faecher, associate principal and director of interior design at **TRO JB** in Boston. In lieu of modular carpet, Faecher's firm specified **Tandus Centiva** Powerbond for waiting and conference areas in the Maine General Replacement Hospital. The heterogeneous resilient product, made from nylon and closed-cell cushioning, is offered in modular and sheet formats. *—EH*

GEOMETRY LESSON
The Bolon Studio collection is a hybrid floor series of five tile shapes (Triangle shown) in an array of colors and textures.

SNAPSHOTS

RESILIENT FLOORING

SPEC RATE BY PROJECT TYPE
(NOVEMBER 2013 TO OCTOBER 2014)



SOURCE: DODGE DATA & ANALYTICS

NEW MATH

3.53 BILLION

The total square footage of resilient flooring installed in 2014, **up 8% from 2013**.

SOURCE: CATALINA RESEARCH VIA RESILIENT FLOOR COVERING INSTITUTE

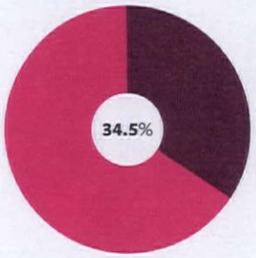
RESILIENT FLOORING MANUFACTURERS TO WATCH

BURKE FLOORING
FORBO
R.C. MUSSON RUBBER CO.

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

SNAP MATH

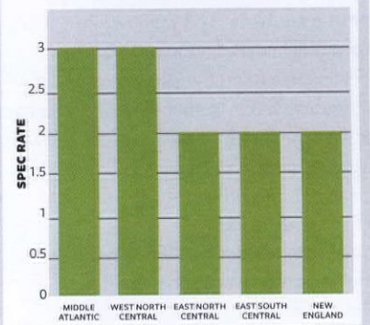
LVT took 34.5% of resilient flooring market share in 2014.



SOURCE: CATALINA RESEARCH

RESILIENT FLOORING

SPEC RATE BY TOP FIVE REGIONS
(NOVEMBER 2013 TO OCTOBER 2014)



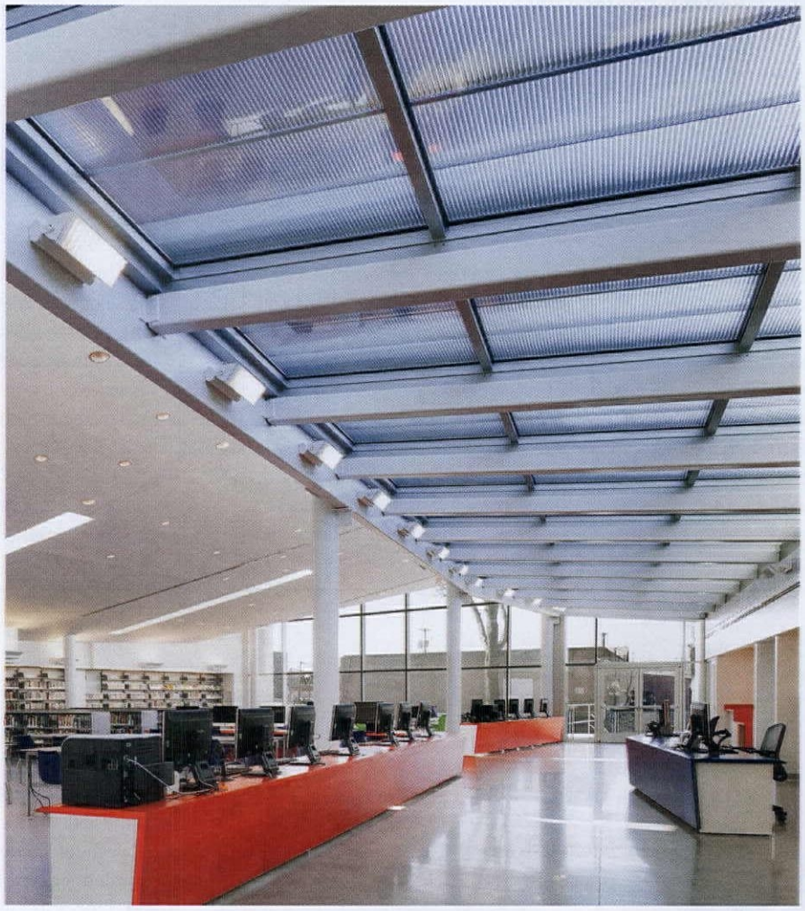
SOURCE: DODGE DATA & ANALYTICS

Reading Light

OPTIMIZING NATURAL light is now so fundamental to sustainable design and construction that even libraries, once steeped in shadow, are becoming veritable cathedrals of illumination.

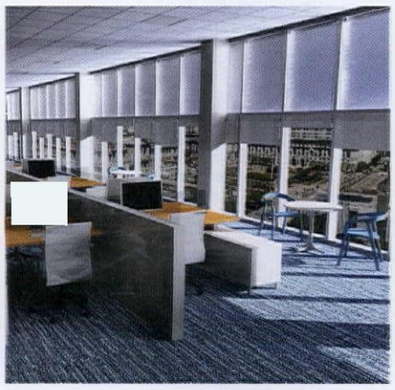
One recent example is a New York Public Library branch in Staten Island. Designed by A*PT Architecture/Atelier Pagnamenta Torriani, the Mariners Harbor Library "derives it asymmetrical two-volume form from the biological image of an open oyster shell, its roof's rough exterior concealing bright pearls of knowledge within," according to partner Anna Torriani. "The metaphor of knowledge as enlightenment is literalized through ample glazing and daylight."

To maximize the light while controlling glare, A*PT chose Okalux's Okasolar S Functional Glass for the overhead glazing. "The technical glass roof incorporates calibrated louvers that allow the northern light to come through while deflecting southern light," Torriani explains, "thereby avoiding glare inside the space. The staff and users enjoy the natural light present through the building and the views to the street, trees, and sky." *—Allison Craig*



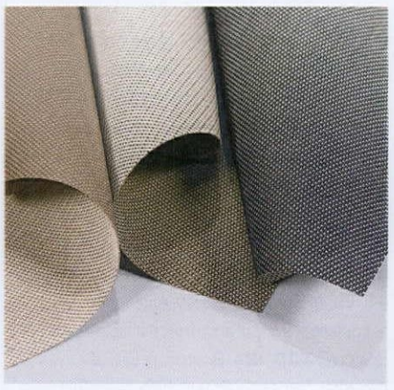
SEEKING ENLIGHTENMENT At the Mariners Harbor, Staten Island, branch of the New York Public Library, Okasolar S functional glass from Okalux provides optimal glare and sun protection while still flooding the space with natural light.

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END



DAYLIGHT REDIRECTING FILM

MANUFACTURER: 3M
PERFORMANCE: This window film increases natural light penetration and increases occupant comfort by using microreplicated structures within the film to optically redirect light to the ceiling. The film is contained within a glazing system and requires no additional cleaning or maintenance.
PRICE RANGE: $$
APPLICATIONS: Commercial projects including offices and schools.
3M.COM
(SNAP #28)

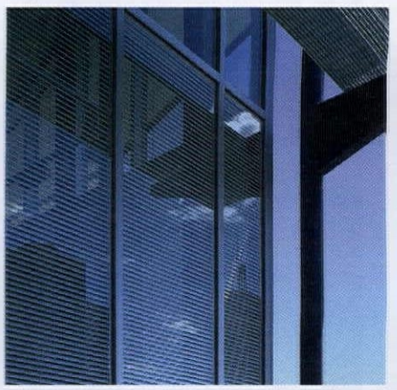


SHEERWEAVE 4901 AND 4903

MANUFACTURER: Phifer
PERFORMANCE: Newly added to Phifer's SheerWeave line, styles 4901 and 4903 are thin, lightweight polyester-twill shade fabrics. Elegantly managing solar heat and glare, style 4901 has an openness factor of 1%; 4903 boasts 3%.
PRICE RANGE: $$
APPLICATIONS: Both are available in 13 neutral tones with a complementary color on the reverse, allowing it to blend into any interior that requires sun control.
PHIFER.COM
(SNAP #29)

E-SERIES

MANUFACTURER: Kalwall
PERFORMANCE: This translucent window wall system is hurricane-rated and integrates clear glass sections. The 5-foot-wide clear glazing can be specified up to 3 feet high.
PRICE RANGE: $$
APPLICATIONS: Ideal for high-performance institutional or industrial applications desiring hurricane-rated systems and diffused light.
KALWALL.COM
(SNAP #30)



VISION CONTROL INTEGRATED LOUVERS

MANUFACTURER: Unicel Architectural
PERFORMANCE: This hermetically sealed cordless system, which integrates louvers between glass, has been updated to offer faster gear operation, fire-rated trims, and argon-filled air space for thermal performance.
PRICE RANGE: $$
APPLICATIONS: Ideal for a range of projects—commercial offices, schools, museums, libraries—and interior or exterior use.
UNICELARCHITECTURAL.COM
(SNAP #31)

= ECO-FRIENDLY ATTRIBUTES

SNAP BACK: DAYLIGHTING + SUN CONTROL

KONSTANTINOS PAPAMICHAEL
Professor/ Co-Director
California Lighting Technology Center
Davis, California

"The main trend from my R&D perspective is automatic management of daylight as it enters building spaces, based on occupancy and status of electric lighting and HVAC systems. I solve daylighting problems through solutions aimed at realizing the full potential of smart windows and skylights. The ultimate goal is to enable windows and skylights to share information."

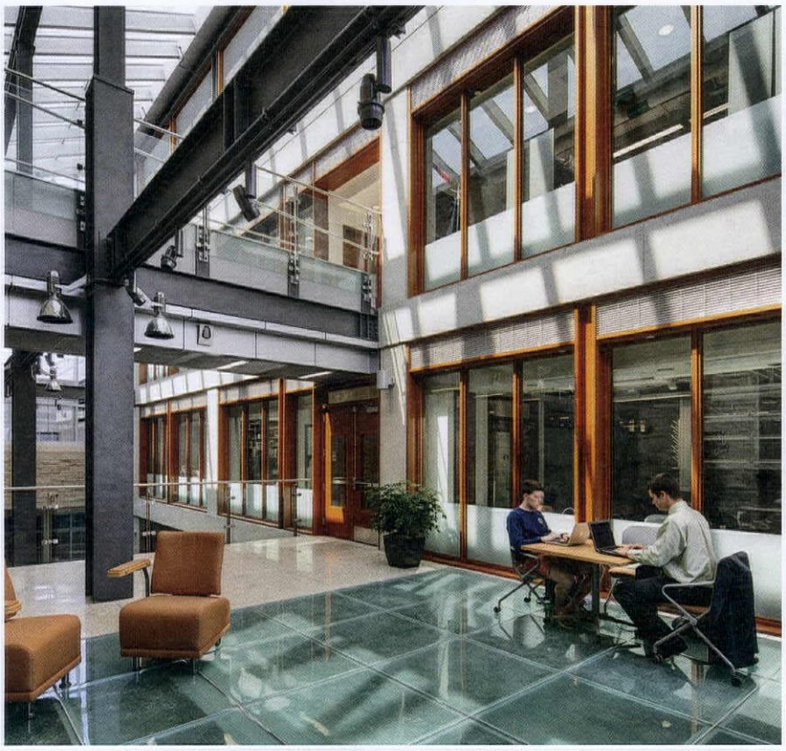
LANCE SHIELDS
Associate
HKS
Salt Lake City

"My sense is that this product area is trending toward solutions integral to building systems. Owners are more conscious about sustainability and architects are looking for creative and integrated solutions that complement the project and the bottom line. Pleotint by Suntuitive is a product with exciting potential. It worked well for us, and our client is very happy with the result."

ANDREW WOLFRAM
Principal
TEF Design
San Francisco

"A strong trend is [installing] exterior sunshades to keep direct sun out rather than trying to control it with shades inside. There's a movement toward clearer, less tinted glazing. But to achieve that and prevent glare, you need to control the sun from the outside. These solutions are expensive, so it's up to the architect to demonstrate the long-term savings."

Walking on the (Glass) Ceiling



SHINING THROUGH Flad Architects used TGP's translucent Fireframes ClearFloor System to allow daylight to penetrate from the fifth floor to the ground floor of Northwestern University's new Engineering Life Sciences building.

ONE OF THE LARGEST academic buildings in the world, **Northwestern University's Technological Institute** has undergone a bevy of renovations over the last 65 years to keep pace with its ever-expanding, cutting-edge scientific work. Most recently, **Flad Architects** took on the design of the institute's **Engineering Life Sciences** infill, a five-story multidisciplinary space bridging two existing building wings.

The challenge was to achieve adequate, balanced lighting while meeting fire- and life-safety codes for the infill. This was critical, says project architect Brad Garrett, because "direct sunlight could damage the highly specialized instruments in the nuclear magnetic resonance [NMR] lab."

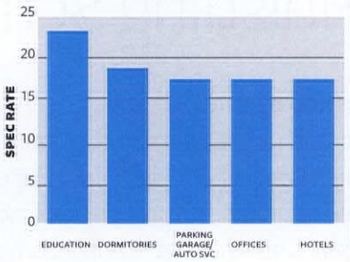
The firm's solution: design a large central atrium that allows daylight to spill down through the floors—and use **Technical Glass Product**'s translucent **Fireframes ClearFloor System** to address the code, equipment protection, and privacy issues.

"The soft, milky appearance of the fire-rated glass floor system was really important from a daylighting perspective," Garrett explains. "The pattern on the glass creates just enough opacity to allow for the transfer of soft, even light." —*AC*

SNAPSHOTS

SUNSHADES

SPEC RATE BY PROJECT TYPE
(NOVEMBER 2013 TO OCTOBER 2014)



SOURCE: DODGE DATA & ANALYTICS

TRANSLUCENT WALL AND ROOF ASSEMBLY MANUFACTURERS TO WATCH

- KALWALL CORPORATION
- CPI DAYLIGHTING
- WASCO PRODUCTS

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

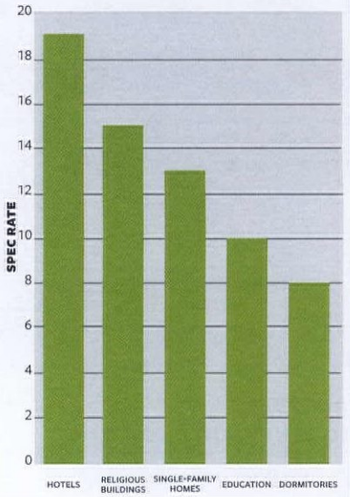
SNAP MATH

In a study on daylighting and retail sales, the Heschong Mahone Group noted **a correlation between hours of useful daylight and retail sales**, with some stores noting an increase in sales of up to 40% during such hours.

SOURCE: AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION

DAYLIGHTING PRODUCTS

SPEC RATE BY PROJECT TYPE
(NOVEMBER 2013 TO OCTOBER 2014)



SOURCE: DODGE DATA & ANALYTICS

WINDOW TREATMENT MANUFACTURERS TO WATCH

- SPRINGS WINDOW FASHIONS
- MARIAK CONTRACT WINDOW TREATMENTS
- DRAPER

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

Finishing School

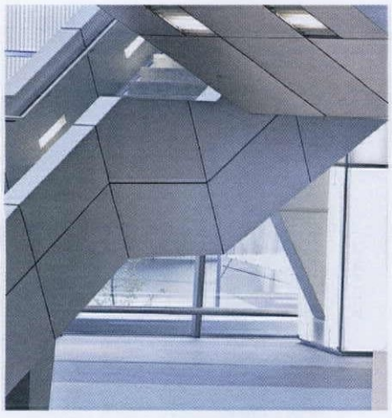
ASKED BY THE Fort Smith, Arkansas, school board to spiff up the city's tired, circa-1969 Chaffin Junior High School building, local architect Michael Johnson contemplated its orange brick facade...and lamented its lack of windows. "People complained it looked like a prison, not a school," says Johnson, the founder of Fort Smith's Architecture Plus.

Taking cues from the school colors—green and gold—Johnson decided to clad portions of the exterior in aluminum panels finished in four shades of Valspar's Kendall Green. Next he embellished a new entrance with random-width aluminum-tube baguettes produced by Equus Metals and coated by the Texas Finishing Company. "These are aluminum tubes that serve as shading devices, in Valspar bronze, terra-cotta, green, and gold," he explains. "Since [the color is] baked on, it's a more permanent finish with a lifespan of 20 to 25 years."

The new design scored big with the client and occupants alike. "My stepson went to school there," Johnson says, "and his friends say I did a cool thing." Which was precisely the point. *—J. Michael Welton*

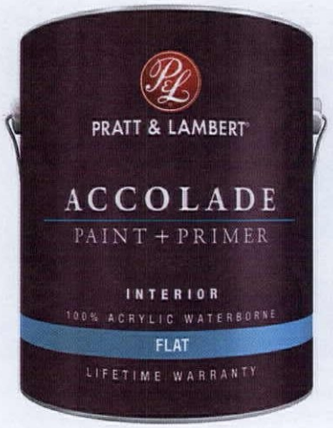
WINNING COLORS Designed by Michael Johnson of Architecture Plus, the renovation and expansion of Chaffin Junior High School in Fort Smith, Arkansas, features wall panels, accents, and baguettes finished in Valspar bronze, green, gold, and terra-cotta.

KEY $ = VALUE, $$ = MID-RANGE, $$$ = HIGH-END



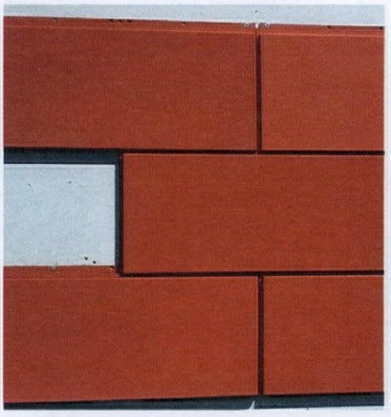
VALGREEN BIORENEWABLE COATING

MANUFACTURER: Valspar
PERFORMANCE: The product's resin system contains up to 30 percent biorenewable raw materials. Offered in a range of colors and gloss grades.
PRICE RANGE: $$
APPLICATIONS: A polyester topcoat system for interior coil applications such as ceiling profiles and building walls.
VALSPAR.COM
(SNAP #32)



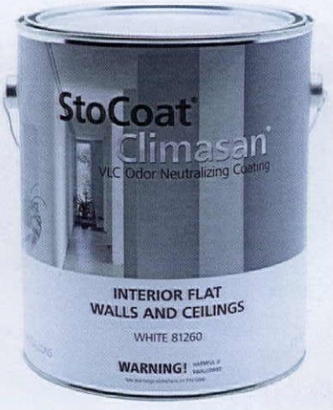
ACCOLADE

MANUFACTURER: Pratt & Lambert
PERFORMANCE: Serves as both primer and paint, reducing job time. Its wash- and scrubbable finish makes for easy maintenance.
PRICE RANGE: $$–$$$
APPLICATIONS: Can be used in interior settings on properly prepared walls, ceilings, and trim as well as on substrates like drywall, plaster, wood, masonry, metal, and previously painted surfaces.
PRATTANDLAMBERT.COM
(SNAP #33)



TERRA-COTTA FINISH

MANUFACTURER: Linetec
PERFORMANCE: Utilizes a 70 percent resin-based coating for high levels of performance in an exterior environment, with a texture additive to replicate the feel of terra-cotta. Tested for resistance to humidity, color change, chalk, gloss loss, and chemicals.
PRICE RANGE: $$
APPLICATIONS: Metal-panel walls and building facades where a terra-cotta effect is desired. Four tones available.
LINETEC.COM
(SNAP #34)



CLIMASAN

MANUFACTURER: Sto Corp
PERFORMANCE: The paint contains an odor-neutralizing agent that activates when exposed to natural or artificial light. It forms a chemical reaction with pollutants in the atmosphere and neutralizes them.
PRICE RANGE: $$
APPLICATIONS: Interior walls and ceilings of restaurants, offices, bathrooms, gymnasiums, assisted-living facilities, and efficiency hotels.
STOCORP.COM
(SNAP #35)

= ECO-FRIENDLY ATTRIBUTES

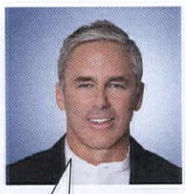
SNAP BACK: PAINTS + COATINGS

RICARDO ALVAREZ-DIAZ
Founder and Principal
Alvarez-Diaz & Villalon
San Juan, Puerto Rico

"Colors are important for psychological and health reasons. Now a good 80 percent of our clientele comes in asking for low or no VOC; ten years ago, it was 15 percent. They are educated and doing my work themselves, since my job is to educate them. And, they're willing to spend a little more for a better quality of life."

JAMES BIBER
Founder and Principal
Biber Architects
New York City

"White has been eclipsed by more saturated surfaces. We use a lot of blacks that are not quite black but beyond charcoal gray. People look fantastic next to it—not quite the Charlie Rose effect, but anyone who sits in front of it looks great. There's a sense of isolation that's really helpful, a silhouette that's really powerful."



CAMPION PLATT
Founder and Principal
Campion Platt
New York City

"I've used lavender for a long time, and I'm seeing more saturated versions of it as well as warmer hues, because cool ones are of the past. A really rich tone on the wall can make a room feel inviting. I'm also seeing a lot of orange and more bright bursts of color, rather than 300 variations of white."

A Primer on the Latest Self-Priming Paints

TIME SAVER With primer built-in, Behr Marquee can quickly transform a space. The interior paint comes in an array of colors, such as Misty Isle (shown).

NONEXISTENT FIVE YEARS AGO, self-priming products are rapidly evolving because they're so simple to use.

"The paint allows consumers to skip the step of applying a separate primer in most cases, so they save time and money while still getting high-quality results," says Debbie Zietlow, product manager at **Pratt & Lambert**. Her firm offers a line of three self-priming products, among them Accolade (see opposite) and RedSeal, a premium latex coating for interiors that comes in flat, eggshell, and semigloss finishes.

Other popular options for interiors are **Behr**'s Marquee, which is low VOC and available in an impressive palette of 372 colors, and Emerald by **Sherwin-Williams**, an acrylic-latex paint and primer in one that features stain-blocking technology.

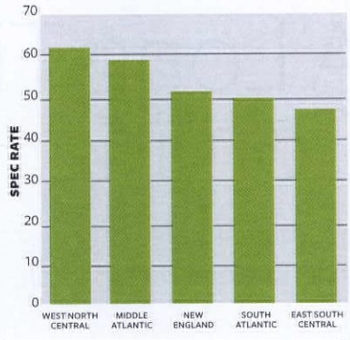
"First we saw heavy demand for self-priming paints in the consumer-retail channel, like Lowe's and Home Depot," says Dan Passinault, senior marketing manager for products at **PPG Architectural Coatings**. "Now it's gone beyond that, into professional painting and facility maintenance." PPG's offering of 12 products is divided into paint/primers in one and self-priming paints. What's the difference? According to Passinault, "Paint/primer in one typically has higher volume solids, so it's more durable and washable." —*JMW*

PHOTOGRAPH: COURTESY BEHR

SNAPSHOTS

PAINTS + COATINGS

SPEC RATE BY TOP FIVE REGIONS
(NOVEMBER 2013 TO OCTOBER 2014)



SOURCE: DODGE DATA & ANALYTICS

NEW MATH

Forecasters estimate that the global decorative paints and coatings market will expand at a compound **annual growth rate of 5.76%** during the period from 2014 to 2019.

SOURCE: RESEARCHANDMARKETS.COM

PAINT MANUFACTURERS TO WATCH

PPG ARCHITECTURAL COATINGS
GLIDDEN PROFESSIONAL
SHERWIN-WILLIAMS

SOURCE: DOWNLOADS FROM **SWEETS.COM** OVER A 12-MONTH PERIOD

NEW MATH

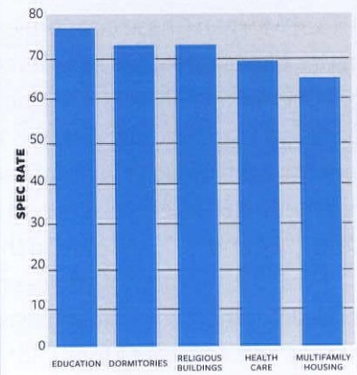
$23.5 BILLION

Product shipments by U.S. paint and coating producers totalled an estimated $23.5 billion in 2013, **up by 2.4%, or $545 million**, from 2012.

SOURCE: AMERICAN COATINGS ASSOCIATION

PAINTS + COATINGS

SPEC RATE BY PROJECT TYPE
(NOVEMBER 2013 TO OCTOBER 2014)



SOURCE: DODGE DATA & ANALYTICS

A Long Time Coming

In the Great Lakes region, manufacturers are finally seeing a return to productivity.

BY J. MICHAEL WELTON

FOR A NUMBER of Great Lakes building-products manufacturers, the first nine months of 2008 were highly profitable; the year was positively humming along. Then came October and November.

Business for Elkhorn, Wisconsin–based Millennium Tiles dropped by 50 to 60 percent, says company president Walter Hauk. Small job shops and fabricators began to go under as larger manufacturers took work in-house. According to a 2011 Brookings Institution report, earnings started taking a dive too, with inflation-adjusted average earnings falling in 17 of 21 Great Lakes metropolitan areas between the recession's onset and the first quarter of 2011. The decline even occurred across urban areas strong in education, government, and auto manufacturing.

Then, in 2013, construction starts and contracts began to slowly curve upward. "In general, things started improving," says Chris Broome, contract market manager for Draper, an Indiana manufacturer of window shades and gym equipment, "but we didn't actually begin to see any of that until 2014 because our products go in at the very end of the construction process."

Today there's a note of optimism in the air. A mid-2014 JPMorgan Chase economic forecast based on U.S. Department of Commerce data indicated that unemployment in the region had fallen to pre-recession levels and applications for unemployment benefits were down as well; moreover, it showed that the Great Lake–area economies would accelerate in 2014 and 2015. As indeed they have.

Mike Beck, director of engineering and new product development for Chicago-based Accurate Perforating and Accurate Metal Fabricating, is looking even further ahead, asserting, "I think the outlook is setting up pretty well for the next five to ten years."

Illinois, Indiana, Michigan, Ohio, Wisconsin

1 **MANUFACTURER:** Millennium Tiles
LOCATION: Elkhorn, Wisconsin
PRODUCTS: Metal siding and roofing shingles, panels, and sheets; LIC-method coloring of stainless steel. **FOUNDED:** 2001 **EMPLOYEES:** 50 **PRICE RANGE:** $
MILLENNIUMTILES.COM

2 **MANUFACTURER:** Accurate Perforating and Accurate Metal Fabricating **LOCATION:** Chicago
PRODUCTS: Perforated building facade panels, ceiling panels, and sunshades. **FOUNDED:** 1942
EMPLOYEES: 200 **PRICE RANGE:** $$ ACCURATEPERFORATING.COM, ACCURATEMETALFAB.COM

3 **MANUFACTURER:** Firestone Building Products
LOCATION: Indianapolis and Beech Grove, Indiana
PRODUCTS: Roofing systems, wall systems, and landscape and lining products. **FOUNDED:** 1980
EMPLOYEES: 1,600+
PRICE RANGE: $–$$$
FIRESTONEBPCO.COM

4 **MANUFACTURER:** Draper
LOCATION: Spiceland, Indiana
PRODUCTS: Projection screens, projector and flat-screen lifts, window shades, exterior solar-control products, and gym equipment. **FOUNDED:** 1902
EMPLOYEES: 500 **PRICE RANGE:** $$ DRAPERINC.COM

5 **MANUFACTURER:** Guardian Industries
LOCATION: Auburn Hills, Michigan
PRODUCTS: Glass for commercial, residential, automotive, and technical industries. **FOUNDED:** 1932
EMPLOYEES: 17,000 **PRICE RANGE:** $–$$$
GUARDIAN.COM

6 **MANUFACTURER:** Owens Corning
LOCATION: Toledo
PRODUCTS: Residential and commercial building materials, glass-fiber reinforcements, and rigid foam insulation. **FOUNDED:** 1938
EMPLOYEES: 15,000 **PRICE RANGE:** $$
OWENSCORNING.COM

7 **MANUFACTURER:** Ametco Manufacturing Corporation
LOCATION: Willoughby, Ohio
PRODUCTS: Perforated metals, architectural fence and gate systems, railings, grilles, screens, louvers, and sunshades. **FOUNDED:** 1966 **EMPLOYEES:** 50 **PRICE RANGE:** $–$$$ AMETCO.COM

8 **MANUFACTURER:** Tectum
LOCATION: Newark, Ohio
PRODUCTS: Wall and ceiling panels and acoustic roof decks. **FOUNDED:** 1949
EMPLOYEES: 100 **PRICE RANGE:** $
TECTUM.COM

SNAPSHOTS

ILLINOIS

Illinois is home to 20,000 manufacturers employing almost 600,000 people and **generating more than 13.5% of the state's GDP**.

Illinois has **the third largest manufacturing output** of all 50 states.

SOURCE: ILLINOIS MANUFACTURING EXCELLENCE CENTER, ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY

INDIANA

Economic activity in Indiana's manufacturing sector **expanded in September 2014 for the 16th consecutive month**.

In April 2014, Indiana had **the highest share of statewide total nonfarm employment in manufacturing** (16.9%) among all states.

SOURCES: STATSINDIANA, UNITED STATES DEPARTMENT OF LABOR

MICHIGAN

Michigan **has more engineers per capita** than any other state. Its research and development centers provide engineering and design support for industries such as automation, materials, defense, and manufacturing systems.

Production of furniture and related products is **a source of 19,200 jobs** in the state.

SOURCES: MICHIGAN ECONOMIC DEVELOPMENT CORPORATION, MICHIGAN.GOV

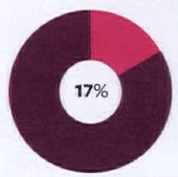
OHIO

$99.83 BILLION
Total manufacturing output in 2014 for Ohio.

Manufacturing's share of state GDP in 2014 was 17.66%.

SOURCE: NATIONAL ASSOCIATION OF MANUFACTURERS

WISCONSIN



More than 9,400 manufacturers in Wisconsin employ over 450,000 workers: nearly **17% of the state's entire employees**.

The state **ranked fifth in the nation** for manufacturing job creation from 2009 through 2012.

SOURCES: NATIONAL ASSOCIATION OF MANUFACTURERS, WISCONSIN ECONOMIC DEVELOPMENT CORPORATION

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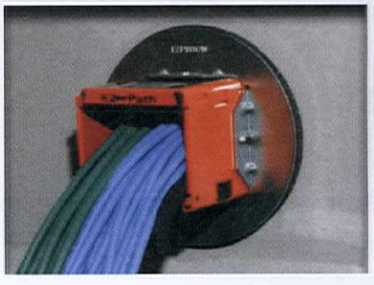

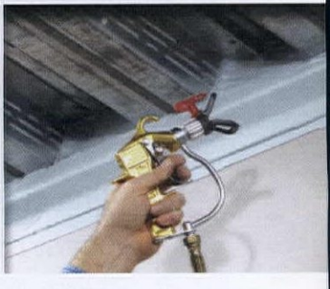

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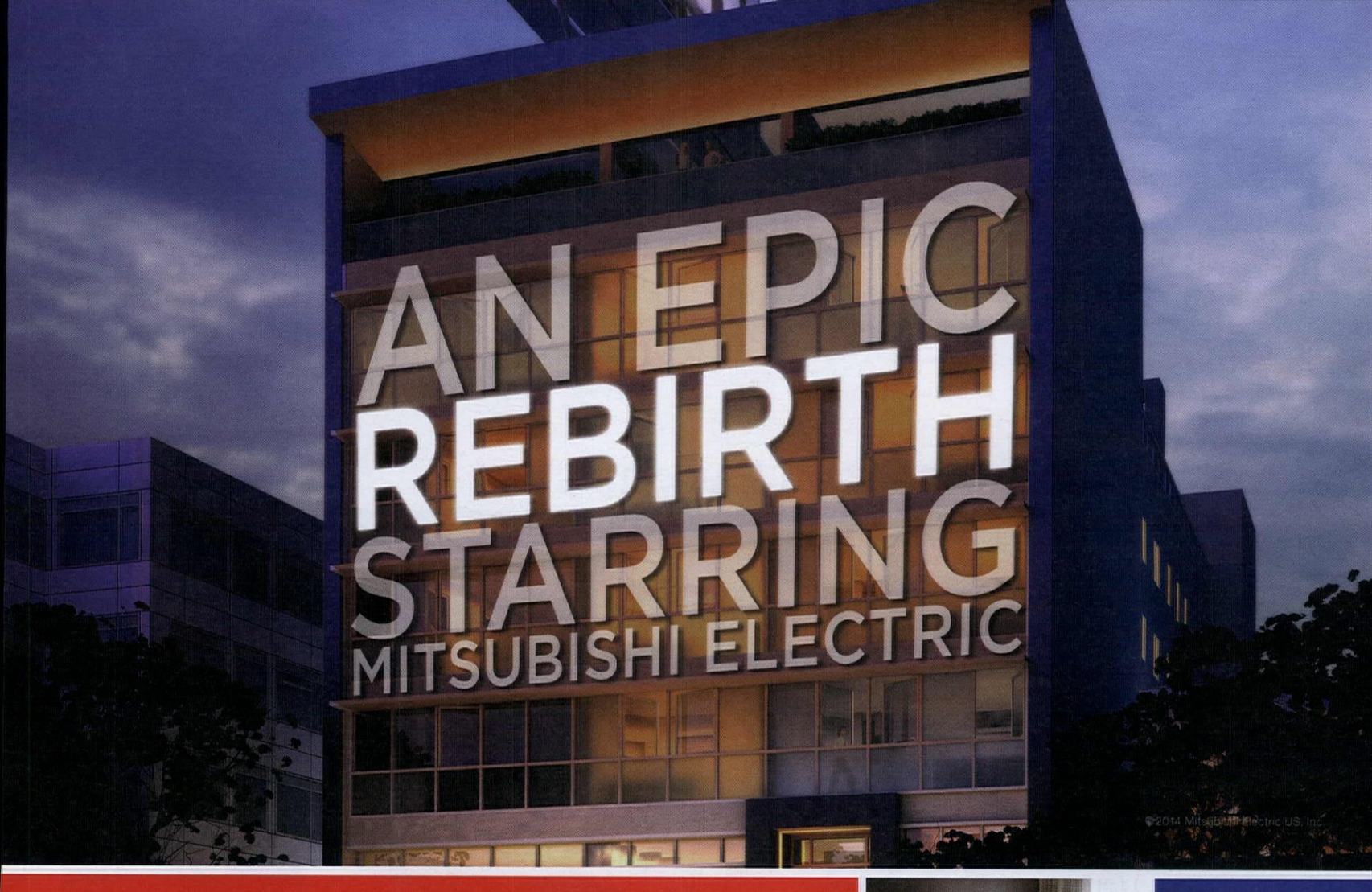
Sou Fujimoto's floating cubes installation wows viewers in Paris.

GreenSource
THE MAGAZINE OF SUSTAINABLE DESIGN

The Art of Designing Green Museums



SUCCESS STORY:
THE HOTEL WILSHIRE, LOS ANGELES

In 2011, in the heart of Los Angeles' Miracle Mile, something truly amazing was born. Amidst the densely populated streets of Hollywood and Beverly Hills stood a relic. An old 1950s medical building destined to be turned into a pile of rubble. What happened next was nothing short of magical.

When real estate developers Michael Orwitz, Spence Mitchum and Justin Khorvash went looking for a location to create their Four Diamond boutique hotel, The Hotel Wilshire, even they couldn't have imagined the hidden gem they would find in this dilapidated six-story medical building. But, after assembling some of the best professionals in the hospitality business, it was clear that their endeavor was about to become a reality.

After finding a design team that shared their views on the importance of sustainability, they set their sights on making The Hotel Wilshire LEED Silver Certified. Which meant air quality, as well as occupant comfort, would be important factors.

Enter Mitsubishi Electric's VRF zoning systems. Mitchum had experience using the VRF zoning system with a previous boutique hotel. He knew the system's flexibility, performance and efficiency would play an important role in obtaining LEED certification for this 74-room boutique hotel.

The Mitsubishi Electric VRF zoning system proved to be a perfect fit. Twelve months after its opening, The Hotel Wilshire boasted a LEED Silver certification, 17 percent less energy use, and one of the best views in L.A. from its chic rooftop pool. Just the type of epic performance you'd expect from a star in the hospitality industry.

PROJECT SUMMARY

Dilapidated six-story building remodel:

- 55 Guest Rooms
- 19 Suites
- 1 Rooftop Penthouse Suite
- 1 Rooftop Pool Deck w/ 500 Sq Ft Patio

Equipment Installed:

- 4 PLFY Ceiling-recessed Indoor Units
- 47 PMFY Ceiling-recessed Cassette Indoor Units
- 39 PEFY Ceiling-concealed Indoor Units
- 7 PURY R2-Series Outdoor Units
- 7 Branch Circuit (BC) Controllers
- 90 PAC Simple MA Remote Controllers
- 2 AG-150A Centralized Controllers

Results:

- LEED Silver Certification. 17 percent less energy consumption. 19 percent cost savings. Four Diamond Ranking by AAA.

Get more details about The Hotel Wilshire and see how Mitsubishi Electric solved other HVAC design challenges at **MitsubishiPro.com.**

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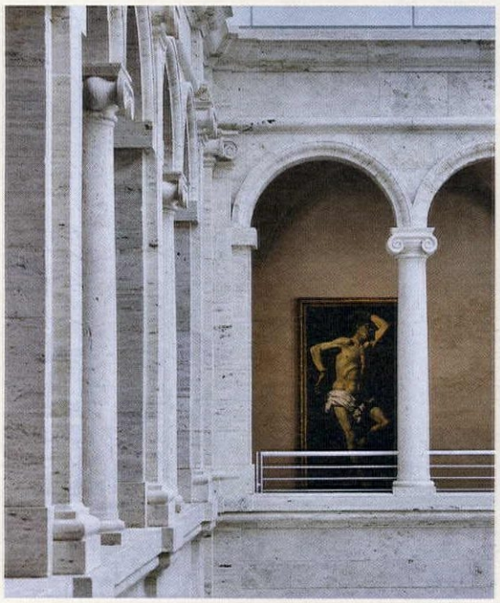
"If art is to nourish the roots of our culture, society must set the artist free to follow his vision wherever it takes him."
–JOHN F. KENNEDY



We explore the new Harvard Art Museums (left), talk to architect Thomas Phifer about his design for the Corning Museum of Glass (above), and offer an array of products, like CPI's translucent daylighting panels (right), for museum applications.

IN THIS ISSUE

Object Lessons

Museums are repositories of the world's most precious objects. Whether priceless paintings or centuries-old artifacts, their display and storage requires the utmost care.

Crucial to that care is constant temperature and humidity levels. Maintaining such precise interior climates takes a heavy toll on a building's mechanical systems. Achieving desirable lighting to properly exhibit a museum's treasures does an equivalent number on electrical loads. Until now, these factors combined to make museums one of the least sustainable building types.

That is beginning to change. This issue examines new and unique strategies for designing green museums by visiting two recently completed buildings and taking a sneak peek at one of the most anticipated museums to open this year.

Renzo Piano is perhaps the most celebrated museum builder on the planet. He is also one of the most innovative. For the Menil Collection in Houston, completed almost 30 years ago, Piano designed a groundbreaking skylight to incorporate natural light in the galleries, a scheme he has honed and developed over decades in other museums. His latest and our first case study, the LEED Gold-pending Harvard Art Museums in Cambridge, Massachusetts, features a dramatically sloping glass roof. Its complex shading system alternately shines daylight on and protects sensitive works in the galleries and upper-level conservation labs.

Architectural firm Gkkworks achieved LEED Platinum certification for its Morgridge Family Exploration Center at the Denver Museum of Nature and Science, thanks in large part to an extremely efficient building envelope design that incorporates cavities to mechanically dry condensation. On the other hand, an addition to the Corning Museum of Glass, opening this spring, uses a single piece of glass as both rainscreen and interior wall. We talk with its architect, Thomas Phifer, in this issue's Q&A about the difficulties of—and opportunities for—making sustainable spaces for art.

As museum design has advanced, so too has technology. Architects can now specify a range of products that help contribute to the sustainable construction and operation of museums. These days, energy-efficient LED lighting is prevalent in galleries, whereas just a few years ago it was unthinkable. Nevertheless, daylight remains the best way to show the spectrum of colors, a clear desire when displaying artwork. From dynamic glass and translucent panels to louvers and fabric shades, our Products section features a number of daylighting options.

Last, we revisit KieranTimberlake's Yale Sculpture Building. In the four-story studio-art building with a single-story gallery, the Philadelphia-based firm extended green design to every level, from the parklike landscape to the green roof, which it started keeping tabs on after the initial planting. We reveal here what the firm's researchers discovered. GS

MORE ONLINE

See more sustainable design features on **architecturalrecord.com**. For the *GreenSource* magazine archives, go to **greensourcemag.com**.

BY JOSEPHINE MINUTILLO

Inside cover illustration by CHRISTIAN MONTENEGRO / DUTCH UNCLE

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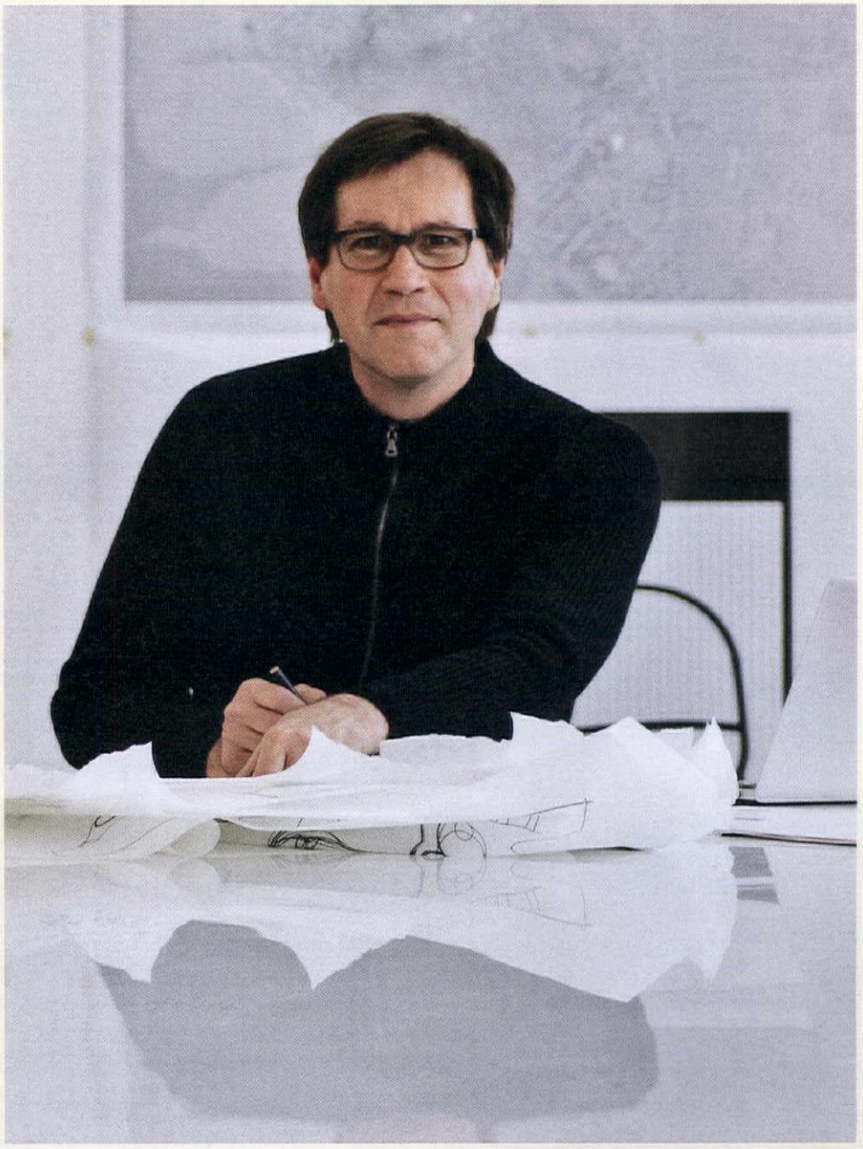
Q&A

Museum Piece

Thomas Phifer makes impeccably detailed buildings. He is the architect of a series of refined residences, beautifully executed corporate and institutional projects, and, increasingly, stunning spaces for art, beginning with his North Carolina Museum of Art, completed in 2010. His minimalist addition to the Corning Museum of Glass in upstate New York is set to open this spring, and a sprawling expansion of the privately commissioned Glenstone museum will open in Maryland next year. *GreenSource* talked with Phifer about the challenges of designing museums, and the unique opportunity Corning offered him.

BY JOSEPHINE MINUTILLO



Thomas Phifer photographed in his New York office by Jason Schmidt.

GREENSOURCE: Designing museums is obviously a complex undertaking. What are the greatest challenges when it comes to making them sustainable buildings?

THOMAS PHIFER: It takes a lot of energy to sustain a museum and keep it within the curatorial limits, meaning within a certain range of 70 degrees and 50 percent humidity. We look closely at mechanical systems—using geothermal energy and heat recovery wheels and letting in more fresh air when possible—to make heating and cooling run more efficiently. But what we've addressed most is daylighting, because an enormous amount of the energy used in a museum comes from lighting the artworks. If you look at a museum's energy consumption, lighting is way up there.

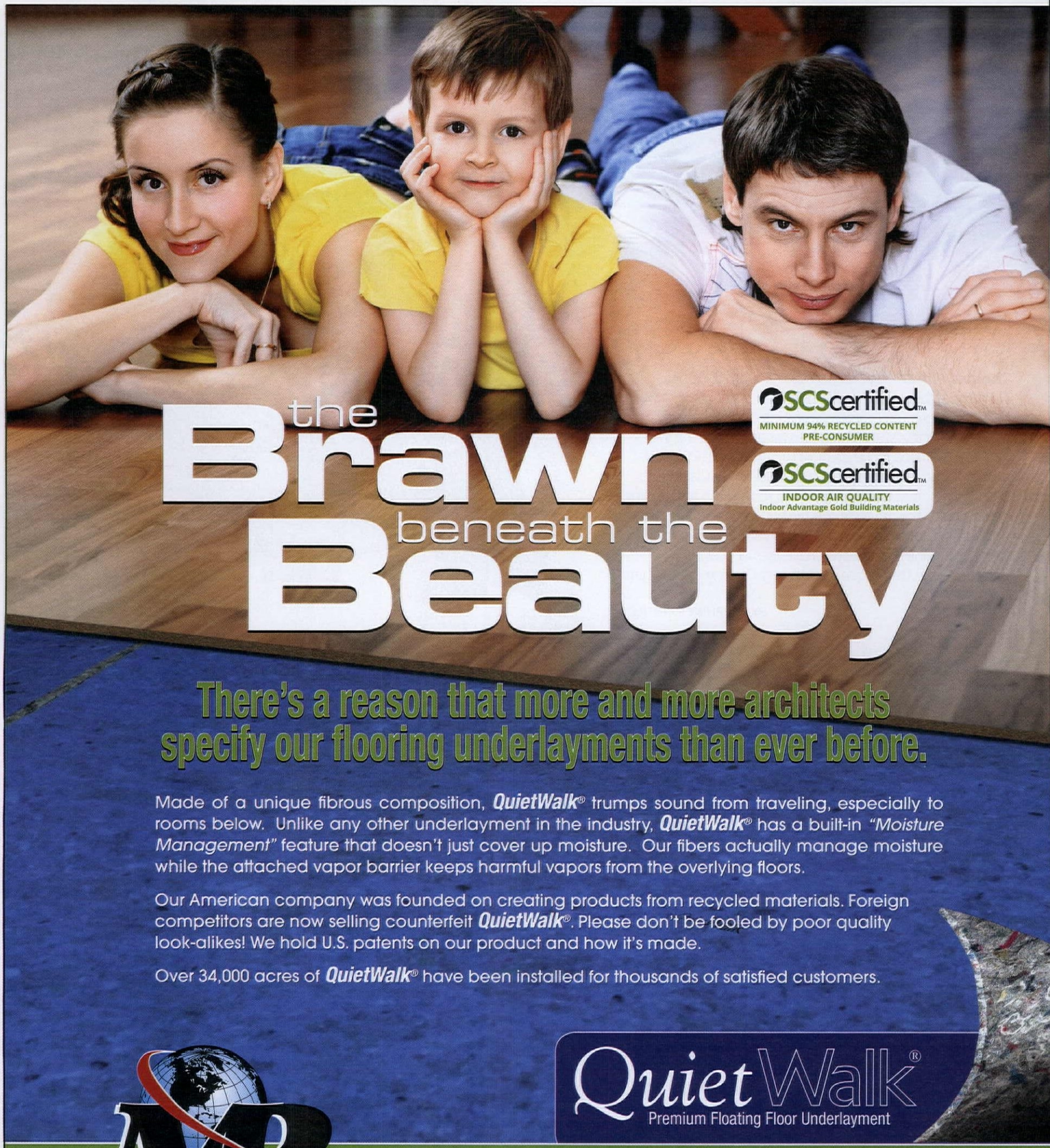
Is that beginning to change as LEDs become more prevalent in galleries? LEDs certainly consume much less energy, but the developments there are very recent. When we did the North Carolina Museum, the lights were not even close to being bright enough. But soon LEDs will be able to measure the color of daylight that enters a space, send that information to the fixture, and match it by slightly adjusting the temperature of the light source. That is coming. For now, we are using available LEDs at Corning and at Glenstone.

The exterior walls and roof of your building for the Corning Museum of Glass are completely glazed. How were you able to achieve that? Because the glass objects being displayed inside are not harmed by light the way other kinds of art are, we can really take advantage of daylight. We're able to turn off the lights, an enormous savings. During the summer, we get up to 475 foot-candles inside. That's a lot of light. By comparison, works on paper are usually limited to 10 foot-candles, painting 30 to 35, and sculpture 60 to 70. It's important when you bring in daylight, however, to trap some of the air, otherwise the radiant heat that comes with it will force you to turn up the air-conditioning. At Corning, there's a cavity at the top of the building between the skylights and the supplemental light fixtures—about a 10-foot-high space—where we isolate hot air and exhaust it from the building so it doesn't come in contact with the air closer to the ground.

Is there a difference between daylight coming in from the side walls and that coming in from overhead? When you have a glass object in silhouette, if you put it up toward a window, say, it goes black. We took a glass Aalto vase out to the street, and it was amazing to see how it came to life with light. The Corning Museum doesn't have paintings that hang on walls; the glass sits on the floor. Rather than directing light toward the walls, we used very thin overhead concrete beams to push daylight toward the floor.

The skylights feature a variety of transparent, translucent, and opaque glass panels in what appears to be a random pattern. What was the intention? We wanted a certain intensity, but in the end, we felt it would be beautiful to let the light be slightly uneven up there. We worked with Arup for over a year to carefully calibrate the amount and character of daylight we let in. Ten percent of the panels are clear glass, to allow rays of sunshine to come in and hit particular areas. The experience of the movement of the sun and the passage of time within a museum brings a certain poetic quality to the space.

> "The experience of the movement of the sun and the passage of time within a museum brings a certain poetic quality to the space."
>
> THOMAS PHIFER
> *Founder, Thomas Phifer and Partners*



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SNAP 98

PRODUCTS

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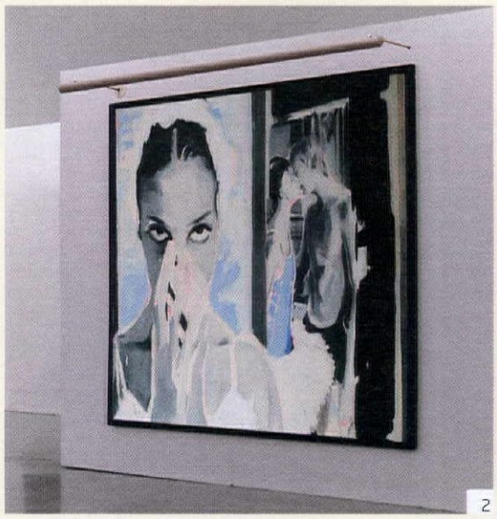
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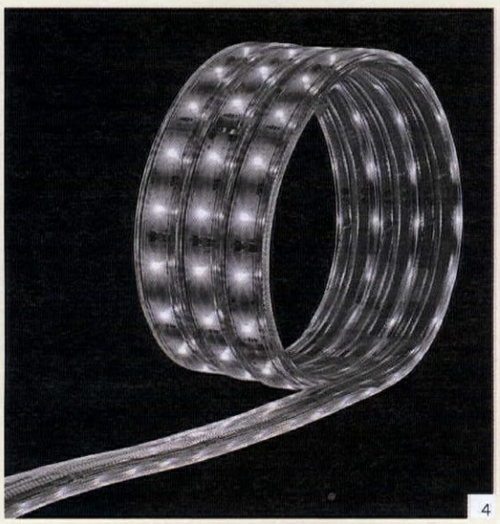
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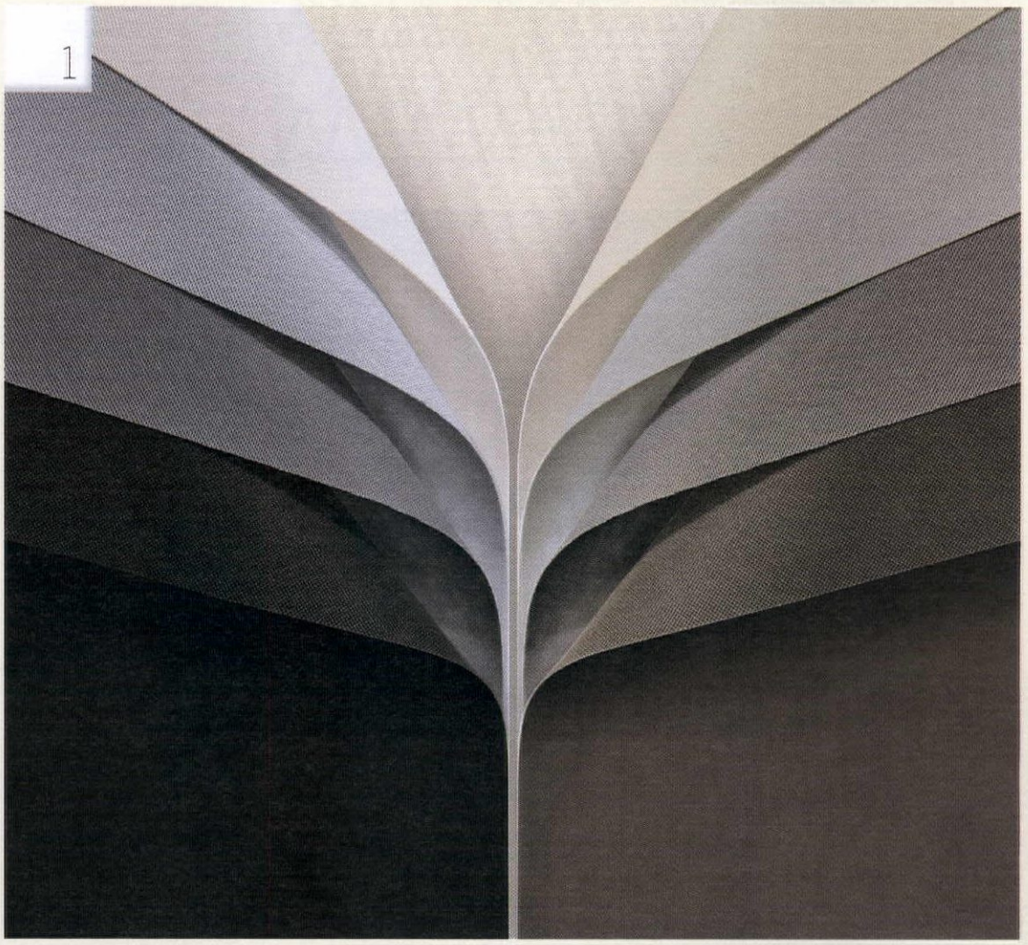
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1 GreenScreen Evolve

Mermet
Cowpens, SC
mermetusa.com

GreenScreen Evolve provides specifiers with shading that offers sustainability and solar performance combined in one fabric. Available in a rich, modern color palette, it is made of 100% PVC-free polyester and 100% recycled materials, a combination of post-industrial and post-consumer plastic waste. Cradle to Cradle certified and Greenguard Gold certified, GreenScreen Evolve has been tested to meet globally recognized performance standards and is RoHS Compliant. **SNAP #40**

2 Kurve Display

Edge Lighting
Chicago, IL
edgelighting.com

The Kurve Display was recognized by the 2014 Next Generation Luminaires Solid State Lighting Design Program, which promotes excellence in the design of energy-efficient LED luminaires for commercial, industrial, and institutional applications. The dimmable linear channel mounts 14 inches from the wall and features a white diffuser that provides uniform light without hot spots. Available from 12 to 120 inches long in a variety of finishes including satin nickel, chrome, antique bronze, satin aluminum, white, and satin black. **SNAP #41**

3 FlexLouver Rack Arm System

Draper
Spiceland, IN
draperinc.com

Part of Draper's line of solar-control products, the FlexLouver Rack Arm System is a nonretractable louver system for use where precise light control is important, such as galleries and museums. The louvers can open and close to control solar energy, light, and glare. Slats are made of aluminum and come in a range of sizes. The system can be used in many glazing situations–horizontal, inclined, vertical–or with any shape of window opening, whether installed on the interior or exterior. **SNAP #42**

4 Infina

Jesco
Port Washington, NY
jescolighting.com

Infina flexible LED lighting operates directly from a standard 120-volt line. A single electric line powers a continuous run of 150 feet or more. Constructed from durable high-temperature, flexible, optically clear thermoplastic, it mounts simply, with snap-in clear polycarbonate channels. Jesco's constant-current LED design provides 50,000 hours or more of operation with 70% or greater lumen maintenance over its lifetime. A full line of accessories, cables, and connectors is available to meet design needs for any installation. **SNAP #43**

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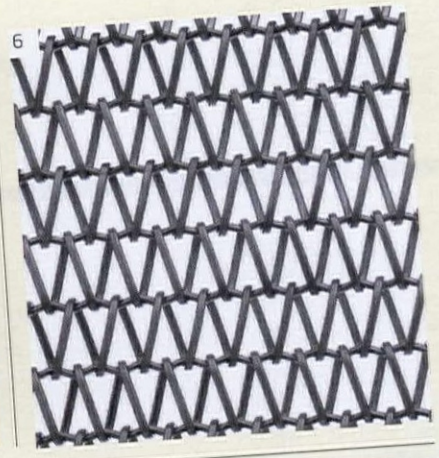

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5 ShadeLoc

MechoSystems
Long Island City, NY
mechosystems.com

ShadeLoc is a specialized zipper-shade system that eliminates light gaps between shade bands by incorporating 2"-wide side and 2½"-wide center channels to capture the zippered edges of shadecloth. The design allows the shade band to resist being pushed or pulled out of place by air pressure and other forces and offers superior room darkening. The motorized system enables the textile to glide smoothly without exposed hardware. The Clark Art Institute in Williamstown, Massachusetts (not shown), features ShadeLoc shades with MechoSystems' SolarTrac automated shading system. **SNAP #44**

6 Mid Shade

Cambridge Architectural
Cambridge, MD
cambridgearchitectural.com

One of five flexible stainless-steel mesh patterns recently introduced by Cambridge Architectural, Mid Shade is ideal for exterior solar shading on building facades. The ¼"-thick, 16-gauge, 1.4-pound-per-square-foot mesh features 54% open area and can be tension mounted using the company's patented attachment systems. Available in a maximum width of 240 inches, Mid Shade is 100% recyclable after use. **SNAP #45**

7 UniQuad

CPI Daylighting
Lake Forest, IL
cpidaylighting.com

UniQuad is a quad-glazed translucent wall panel whose unitized design dramatically reduces installation time. The insulated system, which provides glare-free, diffused daylighting, features an energy-efficient assembly offering the best ratio of insulation to visual transmittance. The double-layer polycarbonate panels, made from 10% post-industrial content, are held by recycled aluminum framing. The product outperforms the spanning capabilities of single-panel systems and reduces the need for additional structural supports. Available in a variety of bicolor options with an easily removable and replaceable exterior skin. **SNAP #46**

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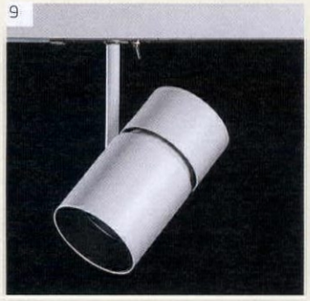

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8 Dynamic Glass

View
Milpitas, CA
viewglass.com
View Dynamic Glass seamlessly transitions through four tints to provide unobstructed views without glare. It can automatically adapt to changing external conditions or be controlled by a user. By admitting daylight and rejecting unwanted solar-heat gain and glare, the glass significantly reduces air-conditioning and lighting costs. View takes standard float glass, applies an electrochromic coating on one of the surfaces, and builds an insulating glass unit. Its installation at the Helmerich Center for American Research in Tulsa (shown) allows visitors to connect to the spectacular landscape it overlooks while protecting museum artifacts from the sun. **SNAP #47**

9 M31

Litelab
Buffalo, NY
litelab.com
The M31 surface luminaire is part of Litelab's Museum Collection. An LED light source sits behind a standard clear lens or an optional photo-etched light-blocking screen. The assembly is housed within the two-piece spun-aluminum body, which allows for high-efficiency passive cooling. An integrated driver permits fixture operation at lower temperatures and longer lamp life. A front-installed, nonrotational, optical matte-black cartridge accommodates up to three accessories, such as a range of lenses, filters, and louvers. Offered in black, white, brushed aluminum, and a custom finish. **SNAP #48**

10 Element LED Multiples

Tech Lighting
Skokie, IL
techlighting.com
The Element LED Multiples system, constructed of heavy-gauge cold rolled steel, features a patent-pending dome assembly that provides a sleek, below-the-ceiling look while allowing a full 35° tilt and 361° rotation at an infinite number of lockable intervals—always maintaining full center beam candlepower. All configurations are available in an open or trimmed format and either a flanged or flangeless ceiling appearance. To easily release, aim, and lock the spot modules, just use their press-release tabs; no tools necessary. **SNAP #49**

CASE STUDY 01

Rising to the Occasion

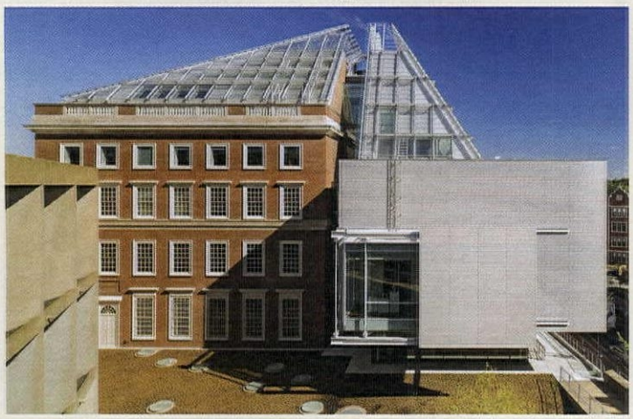
Nearly two decades in the making, Renzo Piano's Harvard Art Museums unite three renowned collections in one state-of-the-art facility.

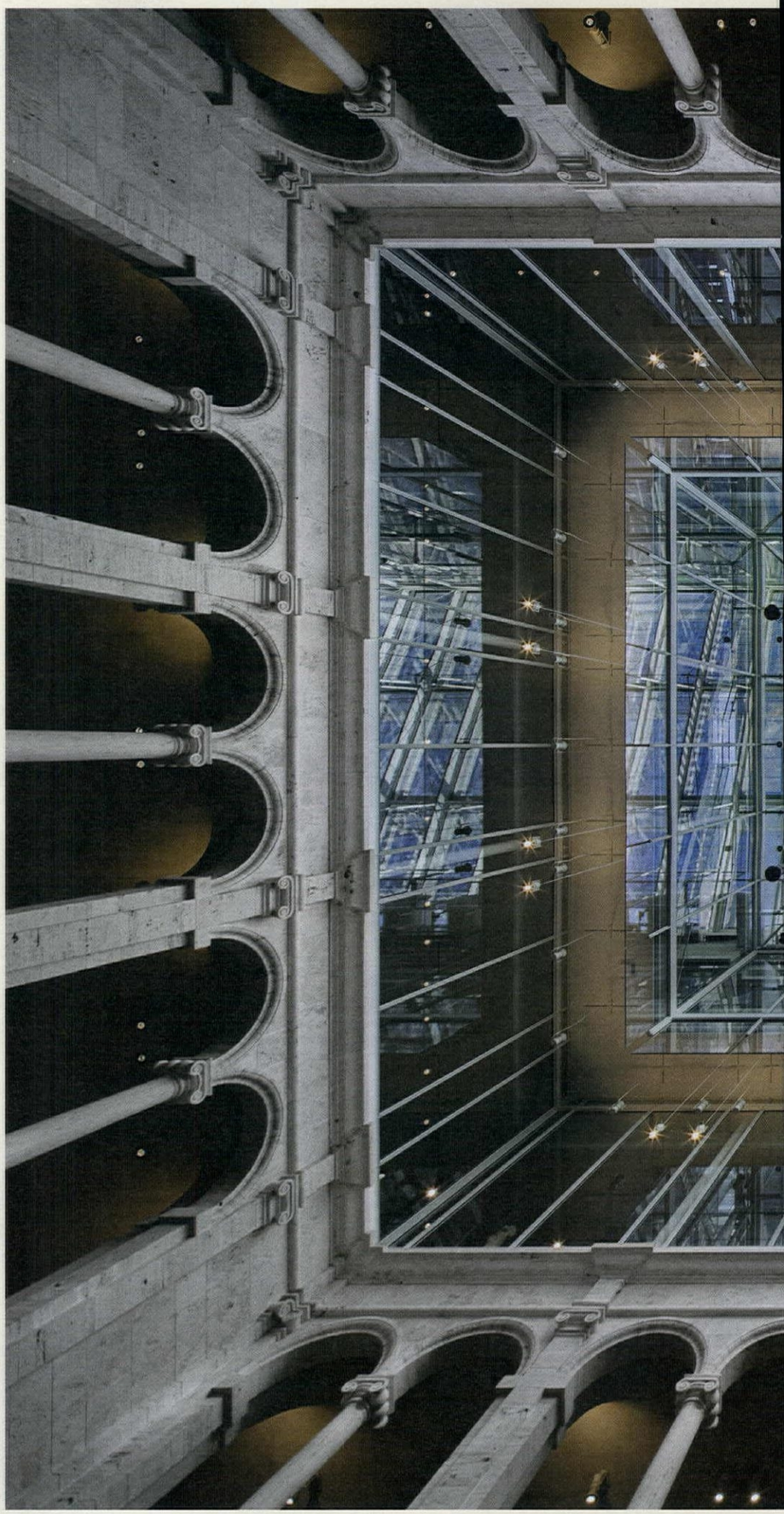
BY JOSEPHINE MINUTILLO

Even for Renzo Piano, who has completed over two dozen museum projects around the world, the brief for the renovation and expansion of the Harvard Art Museums (HAM) presented a particular design challenge. The esteemed university asked the Pritzker prize winner to combine three institutions—the Fogg, Busch-Reisinger, and Arthur M. Sackler museums—under one roof within a tight urban site in Cambridge, Massachusetts.

Opened in November, Piano's solution turns the roof into a unifying and very distinctive design element in the 204,000-square-foot facility, which connects the Fogg's 1927 brick Colonial Revival structure to a boxy wood-clad addition. The dramatically sloping glazed surface, whose angles range from 24 degrees to 60 degrees at the steepest, is not unprecedented on campus. Gund Hall (1972), home to Harvard's Graduate School of Design, just a couple of blocks away from the museum, contains a series of stepped-back architecture studios beneath its pyramidal glass top. Piano, however, located conservation labs just below his roof, whose position over the restored and upwardly extended Calderwood Courtyard also brings daylight into the galleries located within the open and glazed arcades surrounding the atrium, the Fogg's historic heart. Since these spaces either handle or display valuable artworks that are highly sensitive to light—the combined collections consist of approximately 250,000 objects from the ancient world to the present and across all media—Piano developed a complex shading

The cedar-clad addition connects to the Fogg's 1927 building.





NIC LEHOUX

The facility's center, within the restored travertine Calderwood Courtyard, was extended upward with glass arcades on the top three floors and a new glass roof.

TEAM

ARCHITECT Renzo Piano Building Workshop; Payette (architect of record)

Engineers Robert Silman Associates (structural); Arup (m/e/p); Nitsch Engineering (civil)

Consultants Sandy Brown Associates (acoustical); Arup (envelope consulting, energy modeling, sustainability, lighting); Simpson Gumpertz and Heger (envelope consulting); Payette (landscape)

General Contractor Skanska USA Building

SOURCES

Exterior Wood Cladding and Custom Woodwork Mark Richey Woodworking

Skylights and Glazing Josef Gartner

Windows Cheviot Corporation

Special Surfacing Angelini Plastering

Oak Flooring Becht Corporation

Stone Flooring Kenneth Castellucci & Associates

Carpet J+J Flooring Group; Allegheny Contract Flooring

Elevators Otis Elevator Company

Paints and Stains Benjamin Moore; M.L. McDonald

Interior Ambient Lighting iGuzzini; LiteLab

Controls Lutron

Building Management System Siemens

Office Furniture Herman Miller; Creative Office Pavilion

Fixed Seating Poltrona Frau; Creative Office Pavilion

Custom Cabinetry Ebenisterie Beaubois

system to control the amount and type of daylight that enters.

The roof's low-iron, insulated glazing units (IGUs), some as long as 14 feet, are themselves innovative. Fabricated in Germany, the triple-glazed sheets are filled with argon gas rather than air to increase R-values and reduce the possibility of condensation. Sandwiching the IGUs, a translucent interior roller shade is mirrored by a transparent woven fabric on the exterior. Low-iron, laminated glass louvers with a UV filter complete the assembly to halt heat gain and maintain directional quality of the natural light, still the best way to show the spectrum of colors in artwork when controlled. Sensors track light levels, though conservators are also able to adjust shades depending on the location and delicacy of their task.

Daylighting was only one consideration in building a sustainable museum, an undertaking made more difficult by the requirements of a prestigious conservation center that includes energy-intensive fume hoods. Over the course of completing construction documents, Boston-based architect of record Payette switched the supplemental electrical lighting from incandescent bulbs to newly available, high-color-rendering LEDs. They even achieved a LEED innovation credit for using and recycling energy-efficient temporary construction lighting.

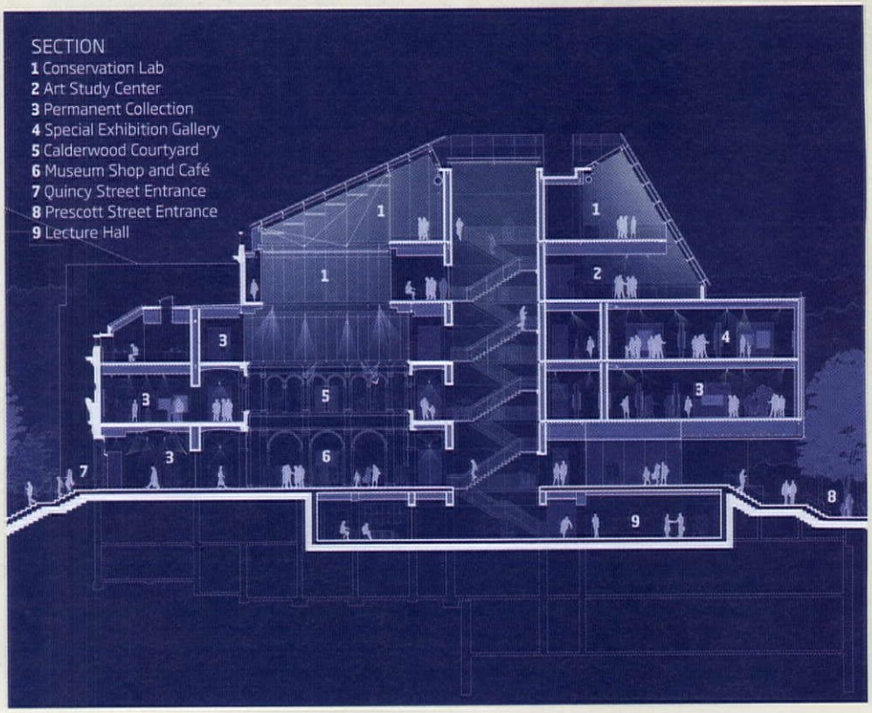
Another credit was earned by recycling 95 percent of the construction debris, much of which came from the demolition of the Busch-Reisinger building (designed by Gwathmey Siegel & Associates in 1991, it previously occupied the snug spot between the Fogg and Le Corbusier's Carpenter Center on Quincy Street). Brick from the torn-down rear wall of the Fogg was reused around the facility's new loading dock. Teak floor planks were sent to reclamation centers, and old display cases were donated to smaller exhibition spaces and libraries in the local community. As part of a sustainable-sites initiative, HAM turned nearby parking spaces into landscape.

The project's aim of achieving LEED Gold certification, expected this winter, is part of the university's campus-wide sustainability initiatives. (In 2008, Harvard established a short-term goal to reduce greenhouse gas emissions 30 percent by 2016; it has also implemented a number of renewable and alternative energy efforts.) The building reduces water use by collecting stormwater for flushing toilets and reclaiming groundwater for irrigation. Water, however, is unwelcome near artwork. The building employs conventional but sophisticated air-handling units instead of chilled beams to avoid the risk of water leakage from that more efficient HVAC system.

The light wood exterior of the addition deliberately contrasts with the red brick of the Fogg and the brut concrete of Le Corbusier's iconic building. "Wood is part of the vernacular architecture of New England," explains Charles Klee, a principal at Payette, adding, "There are numerous examples of wood buildings on Harvard's campus." The architects selected Alaskan yellow cedar because it is dimensionally stable and has tighter growth rings that are well suited to colder climates. The FSC-certified exterior boards act as a rainscreen, uncommon for wood. "Wood is a fantastic material," Piano said of his cladding choice. "You just have to put life into it."

Piano's design animates all parts of the building. Calderwood Courtyard, which Piano likens to an Italian piazza or city square, reemerges as the heart of the new facility, serving as a hub of activity and circulation. Visitors and students entering from either Prescott or Quincy Street can pass through the bustling ground floor, which features a shop and café, without paying admission. In addition to galleries (wHY created the design for the inaugural installation of the permanent collections galleries), the six levels of public space include the Art Study Center, classrooms, and lecture halls. The top floor offers views both into the travertine-clad courtyard and outside to Cambridge and Harvard Yard. And of course, the roof itself is quite literally the crowning achievement of a long and complex project. GS

Galleries within the third-floor arcade overlook Calderwood Courtyard (left). The Straus Center for Conservation and Technical Studies occupies the top floor of the new facility (below).



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CASE STUDY 02

Collector's Item

A new LEED Platinum addition to the Denver Museum of Nature and Science comprises a unique building envelope to safely store and display sensitive artifacts.

BY DAVID SOKOL

The Denver Museum's new addition serves as an entrance for visiting school groups.

Ever since it opened in City Park in 1908, the Denver Museum of Nature and Science (DMNS) has undertaken new construction approximately every decade. The projects were so numerous that the original architecture is now encased within the enlarged building; Beaux-Arts facades are visible as a backdrop to dinosaur bones and interactive displays.

Yet even continual expansion has not kept pace with DMNS's growth as a learning center. In 2005, when the Denver-based office of the multidisciplinary design studio Gkkworks developed a master plan for the institution, "collections were stored in 49 separate locations in the building, none of which had humidity control," recalls facilities director Elaine Harkins. The Morgridge Family Exploration Center (MFEC), completed by Gkkworks a year ago, now houses all 1.5 million objects while cutting energy costs by at least 50 percent from an ASHRAE 90.1-2007 baseline.

The extensive inventory is found within the Rocky Mountain Science and Collections Center that occupies two basement floors of the addition. Aboveground, the 126,000-square-foot wing rises three stories along the south end of the museum and contains education studios, a new Discovery Zone, and temporary galleries that can be combined with preexisting exhibition space to house megashows.

MFEC serves as an entrance for school groups. Approaching the slightly folded volume, students observe how the new wing was shaped to preserve old trees. Convening on the elongated south plaza prior to departure, they can associate changes in building profile, material, or fenestration with the various interior destinations they just visited. And should they peer through the small windows accenting the limestone-clad south elevation, their curiosity will be rewarded with a view into a prep area where recent acquisitions are processed.

Gkkworks principal Maria Cole says that revealing DMNS's inner workings—plus connecting the temporary galleries, accommodating group arrivals, and preserving the City Park landscape—governed the MFEC design. Equally important goals were superior energy savings and a LEED Platinum rating (achieved in July), and these figured prominently throughout the decision-making process.

Indeed, the Denver office of Ambient Energy was tapped for energy modeling early on, and according to Avinash Gautam, one of the consultancy's specialists, "How volumes were laid out was determined from the energy model itself." Placing key program below grade stabilized climate control for the artifacts without draining energy.

Whether tucked away in storage or exhibited upstairs, museum artifacts require a certain amount of moisture in the air. Cole explains, however, "Our climate makes it difficult to humidify an interior space; vapor tends to drive itself into the building envelope." The design team thus relied on another model, forecasting five years of hygrothermal behavior, to determine the best way to prevent water from collecting inside the structure. The envelope surrounding the collections center and galleries features a cavity that mechanically dries condensation. This assembly also yielded energy efficiency, with R-values ranging from 10 for the subterranean walls to 45 at the roof.

Sustainability criteria and the demands of museum operations also aligned concerning nontoxicity of construction materials, as off-gassing poses a threat to artifacts. But synchronization between the two was not perfect. "Daylighting of occupied areas is important in the LEED system, which created a conflict between installing a skylight and breaking through the purge cavity [where water evaporates]," Harkins says. Cole notes that constant temperature and humidity control means that "you can't get easy credits by setting back mechanical systems at nighttime."

Even so, MFEC leverages many more sustainability techniques than not, including 200 kilowatts of rooftop photovoltaics, solar thermal domestic hot water, and 43 percent potable-water reduction. As Gautam says, "The cumulative effect of these strategies is what led to a very high-performing building."

The three-story addition is clad in Indiana limestone.

TEAM

ARCHITECT Gkkworks; Harold Massop (associate architect)

Engineers SSG MEP (electrical); The Lund Partnership (civil); Martin/Martin Consulting Engineers (structural); Arup and BCER Group (mechanical)

Consultants Arup and Ambient Energy (environmental/sustainability); Geiler & Associates (acoustical); Architectural Energy Corporation (commissioning); RoofTech (envelope); BCER Group (life safety); Steve Hefferan (lighting)

General Contractor GH Phipps Construction Company

SOURCES

Brick Acme

Granite Coldspring

Roofing Garland

Curtain Wall Kawneer

Solar Thermal Collectors Next Generation Energy

Glazing Guardian; Sage Glass

Automatic Aluminum Shades Colt

Vapor Retarder Lamtec

Waterproofing Carlisle

Vinyl Flooring Amtico

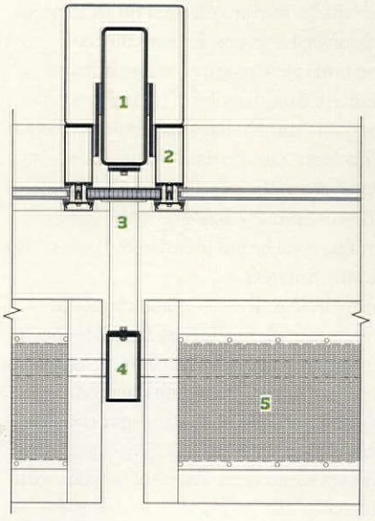
Carpet Lees; Shaw

Elevators ThyssenKrupp

Ceilings Armstrong

Temporary galleries can be combined with preexisting exhibition space to house megashows.

SECTION
1 Mechanical
2 Gallery
3 Discovery Zone
4 Artifact Prep Area
5 Collections Storage
6 Mechanically Ventilated Cavity for Condensation Control
7 Permanent Dewatering System



PLAN DETAIL AT SUNSHADE LOUVERS
1 Structural Steel Column
2 Aluminum Curtain Wall
3 Insulated Aluminum Panel
4 Extruded Aluminum Sunshade Supports
5 Perforated Aluminum Louver Blades

REVISIT

Planting the Seed

A groundbreaking research project looks at the role of vegetative dynamics in the long-term health of a green roof.

BY ANNA FIXSEN

The green roof at Yale in 2011, four years after the first planting.

KieranTimberlake's Stephanie Carlisle gathering specimens.

KieranTimberlake is growing the knowledge of green roof design. Since 2011, the Philadelphia-based architecture firm has been monitoring the green roof on its Yale Sculpture Building in New Haven as part of an ongoing research project. "We're interested in the relationship between what we draw, how that environment changes over time, and what that change means," says Stephanie Carlisle, the environmental researcher who is spearheading the study. "The first question was as simple as, What's up there now?"

This question quickly spurred a larger project. The researchers realized existing vegetated-roof performance data was thin, and the results of ecological studies were not geared specifically to architects. "The typical view is that a green roof is a good piece of infrastructure, good for the environment, and will get some LEED points," says Carlisle, "but that's not pushing the design forward or enhancing it."

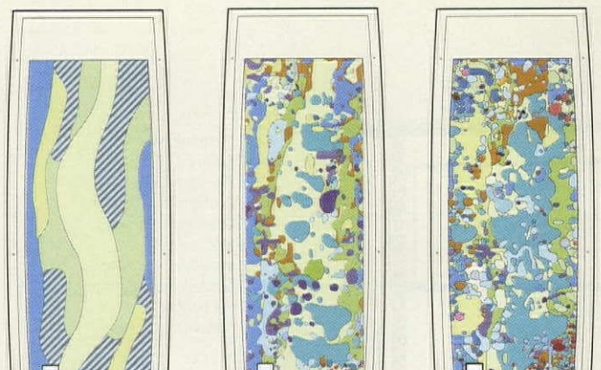
The original planting scheme at Yale, completed in 2007, featured broad ribbons of goldenrod, panic grass, butterfly milkweed, and prairie dropseed across the rectangular surface. But during the summer of 2011, when researchers climbed onto the roof to conduct their initial survey, the original design was barely recognizable, a casualty of maintenance cuts during the recession.

Nevertheless, the overgrown array proved the ideal testing ground for the KieranTimberlake study. The researchers divided the roof into plots according to the relevé method, a technique that measures species presence and percent cover. This involved counting individual stems and visually plotting the mix on a topographic map.

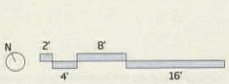
The findings were remarkable. Left to its own devices, the Yale roof experienced a fivefold increase in plant species transported by the wind and by animals. Areas of shade from an oak tree and an adjacent building made for particularly diverse sections. Around the roof hatch, patches of burdock and bird vetch appeared where humans inadvertently dispersed seeds carried on the soles of their shoes.

KieranTimberlake is also conducting similar analysis on projects at Cornell and in the Philadelphia Navy Yard. As data accumulates, Carlisle and her team are excited about the implications for optimized vegetated-roof design and cross-disciplinary dialogue with ecology experts. Their most recent findings will be published in the peer-review journal *Green Roof Ecosystems* later this year.

Past studies show that the hydrological benefits and improved thermal performance green roofs provide are directly linked to the physical properties of the vegetation. KieranTimberlake's observations will inform and enhance green roof design, including the mixture of plants, soil composition, and prescribed maintenance regimens. "We don't just expect the plant beds to live," says Carlisle. "We expect them to work as systems and really provide services. We want to work with these systems and do it intelligently." GS



SPECIES DISTRIBUTION
The arrangement and distribution of species on the Yale roof looks very different today than in 2007, when the greenery was planted. End conditions represent zones of drought and decreased soil moisture. The lower-right corner is now home to a host of bird- and rodent-dispersed species. The unchecked growth of tree species remains the greatest threat to the roof's integrity.



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Many Small Cubes photograph courtesy Philippe Gravier Gallery

EARTHWATCH

Beauty is fleeting. In the case of *Many Small Cubes* by Japanese architect Sou Fujimoto, it is positively nomadic. "The piece roams," says gallerist Philippe Gravier, who commissioned the work. "We recently transplanted *Many Small Cubes* to Asnières-sur-Seine, and it feels like a completely different work than when it first appeared in the Jardins des Tuileries in October."

Before its move from the public garden outside the Louvre to the Paris suburb, over 100,000 people visited the temporary installation, part of Gravier's *Maisons d'édition*. The ongoing series asks celebrated designers to create a simple conceptual sketch, which Gravier subsequently renders as an intricate three-dimensional model. Fujimoto had only three guidelines to keep in mind as he created his itinerant house: the design had to be durable, high-tech, and easily disassembled.

In *Many Small Cubes*, hundreds of anodized-aluminum boxes connect in seemingly haphazard formations, sometimes interlocking at the corner or merely touching sides, letting the composition breathe and interact with its environment. This helps give the whole structure its distinctly floaty, lighter-than-air quality. Various nooks and crannies promote intriguing shadow play as sunlight strikes the metal forms, adding yet more ethereal drama to the proceedings. Wide-eyed onlookers are invited to meander inside and gaze at the arresting arrangement from a variety of angles. "The space is not strictly defined," Fujimoto explains in a statement. "I blur the line between inside and outside."

"I wanted to collaborate with Fujimoto because his work is such a wonderful mixture of architecture and poetry," Gravier says. Like poetry, the piece appears to speak its own language: a nearby projector continually flashes trippy patterns and shapes like clouds and numbers against the cubes. Some of the boxes play host to colorful maple trees, 26 in all. At night, they come roaring to life with a dazzling light show courtesy of light sculptor Patrick Rimoux. According to Gravier, "The message of *Many Small Cubes* seems to be, Live without walls!" GS

BY DEREK DE KOFF

CRITICAL POINT

PARIS, FRANCE
Japanese architect Sou Fujimoto's temporary installation traveled from the Tuileries garden to a suburb northwest of the city.

PROJECT:
Fulton Center – New York, NY

ARCHITECT:
Grimshaw Architects in collaboration with Arup and James Carpenter

SCOPE:
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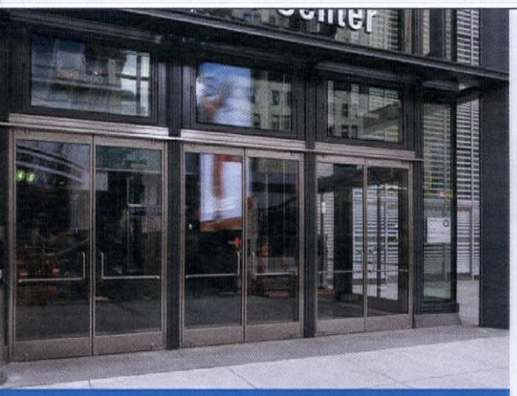

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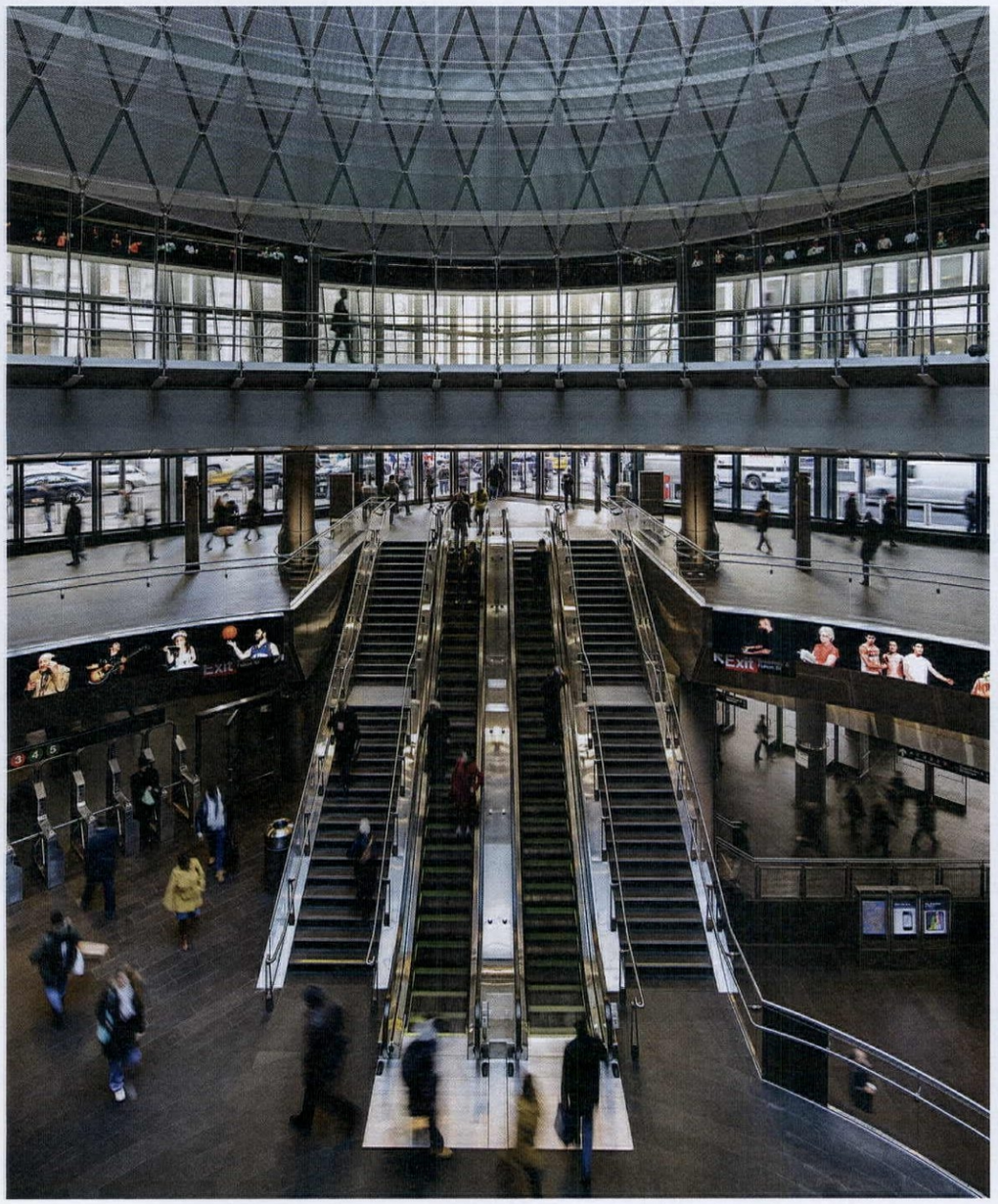
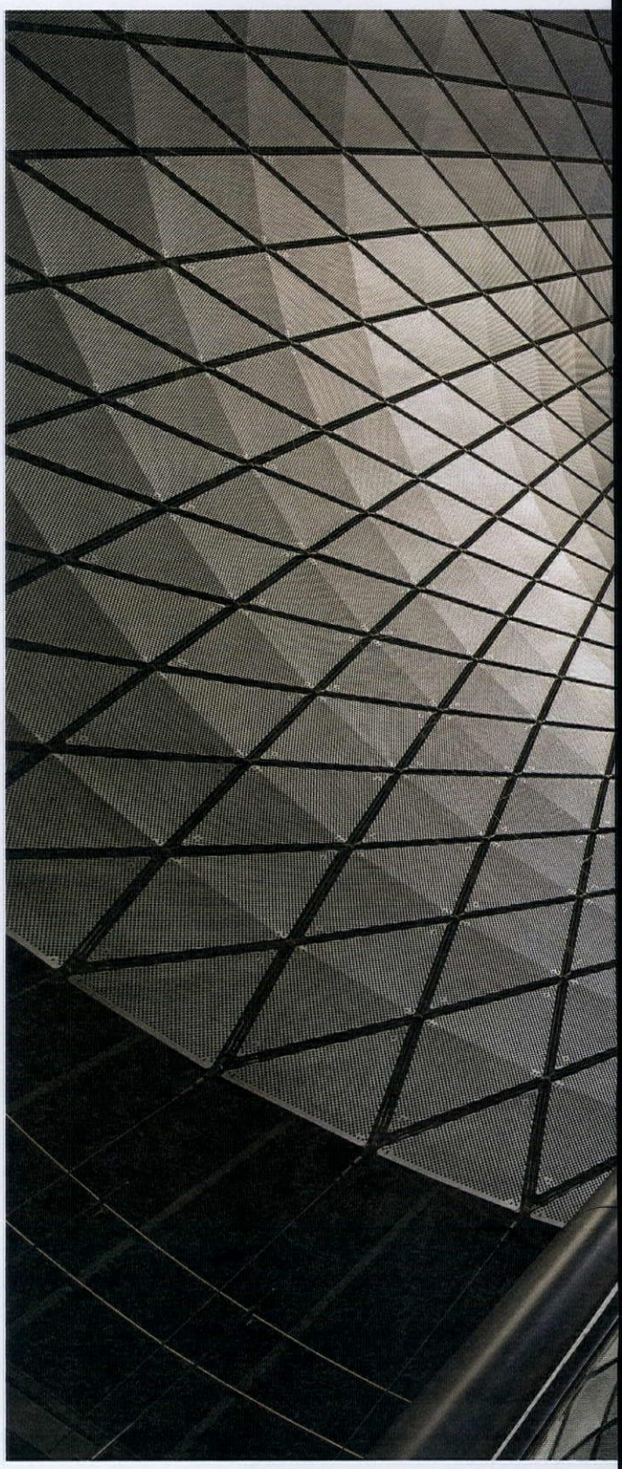




Downtown Looks Up

A multifaceted design team creates a 21st-century transportation hub for New York while preserving an important piece of the city's history.

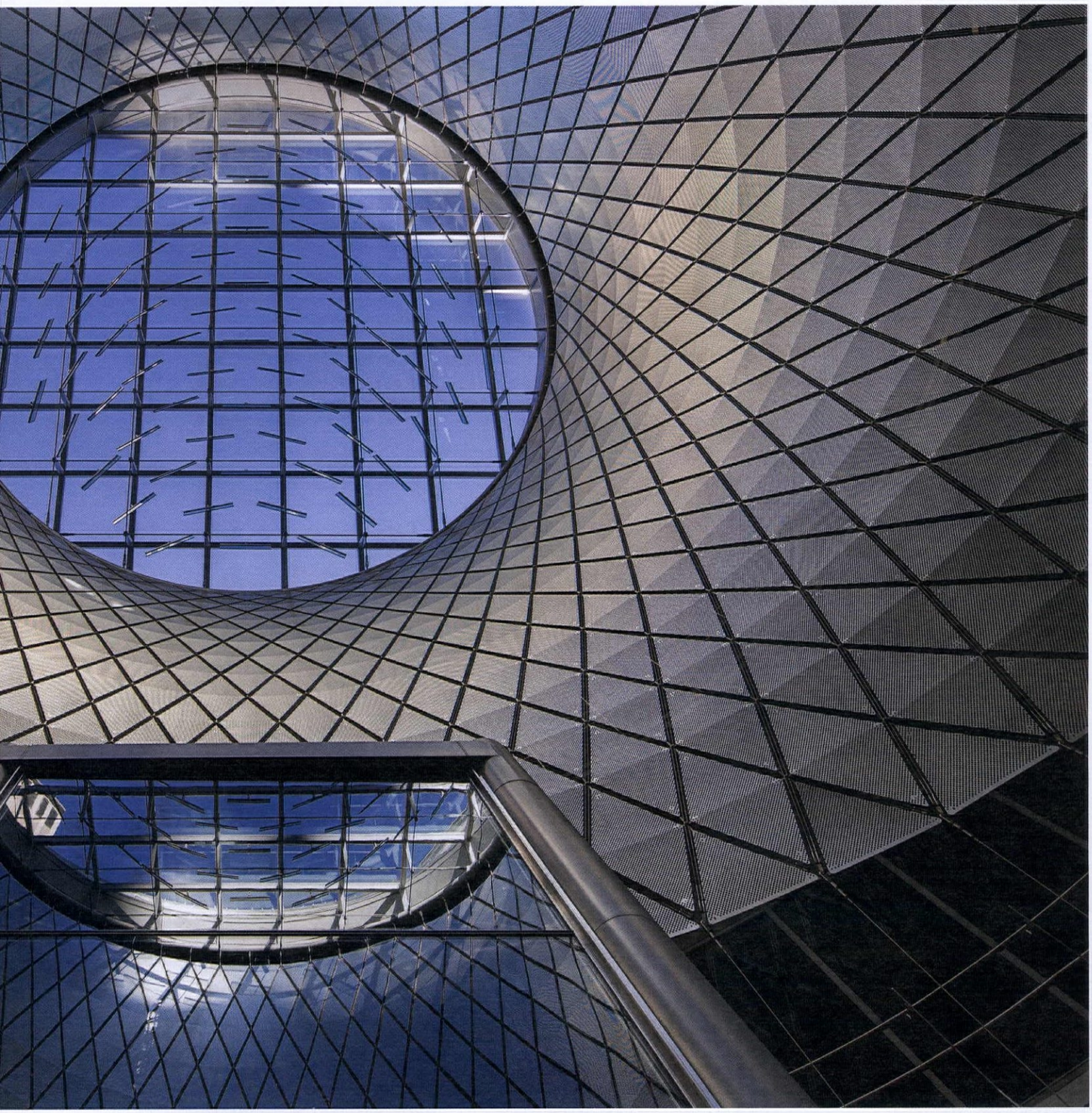
BY JOANN GONCHAR, AIA

AT THE MOST BASIC programmatic level, Fulton Center—New York's new $1.4 billion transit hub—is a way for commuters to descend 40 feet from the street to the platforms for subway lines that overlap each other in a maze-like tangle in Lower Manhattan. One of the primary aims of the station, which opened in November and was conceived in the wake of the September 11 attacks, was to simplify access to these platforms. It was also intended to ease the cumbersome transfers among the lines, which were originally built by separate and competing commercial entities, some more than a century ago.

However, its design team set its sights on grander ambitions. "The aspiration was to create a space with the civic quality of Grand Central—one animated with daylight," says Vincent Chang, a partner at Grimshaw, the architecture firm responsible for Fulton Center's primary aboveground component—a dramatically skylit glass-and-steel pavilion approximately 140 feet square and 100 feet tall.

Execution of Fulton Center's goals—both lofty and pragmatic—was anything but straightforward since the hub comprises several distinct elements: the pavilion; restoration of the Corbin Building, a 125-year-old landmark structure that is now part of the station complex; reconstruction of about two dozen access points to the station's belowground areas from the surrounding streets; and creation of a 350-foot-long underground passage that will connect subway riders to the World Trade Center once the Santiago Calatrava–designed station opens later this year for the PATH, a passenger rail system that links Manhattan and New Jersey. The Fulton project was built under nine separate construction contracts and had three architects of record. In addition to Grimshaw, Page Ayres Cowley Architects was charged with the renovation of Corbin, while HDR|Daniel Frankfurt oversaw the design of the street-level access points.

VIEW ADDITIONAL IMAGES AT ARCHITECTURALRECORD.COM.



SUN CATCHER
Fulton Center's key orientation element is the sky-reflector net, the product of a collaboration between James Carpenter, Grimshaw, and Arup. It consists of a skylight and 952 diamond-shaped perforated aluminum panels held in place by a doubly curved cable net. The device drives daylight into the station's lower levels and is activated by the sky's changing colors.

The team was led by Arup, which served as the project's prime consultant.

With so much complexity and a large volume of traffic (about 300,000 commuters are expected to travel in and out of Fulton Center daily), the design team needed to thoroughly analyze how people would move through the station. "With any transit project, there is a lot of competition for a limited amount of space," says Eric Rivers, a pedestrian planner with Arup. He points to the subway platforms as one problematic area: people use them as corridors as well as for boarding, alighting, and waiting for trains—all at the same time. "The only way to understand it was with a micro-simulation model," he says.

But because there were no crowd simulation tools available that modeled 3-D spaces effectively when the client, the Metropolitan Transit Authority (MTA), selected Arup 11 years ago, the firm developed its own. The software, named MassMotion and now commercially available, allowed the team to populate the project's digital model with "agents," or virtual people, to evaluate how many passengers the facility could handle and predict what route they might take around structural elements or other obstructions, such as columns or walls. In the years since completion of Fulton's design phase, Arup has sufficiently developed the tool so that it can be used to understand how occupants will behave when faced with, for instance, a choice between a crowded escalator and a relatively empty set of steps. It can also help project teams to study the effect of operational changes, such as increasing the frequency of trains arriving at any given platform. "It helps inform design decisions," says Rivers.

The station's key orientation device is a $2.1 million oculus created with James Carpenter, the frequent architectural collaborator who works with glass, among other materials, and the phenomenon of light. His scheme,

CONTINUING EDUCATION: FULTON CENTER

FROM ARCHITECTURAL RECORD

which consisted of a multilayered glass skin for Grimshaw's then dome-shaped skylight, was selected as the result of a 2003 design competition sponsored by MTA Arts and Design. Carpenter's competition entry was the "most carefully considered as part of the architectural concept," explains Andrew Whalley, Grimshaw deputy chairman. Carpenter says he was simply building upon the architects' fundamental goal for a dynamic, light-filled central atrium. "From the very beginning," he explains, "our intent was to bring the sky into the space."

As realized, the oculus is a conical, metal-clad hat that protrudes from the roof of the pavilion and is angled toward the south to harness the maximum amount of sunlight. Within this shell, 952 diamond-shaped perforated aluminum panels are held in place by a net of 112 pairs of ¼-inch-diameter cables that form a skewed hyperbolic paraboloid, or hypar. This doubly curved net, about 50 feet in diameter and 70 feet tall, is tensioned between a compression ring at the top and the second-level floor plate at the bottom. The appearance of the device, called the "sky-reflector net," changes in response to the color and character of the sky.

The installation achieves this effect, in part, because the panels are made of a special optical grade of aluminum that reflects approximately 90 percent of the light that hits it, according to Carpenter. (Stainless steel would reflect about 60 percent, he says.) In addition, because the panels are only ⅛ inch thick and have perforations that range from 20 percent open near the reflector net's top to 48 percent near the bottom, they seem almost gauzy.

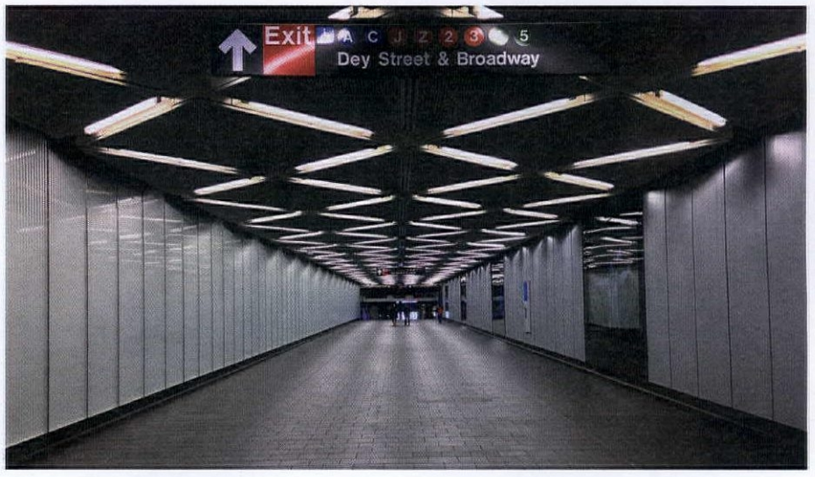
These diaphanous qualities can be appreciated from multiple areas within the station; one is directly below the oculus, on an intermediary floor plate between the street level and the platforms that the architects refer to as the "lily pad" because of its circular shape. Another prime spot is inside the "doughnut"—two glass-enclosed levels that wrap the reflector net and are lifted off the ground plane on V-shaped columns. (The doughnut houses some of the complex's 66,000 square feet of commercial space that retail giant Westfield Group is leasing.) From this vantage point, which is likely to be a restaurant, visitors will have views through the veil-like reflector net of the skylight above and the station's activity below.

To understand the stresses that the delicate panels, the cables, and the node assemblies connecting them would be subject to, the engineers conducted numerous analyses. They even examined—with a computational fluid dynamic (CFD) model, among other types of studies—the effect of variable loads such as those created by thermal gradients and air movement. Since the reflector net was conceived as part of the pavilion's ventilation strategy, these factors could not be ignored: the apparatus behaves like a solar chimney, creating substantial convection and helping pull warm air out through exhaust ducts concealed behind the veil-like panels, explains Zak Kostura, an Arup associate.

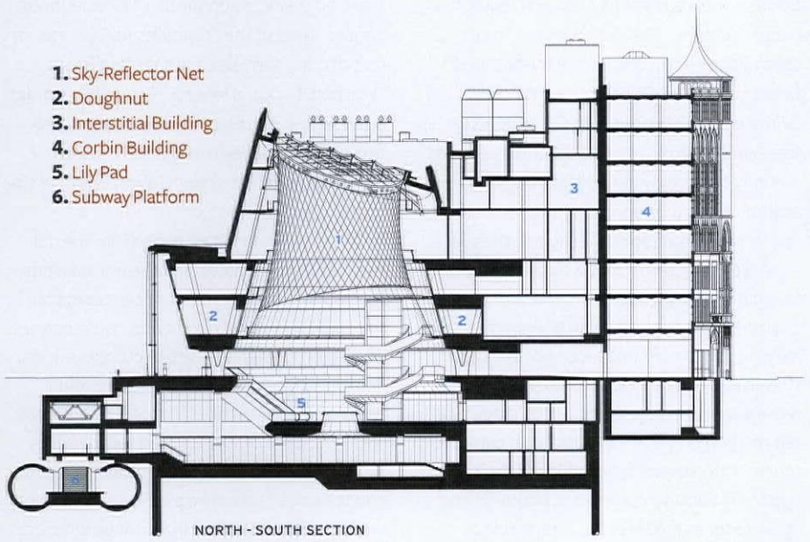
The design of the pavilion and its reflector net were technically demanding, but the $84 million renovation of the Corbin Building, an eight-story masonry and iron structure built in 1889, offered its own set of challenges. Even though it was originally slated for demolition to make way for the new station, its designation as a national landmark in 2003 helped make federal funding available for its comprehensive renovation and integration into the station. It now defines the southern edge of the Fulton Center complex, provides both retail and office space for commercial tenants, and offers subway riders another route to the platforms.

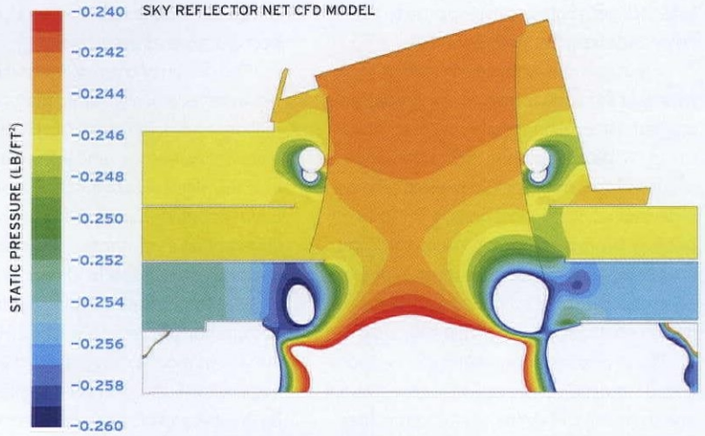
Designed by Francis Hatch Kimball, Corbin

PARTS OF THE WHOLE Fulton Center has multiple pieces, including a glass-and-steel pavilion and the 125-year-old Corbin Building (opposite left and right), as well as a tunnel (below) that will connect to the World Trade Center once a Santiago Calatrava–designed commuter rail station opens there later this year.

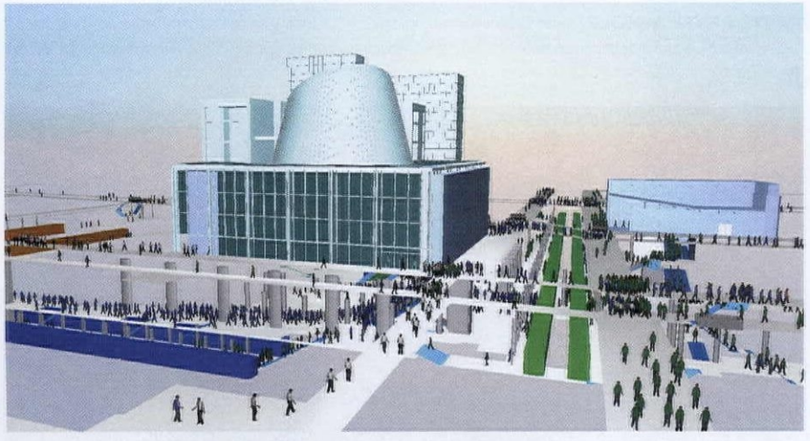


PHOTOGRAPHY (FROM LEFT): © JAMES EWING; © JOHN LEIMBACH





PRESSURE POINTS Because the reflector net was conceived as part of Fulton's ventilation system, engineers analyzed the effects of air movement on the device, relying on computational fluid dynamics.



PEOPLE MOVER To understand how commuters would circulate through Fulton Center, Arup examined the complex with a crowd simulation tool developed in-house. The software populates the digital model with "agents," or virtual people.

was deemed historically significant because it is a "proto skyscraper," says Page Ayres Cowley. Although extremely skinny in plan (it is just 20 feet wide at its narrowest end and about 150 feet deep), Corbin was, at 142 feet high, briefly the tallest building in Manhattan. In addition, it was one of the first buildings to feature the tile vaulting invented by Rafael Guastavino. The system, which consists of multiple layers of thin terra-cotta tiles, became known for its fire resistance and its ability to accommodate large floor loads. The method would later be used at the Boston Public Library and the Ellis Island Main Hall, among many other buildings.

Corbin was also notable for its "extraordinary ornament both inside and out," says Cowley. However, decades of neglect and unsympathetic modifications had taken their toll on the elaborate decorative components, making restoration a painstaking process. For instance, the facade's approximately 5,000 terra-cotta pieces were individually mapped for cleaning, patching, or replacement. More than 500 were deemed beyond repair, requiring that they be replicated. But because clay shrinks when fired, molds could not be formed from the existing pieces. Instead, artisans had to sculpt new positives, roughly 10 percent larger than the originals, before forming the molds.

Inside Corbin, one of the many elements that features opulent decoration is the central staircase's copper-plated cast-iron balustrade. Although this stair was in relatively good condition, its handrail height did not meet current code for an egress stair. In order to avoid having to alter an important piece of historic fabric, the Fulton team provided a separate egress stair in an "interstitial building" that connects Corbin and the pavilion. The narrow and towerlike steel-framed structure, which encloses back-of-house functions and mechanical equipment, also enabled the removal of unsightly external fire escapes that had cluttered Corbin's facade since the 1970s.

The historic building's structure also required retrofit, especially to improve its lateral resistance to wind and seismic loads. This was accomplished by the reinforcement of Corbin's north exterior wall with shotcrete and rebar (now mostly hidden by the interstitial building) and the addition of an internal concrete lateral frame linked to the steel frame of the pavilion. In order to create a structural diaphragm at each floor level, the engineers replaced the original ash used as infill above the tile arches with lightweight cellular concrete.

Arguably, the most dramatic part of the renovated building is a new set of escalators that descend 20 feet below the original foundations and lead to the subway platforms. Contractors underpinned the foundations,

an operation that required laborious excavation by hand because the lot was too tight for mechanical excavation equipment. During the process, Corbin was monitored with sensors and strain gauges to ensure it didn't develop unacceptable movements or stresses. The result is a three-story-deep wellway that reveals a series of inverted masonry arches. Passing under these arches, which were designed to distribute the superstructure's loads to the surrounding soil, "intensifies the feeling of going down into earth," points out Cowley.

These hefty footings, newly uncovered, offer the perfect counterpoint to the delicacy of the adjacent pavilion's reflector net. One element entices passengers to descend, through history, while the other draws their eyes upward, to a precisely machined device for capturing the sky. If only all New York City subway stations could have such synergies. ■

CONTINUING EDUCATION

To earn one AIA learning unit (LU), including one hour of health, safety, and welfare (HSW) credit, read "Downtown Looks Up," review supplemental material at architecturalrecord.com, and complete the online test. Upon passing the test, you will receive a certificate of completion, and your credit will be automatically reported to the AIA. Additional information regarding credit-reporting and continuing-education requirements can be found online at ce.construction.com.

Learning Objectives

1 Describe the various analytical studies conducted by the Fulton Center design team, including those for crowd simulation and computational fluid dynamics.

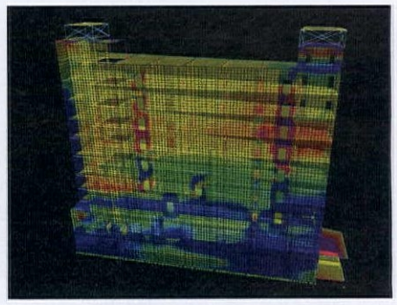
2 Explain the relationship between the sky-reflector net and Fulton Center's ventilation strategy.

3 Explain why the Corbin Building was innovative for its time.

4 Describe the techniques used to structurally reinforce the Corbin Building and preserve its elaborate decoration.

AIA/CES Course #1501A

FOR CEU CREDIT, READ "DOWNTOWN LOOKS UP," REVIEW SUPPLEMENTAL MATERIAL AT CE.CONSTRUCTION.COM, AND TAKE THE ONLINE QUIZ, OR USE OUR ARCHITECTURAL RECORD CONTINUING-EDUCATION APP, AVAILABLE IN THE ITUNES STORE.



CREDITS

PRIME DESIGN CONSULTANT: Arup

ARCHITECTS OF RECORD: Grimshaw (pavilion); Page Ayres Cowley Architects (Corbin restoration); HDR|Daniel Frankfurt (street-level access, Dey Street concourse)

CONSULTANTS: James Carpenter Design Associates (sky-reflector net)

CONSULTANT CONSTRUCTION MANAGER: PB-Bovis Lend Lease

CLIENT: Metropolitan Transit Authority

SIZE: 190,000 square feet

PROJECT COST: $1.4 billion

COMPLETION DATE: November 2014

SOURCES

OCULUS CLADDING: Radius Track

SKYLIGHT GLAZING AND ASSEMBLY: Viracon and United Skys

CABLE NET: TriPyramid Structures

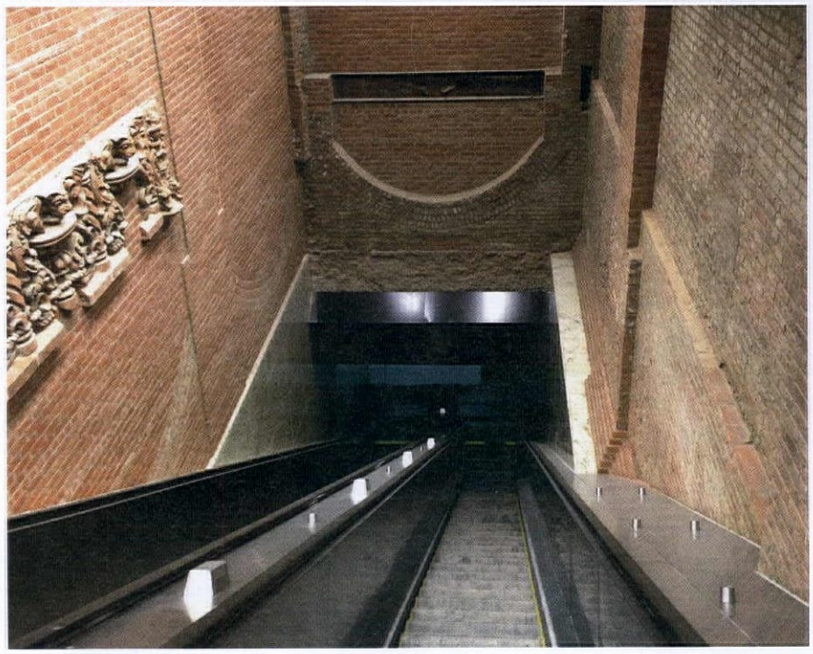
REFLECTIVE PARASOLS: Saint Gobain

ENTRANCE DOORS: C.R. Laurence

GFRC CEILINGS AND COLUMN COVERS: Plaster Form

METAL CEILINGS, SOFFITS, AND CLADDING: Gordon Interior Specialties Division

GRANITE FLOOR TILE: Miller Druck International Stone



TRAVEL UPGRADE

Clockwise from top: One route from the street to the subway platforms takes commuters under the "doughnut," two levels of commercial space wrapped in glass and lifted off the ground plane on V-shaped columns. Before retrofitting Corbin's lateral load-resisting system, engineers conducted various studies, including a structural analysis of the building's north wall. A new set of escalators leads commuters through Corbin's foundations.

Back to Basics

BUILDINGS ARE MEANT to keep occupants safe, healthy, and comfortable. The architects of these structures strive to meet clients' programming needs, bottom lines, and sustainability goals as well. The following CEUs explore relevant, fundamental topics, from enhancing user experience through daylighting and acoustics to improving a building's performance using proper insulation.

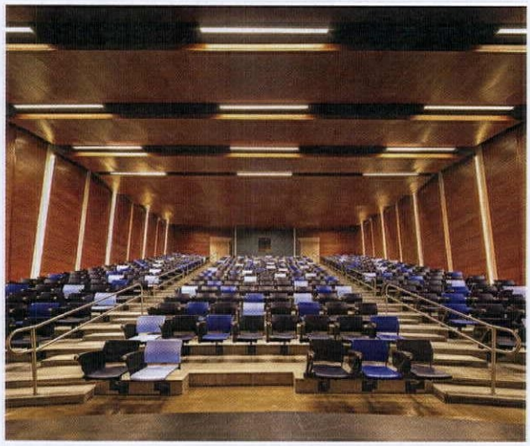
SNAPSHOT

POLYISO RIGID INSULATION

SPEC RATE BY PROJECT TYPE (JANUARY TO DECEMBER 2014)

RELIGIOUS BUILDINGS	41%
HOTELS	38%
EDUCATION	35%
HEALTH CARE	28%
DORMITORIES	26%
RETAIL	25%

SOURCE: DODGE DATA & ANALYTICS

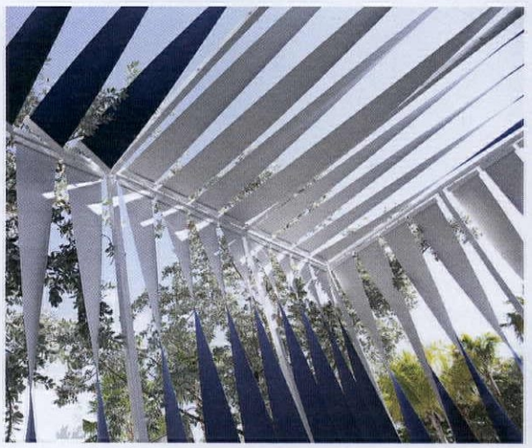


SOUND ADVICE Addressing both the acoustic and aesthetic design of a space can help ensure a positive experience for the users.

1 TOTAL ACOUSTICAL DESIGN

Good acoustical design encompasses controlling all aspects of sound entering, leaving, or being generated within a space. This article explores the fundamentals of acoustical design and both traditional and emerging treatments along with how they've been applied to specific projects around the country. (Sponsored by Ceilings Plus, Owens Corning, and Rulon International)

—CREDIT 1 HSW

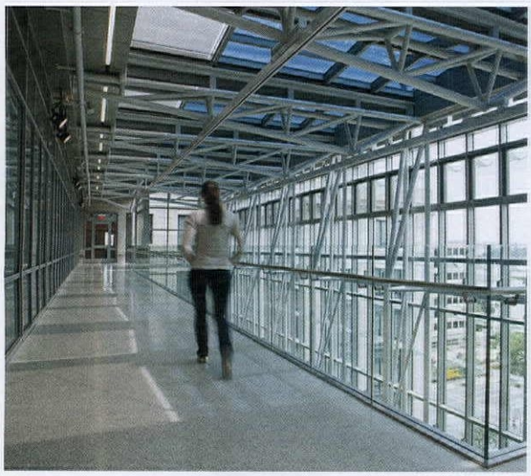


GIVE ME SHELTER A flexible shading system was installed at the James Royal Palm in Miami Beach.

2 THE FUTURE OF SHADE

Shading not only provides solar control but is also increasingly informing architecture as practitioners push the envelope with fabric. Discover some shading innovations that are raising the design profile of projects, the benefits of using a pliable and evolving material like fabric, and the LEED credits that can be earned through the use of shading structures. (Sponsored by Sunbrella)

—CREDIT 1 HSW, 1 GBCI CE HOUR



DUAL PURPOSE Natural light can be incorporated in a variety of building types to benefit people and reduce energy use.

3 CONTROLLING DAYLIGHT IN BUILDINGS

The balance of flooding spaces with natural light while controlling glare and solar heat gain is a hot topic in building design today. This course covers the basics of daylighting and the benefits of using dynamic glazing to achieve comfort and building energy goals. (Sponsored by SAGE Electrochromics)

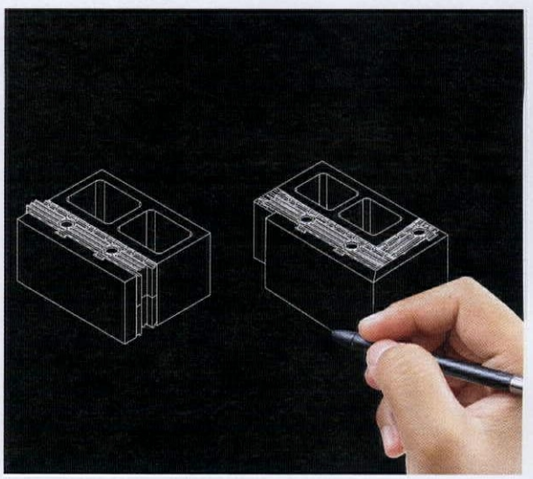
—CREDIT 1 HSW

FAUX BOIS Modern ceramics that re-create the look of wood work well in bathroom and kitchen settings.

4 AN ECOLOGICAL BASIS FOR SELECTING CERAMIC TILE

An ancient building material, ceramic tile is widely employed for its resistance to water, moisture, and bacteria as well as for aesthetic reasons. But it boasts a sustainability story, too. This course explores tile's green performance attributes, production, and reuse. (Sponsored by Tile of Spain)

—CREDIT 1 HSW, 1 GBCI CE HOUR



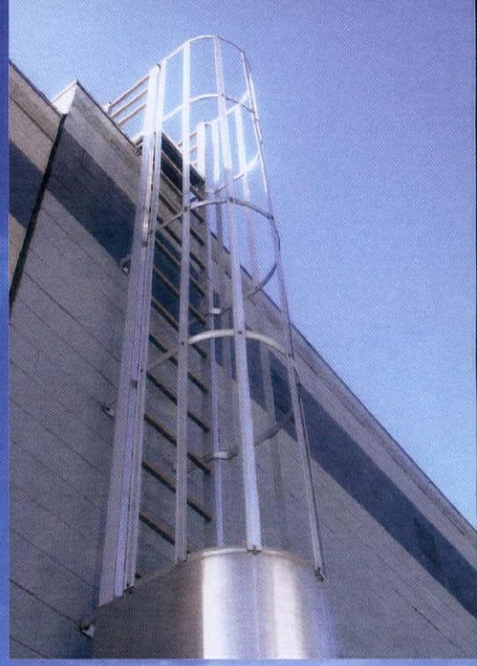
BREAKING IT UP Next-generation insulation systems are completely thermally broken, meeting or exceeding current energy codes.

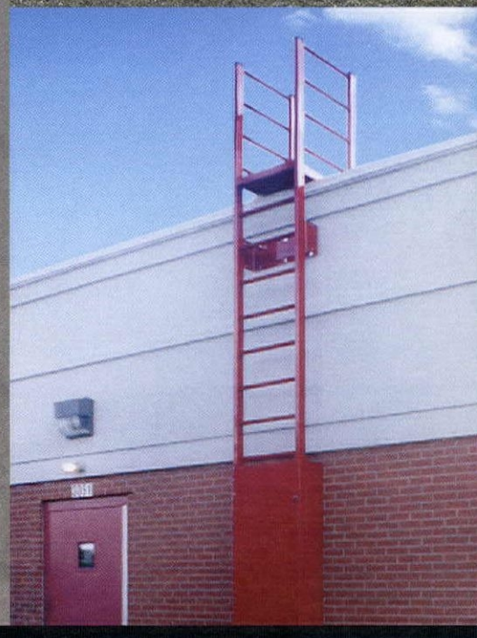
5 INSULATION GETS MORE EFFECTIVE

Proper insulation is critical to building envelope design: it has an impact on overall building efficiency while delivering occupant comfort. Learn about various types of insulation, the benefits they offer, and ways they can reduce energy consumption. (Sponsored by Oldcastle Architectural)

—CREDIT 1 HSW

It's how you get to the top that matters





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ARCHITECT: ADC Inc.
CONTRACTOR: Dane Construction
PANEL PROFILE: 7.2, FW-120 (Silver Metallic)

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The Sweets Spot

SNAP asks Patricia Boyle, a principal at SmithGroupJJR in Detroit, to weigh in on the latest product buzz in her city and the projects she's working on. We share what's trending in her region on sweets.com.

FIRM IN FOCUS: SMITHGROUPJJR

PATRICIA BOYLE
PRINCIPAL, SMITHGROUPJJR, DETROIT

VITAL STATS

FIRM TYPE: A+E+P
YEAR FOUNDED: 1853
PRINCIPALS: DAVID R.H. KING (CHAIRMAN), CARL ROEHLING (PRESIDENT & CEO), RANDY SWIECH (CHIEF OPERATING OFFICER)
FIRM LOCATIONS: ANN ARBOR, MICHIGAN; CHICAGO; DALLAS; DETROIT; LOS ANGELES; MADISON, WISCONSIN; PHOENIX; SAN FRANCISCO; WASHINGTON, D.C.; SHANGHAI
FIRM SIZE: 900

WHAT HAVE YOU WORKED ON RECENTLY? *The Detroit Athletic Club (DAC), which is a historic building, and the Neural and Behavioral Sciences (NBS) Building at the University of Pennsylvania. These projects were different in terms of their function, but both have historical context. Though NBS is going to be an entirely new structure, it abuts a historic building on campus. Both have a huge focus on facade transparency: On the DAC, the goal is to allow visibility to the historic facade; on NBS, it's to be transformative, so there will be a highly transparent skin with a custom patterned metal screen in front that attempts to reference neural research. For both of those, there'll be a large amount of glass and window systems, metal panel systems, and some complementing stone and masonry.*

WHAT PRODUCTS DID YOU SPECIFY FOR THE DAC? *A glass skin with glass fins and spider fittings. We also used operable glass walls on the rooftop, by Nanawall. For the composite metal panels, we had two different contractors: Reynobond and Firestone.*

WAS THERE A LOT OF CUSTOMIZATION FOR THE PENN PROJECT? *The metal screen was custom-made by a local fabricator. There were two main types of metal—standard high-performance coated aluminum composite and copper-clad. For the window openings, we are working with Wausau. But there were some customizations to their standard systems.*

WHAT HAVE YOU RECENTLY SEARCHED FOR IN THE SWEETS NETWORK? *I was looking for an all-glass guardrail and an all-glass revolving-door system. Both were for DAC.*

HAVE YOU SEEN ANY PRODUCT TRENDS IN DETROIT? *Detroit is a northern-climate city that has a strong history with engineering and industrial manufacturing. What I see is not necessarily new trends but trends unique to the region, such as materials that perform well in cold weather. So masonry and stone dominate in many ways but so do highly engineered metals and glass. In most of my local projects, I have seen custom and handcrafted-like designs and materials being used, mostly in metals. I think this is linked to the city's history and renewed focus on its manufacturing capabilities. Our clients like to see those handcrafted, refined little components. — Anna Fixsen*

SmithGroupJJR's plans for a new building at the University of Pennsylvania include a custom metal screen and glass skin.

What's trending on sweets.com, including a look at top company searches from the Detroit area.

TOP SEARCH TERMS IN THE DETROIT AREA
(OVER A 12-MONTH PERIOD)

LOCKERS
SHUTTERS
METAL RAILINGS
ALUMINUM SHUTTERS
OFFICE LOCKER STORAGE

Phenolic lockers by ASI Storage.

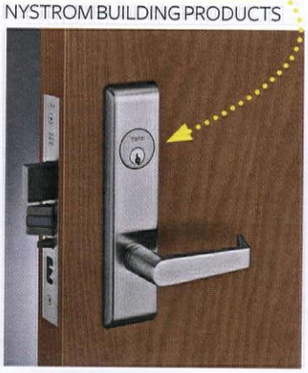
WHAT'S TRENDING IN REVOLVING-DOOR ENTRANCES
(OVER A 12-MONTH PERIOD)

BOON EDAM
INTERNATIONAL REVOLVING DOOR
STANLEY ACCESS TECHNOLOGIES
BESAM ENTRANCE SOLUTIONS
DORMA

UniTurn revolving door by Besam Entrance Solutions.

MANUFACTURERS MOST VIEWED BY DETROIT-AREA USERS
(OVER A 12-MONTH PERIOD)

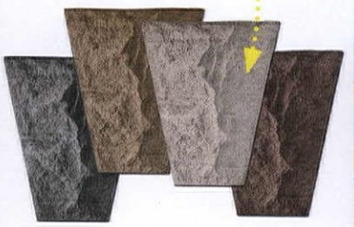
OTIS ELEVATOR CO.
MBCI
AMERICAN STAIR CORP
YALE LOCKS AND HARDWARE
NYSTROM BUILDING PRODUCTS



Mortise lock by Yale Locks and Hardware.

WHAT'S TRENDING IN CAST-STONE MASONRY
(OVER A 12-MONTH PERIOD)

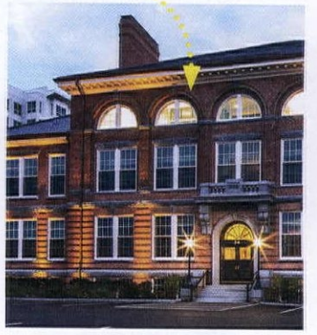
ARRISCRAFT
TARTARUGA DESIGN
ACME BRICK COMPANY
ENVIRONMENTAL STONEWORKS



Castle Rock–style cut stone by Environmental StoneWorks.

WHAT'S TRENDING IN WINDOWS
(OVER A 12-MONTH PERIOD)

ALSIDE WINDOW SYSTEMS
HOPE'S WINDOWS
GERKIN WINDOWS & DOORS
EFCO CORPORATION
NISSEN & CO.
TRACO



OptiQ AA5455 series and NX-3800 windows by Traco.

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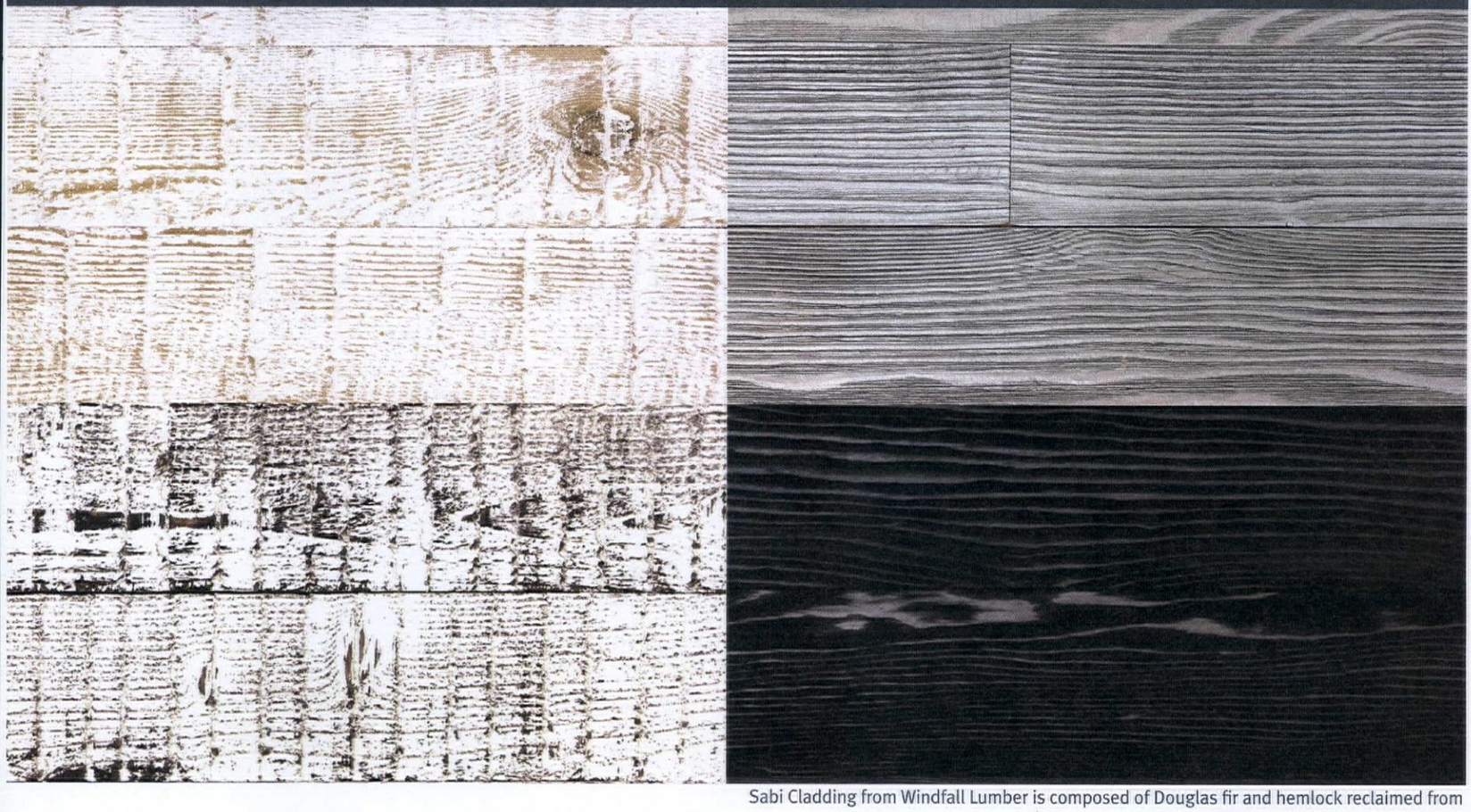
MANUFACTURERS' SPOTLIGHT SECTION

Look to these pages for products brought to you directly from manufacturers. You'll find the information you need to make *SNAP* decisions: price, performance data, product application, and contact information. Use the reader service card in the issue or go online at sweets.com to request further details.



Sabi Cladding from Windfall Lumber is composed of Douglas fir and hemlock reclaimed from deconstructed buildings. **(SNAP #02)**

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Specialty Products ..... Pgs. 71-76
Products for special applications, or products that may apply to more than one category, such as railing systems, fencing, gates, ladders, columns, signage, awnings, and canopies.

Interior Finishes, Furnishings ..... Pgs. 79-80
Products for finishing and furnishing building interiors, such as flooring, wall coverings, ceilings, furniture, shelving systems, coat racks, and window treatments.

Roofing, Siding, Thermal & Moisture Protection ..... Pgs. 83-84
Products for constructing the building envelope, such as exterior wall and roof panels, sheathing, thermal insulation, and waterproofing.

Doors, Windows ..... Pgs. 87-90
Doors, windows, storefronts, entrances, glazed curtain walls, skylights, translucent wall and roof assemblies.

Materials ..... Pgs. 93
Basic products, such as lumber, concrete, and masonry units used in construction. Includes paint, coatings, structural materials and fittings, and products designed for more generic use in multiple applications.

Landscaping, Sitework ..... Pgs. 95
Exterior improvement products, such as site furniture, bicycle racks, bollards, pavers, landscape edging, and exterior green walls. Also includes trellis systems, gazebos, and other site structures.

Mechanical Systems, HVAC, Plumbing ..... Pg. 97
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Roofing, Siding, Thermal & Moisture Protection ..... Pgs. 83-84

Doors, Windows ..... Pgs. 87-90

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Mechanical Systems, HVAC, Plumbing ..... Pgs. 97

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Finlandia Sauna Products, Inc.

They manufacture authentic saunas, no infrareds. They offer precut packages, modular rooms and heaters.

Product Application
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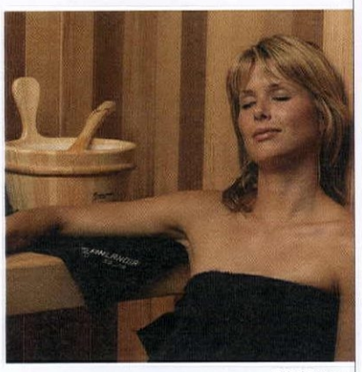
- Residential or commercial
- New construction or remodeling

Performance Data
- Uses 1-in. x 4-in. paneling
- Markets four all-clear western softwoods



www.finlandiasauna.com
800.354.3342 | Tim Atkinson or Reino Tarkiainen

SNAP 100

SPECIALTY PRODUCTS

ALUMINUM GRILLES

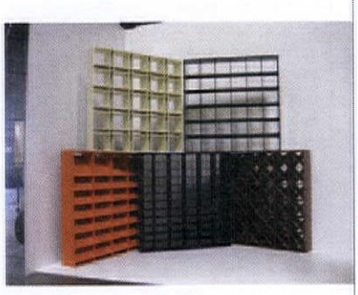
$$ | GREEN

Architectural Grilles & Sunshades, Inc.

AGS, Inc.'s aluminum grilles provide superior screening with a decorative look for projects that require visual or security barriers.

Product Application
- 1st Street remodel, St. Charles, IL
- Pleasant Street parking garage, Madden, MA
- 100 Grand Ave., Oakland, CA

Performance Data
- Engineered for live load capabilities
- Counts towards LEED point requirements



www.agsshade.com
708.479.9458 | Zach Grunert

SNAP 101

SPECIALTY PRODUCTS

ALUMINUM CANTILEVER BOX GATES

WR

Jamieson Manufacturing Co.

Jamieson's PowerTrac™ aluminum cantilever box frame sliding gates for large gate openings.

Product Application
- Gulfstream Aerospace, Savannah, GA
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- Space Shuttle Taxiway, Kennedy Space Center, FL

Performance Data
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Product Application
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- Transit systems
- Stadiums and ballparks

Performance Data
- Indoor and outdoor use
- ADA, New York MEA, IBC and IFC compliant
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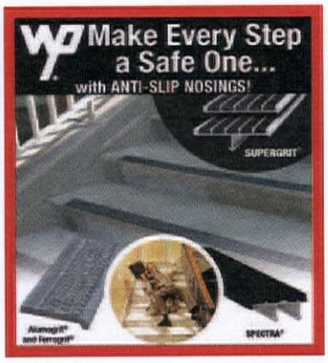

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Product Application
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Performance Data
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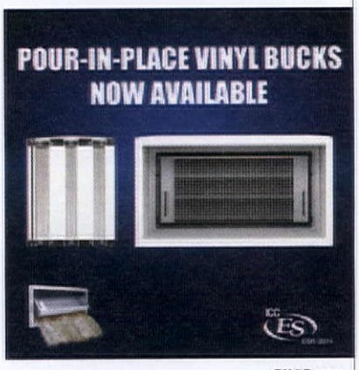
- Models for residential and commercial applications
- Made in the USA from Marine Grade 316 stainless steel



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SNAP 104

SPECIALTY PRODUCTS

THE SOUND OF SILENCE

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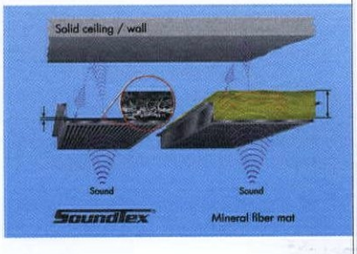
Freudenberg Nonwovens

SoundTex Acoustical Nonwoven: Thin acoustical fleece backer for metal and wooden perforated ceilings.

Product Application
- Airports/transportation hubs
- Museums/convention centers
- Restaurants/office buildings

Performance Data
- Very thin (only 0.2 mm)
- Sound absorption (up to 0.75 NRC)



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919.620.7074 | Bill Mordecai

SNAP 105

SPECIALTY PRODUCTS

LUMINESCENT EGRESS PATHWAY MARKINGS

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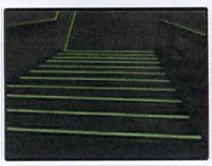
Product Application
- High-rise buildings, stairwells
- Emergency egress pathway marking
- Hospitals, hotels, office buildings, universities

Performance Data
- LEED, green building concepts
- Non-electrical, non-hazardous
- 100% reliable, durable
- Low maintenance, easy installation; 10-yr wty

Lights on



Lights off

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SNAP 106

All products in this section are accessible on sweets.com.
$$$**= Premium cost | **$$**= Mid-range cost | **$= Value-oriented cost | **WR** = Wide range of price points | **NC**= No charge
G = Product marketed as green | **NEW** = Released in the past 12 months

SPECIALTY PRODUCTS

LINEAR SHOWER DRAIN

Noble Company

FreeStyle Linear Drain's clamping collar ensures a watertight installation. Single-piece construction, low profile and a flat bottom simplify installation.

Product Application
- Showers of all types including barrier-free and ADA
- Use w/ large-format tile for contemporary designs
- New construction, renovation

Performance Data
- U.S. Patent # 8,474,068. Patents Pending Canada & EP Pub. # 2354339
- High capacity, 36 GPM drainage
- Waterproof w/ NobleSeal® TS

www.noblecompany.com
800.878.5788

SNAP 107

SPECIALTY PRODUCTS

CUSTOM SAUNA & STEAM FOR COMMERCIAL & HOME USE

Helo Commercial (formerly McCoy Sauna & Steam)

Helo Commercial helps specify, design and supply custom saunas and steam room equipment for both residential and commercial projects, from gyms to professional sports facilities and high-end resorts.

Product Application
- New construction (residential or commercial)
- Remodels (updating existing units or changing use of space)
- Basement or bathroom additions
- Locker room updates

www.helocommercial.com
800.225.7519 | sales@helocommercial.com

SNAP 108

SPECIALTY PRODUCTS

POLYURETHANE MILLWORK

$$ | GREEN

Spectis Moulders, Inc.

Spectis Moulders specializes in manufacturing high-quality polyurethane architectural products. They offer 6,000 SKUs as well as custom manufacturing.

Product Application
- Residential or commercial
- Interior and exterior
- Structural and decorative

Performance Data
- Fire rating options
- Guard rail rating

www.spectis.com
800.685.9981

SNAP 109

SPECIALTY PRODUCTS

SEPARATING PEOPLE FROM HAZARDS

Kee Safety, Inc. – A Global Safety Solution Supplier Since 1934

Safety railings and fall protection.

Product Application
- Hand railing
- Rooftop fall protection
- Horizontal lifeline
- Portable anchorpoints
- Safe access solutions
- Steel-to-steel connections

www.keesafety.com
800.851.5181 | info@keesafety.com

SNAP 110

SPECIALTY PRODUCTS

TOILET PARTITIONS

WR | GREEN

General Partitions Mfg. Corp.

General Partitions is a leading manufacturer of high-quality anti-graffiti toilet compartments.

Product Application
- Carnegie Hall, New York, NY
- Boston Convention Center, Boston, MA
- PNC Park, Pittsburgh, PA

Performance Data
- Heavy-duty continuous brackets and hinges
- Graffiti-resistant surfaces and materials

www.generalpartitions.com
814.833.1154 | info@generalpartitions.com

SNAP 111

SPECIALTY PRODUCTS

FOLDING STAIRWAY

$$

Precision Ladders, LLC

Automatic Super Simplex Folding Stairway opens and unfolds at the press of a button. Stair can be operated from above or below for ceiling heights up to 16 ft.

Product Application
- University of Memphis Clock Tower, Memphis, TN
- I-78 Toll Plaza, Blackwood, NJ
- Fort Saskatchewan Hospital, Edmonton, Alberta

Performance Data
- 500-lb load rating with actual shear of rivets tested to 1,175 lb; steel frame, extruded aluminum treads

www.precisionladders.com
800.225.7814 | Steve Fugate

SNAP 112

SPECIALTY PRODUCTS

PORTABLE FIRE EXTINGUISHER STAND

The Strike First Corporation of America

Made in the USA, the CENTURION fits all 10-lb and 20-lb fire extinguishers (sold separately). Fully assembled portable fire extinguisher stand.

Product Application
- Lightweight molded polyethylene for maximum weatherability

Performance Data
- Equipped w/ required safety decals
- Top & bottom 16ga steel Galva Coat brackets are powder coated
- Environmentally safe sand-filled base
- Faultless casters for easy mobility

strikefirstusa.com
800.255.5515 | Angie Williams

SNAP 113

SPECIALTY PRODUCTS

DESIGNING TODAY FOR YOUR TOMORROW

WR | NEW

Best Sign Systems, Inc.

The Strata series is a new, curved-face, modular architectural signage system. The complete sign solution combines a wide range of sign types and interchangeable ADA or graphic panels.

Product Application
- Waterfront US Navy Milcon, Bahrain
- The Howard Theatre Restoration, Greenbelt, MD
- Waldorf West Library, Waldorf, MD

Performance Data
- Modular design means lower cost, less waste and lower impact on the environment

www.bestsigns.com
800.235.2378 | Lisa Young

SNAP 114

Azon Saves Energy

Daylighting systems produced with Azon structural thermal barrier technologies—the **MLP™** or **Dual Cavity**—for aluminum windows and high performance glazing components for insulating glass, will yield a fenestration system capable of upholding the highest efficiency and sustainability standards.

- Polyurethane polymer with superior insulating properties for the best balance of energy efficiency and performance
- NEW: MLP™(mechanical lock profile) and dual cavity designs for fenestration products used in the most demanding climates and conditions
- High strength for larger spans—industry's strongest thermal barrier for aluminum storefront, curtain wall and windows
- AZO/Tec® technical services with expertise in window design

Extreme cold temperatures of -100ºC (-148ºF) will not transfer through an aluminum frame with a modern pour and debridge thermal barrier (and *neither will high temperatures in very hot environments*)

CONTINUING EDUCATION AIA

1 HSW Learning Unit

1-800-788-5942 | www.azonintl.com

AZON

Learn about the role of Azon thermal barriers in energy conservation.

SPECIALTY PRODUCTS

COUNTER SUPPORT BRACKET

GREEN | NEW

Rangine Corporation/Rakks

Rakks Eclipse Brackets can support counters or shelves up to 18 in. deep. This attractive low-profile design is easy to install with no visible hardware.

Product Application

- Commercial
- Residential

Performance Data

- Eclipse Brackets can support loads up to 300 lb per pair sold in clear and black anodized finishes
- Machined aluminum ends provide a smooth and near seamless termination

www.rakks.com
800.826.6006 | David Greenberg

SNAP 115

SPECIALTY PRODUCTS

DAYLIGHTING SYSTEM

GREEN | WR

KALWALL®

VERTIKAL™: Lightweight composite FRP is a beautiful alternative to heavy channel glass, weighing just 2 lb/sf, with U-values from .08 to.53U, panels fabricated up to 5'x12'. Avail. 2.75" & 4" thick.

Product Application

- Dollar General Distribution Center, Bessemer, AL
- Hunter's Point Community MS, New York City, NY
- Tintern MS, Ringwood, Australia

Performance Data

- Glare-free, museum-quality daylighting™, with best thermal values in fenestration industry
- Blast-resistant and hurricane-rated options

Kalwall.com
603.627.3861 | Jim Andrus, jandrus@kalwall.com

SNAP 116

SPECIALTY PRODUCTS

DETECTABLE WARNING SURFACES

ADA Solutions, Inc.

ADA Solutions, Inc. is a leading manufacturer of detectable warning surfaces, aiding the visually impaired for over two decades.

Product Application

- Curb ramps, pedestrian crossings, transit platforms
- New construction or existing concrete
- Wet set, surface applied, radius tactile

Performance Data

- Meets ADAAG, PROWAG, CA Title 24 requirements
- Durable, UV stable, slip resistant

www.adatile.com
800.372.0519 | info@adatile.com

SNAP 117

SPECIALTY PRODUCTS

BIRD-PROOF YOUR BUILDING

$ | GREEN | NEW

Bird Barrier America, Inc.

The Eagle Eye system includes an optical scare device that rotates and reflects sunlight and Flash Flags, which flutter and reflect light. The light spectrum disorients birds and causes them to flee.

Performance Data

- New Flash Flags are wind-powered
- 12v and wind-powered Eagle Eye models
- 12v Eagle Eye models can be powered by a solar panel

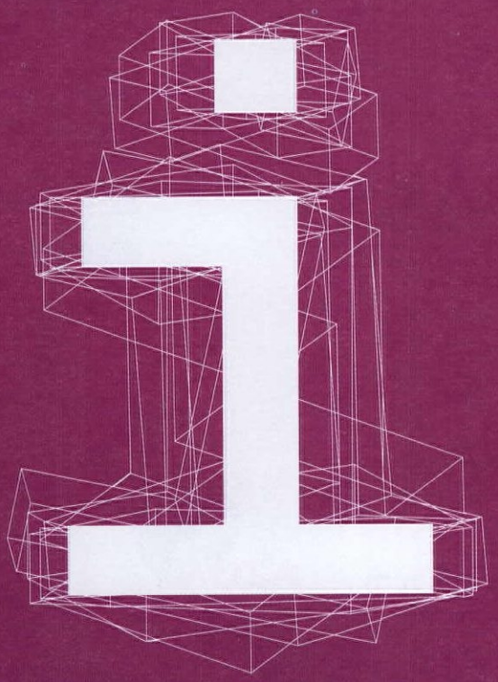
www.birdbarrier.com
800.503.5444 | liz.richter@birdbarrier.com

SNAP 118

ARCHITECTURAL RECORD

INNOVATIONCONFERENCE2015

REGISTER NOW & SAVE: RECORDINNOVATION.COM | 800.371.3238 | #ARInnov



APRIL 30

LOS ANGELES

EARN 6 AIA LU/HSW

Key Corporate Sponsor

MechoSystems
Design with light.®

Product Gallery Sponsor

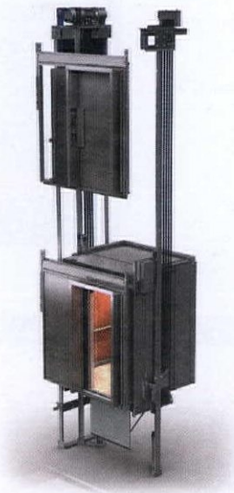
GRAPHISOFT

No machine room. No control room. All you need is a hoistway.

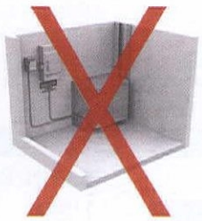
What will you do with the extra room?

Otis is proud to introduce two great new choices for design freedom.

The Gen2 and HydroFit elevator systems require no machine room and no control room. With this extra room, you now have an array of new possibilities for your building.



GeN2®



No machine room
No control room

HydroFit™

Both Gen2 and HydroFit are produced in Otis' new Florence, SC facility. These innovative products offer the following benefits:

Design Freedom

Green Technology

Smoothest Ride

Proven Reliability

Learn more at www.us.otis.com

OTIS
United Technologies

SPECIALTY PRODUCTS

CLEAR ROLLING SECURITY SHUTTERS

QMI Security Solutions

The new LX6 clear polycarbonate slat shutter is clear protection that still rolls into a small box housing—motorized or manual.

Product Application
- Outdoor restaurants for wind & security
- Storefront protection for high-end retailers
- Room divider partitions for sound & security

Performance Data
- Manual spring assist operation up to 100 sq ft
- Motorized operation up to 280 sq ft

www.qmiusa.com
800.446.2500 | Tom Miller

SNAP 119

SPECIALTY PRODUCTS

STAINLESS STEEL CABLE RAILING

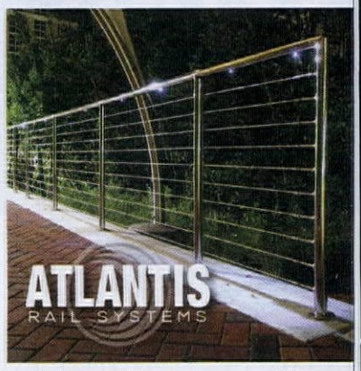
WR | GREEN

Atlantis Rail Systems

Stainless steel cable railing systems for unobstructed indoor or outdoor designs and pre-engineered for quick and easy installations.

Product Application
- Federal Jacks Restaurant & Brew Pub, Kennebunk, ME
- The Bluff Top Trail, Dana Point, CA
- Gumbo Limbo Nature Center, Boca Raton, FL

Performance Data
- Low maintenance, grade 316 stainless steel
- Commercial or residential; indoors or outdoors
- Variety of modular components for every design



www.atlantisrail.com
800.541.6829 | info@atlantisrail.com

Booth: S2015 IBS

SNAP 120

SPECIALTY PRODUCTS

DURABLE PROTECTION

Safety Technology International, Inc. (STI)

9-gauge steel wire guard helps protect a wide variety of devices against theft and vandalism.

Product Application
- Protects CCTV cameras and sensitive equipment
- Multi-use protective cover

Performance Data
- 9-gauge coated steel wire construction
- Measures 12 x 12 x 12 in.

www.sti-usa.com/sw18
800.888.4784 | Jeny Weil, Inside Sales Mgr

SNAP 121

SPECIALTY PRODUCTS

INDOOR/OUTDOOR NOISE BARRIER PANEL

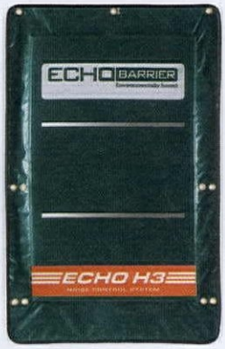
$

Acoustical Surfaces, Inc.

Echo Barrier reusable noise barrier/absorber panel offers superior acoustic performance. These panels are lightweight, easy to install, easy to move from site to site, storable and designed to last.

Product Application
- Construction/demolition, loading and unloading areas
- Utility/maintenance sites, highway noise
- Outdoor music venues, public events
- Gun ranges and many other applications

Performance Data
- Superior acoustic performance, NRC up to .95
- Weatherproof and durable



www.acousticalsurfaces.com
800.448.0121 | sales@acousticalsurfaces.com

SNAP 122

SPECIALTY PRODUCTS

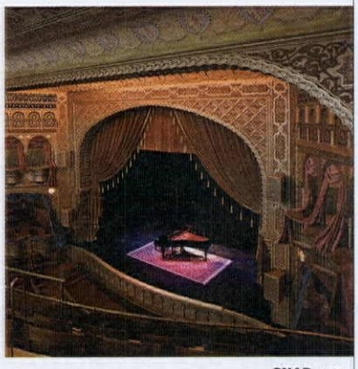
THEATRE SYSTEMS INTEGRATOR

SECOA

SECOA is a national integrator of theatre equipment and systems. Product lines include: counterweight and automated rigging, orchestra shells, pit fillers, lifts, drapery, and lighting systems.

Product Application
- K-12 and higher education, theatres, performing arts centers, workshop facilities, and arenas

Performance Data
- Best practices keep budgets and schedules intact
- In-house manufacturing maintains flexibility
- Project teams with technical theatre experience



www.secoa.com
800.328.5519 | Dan Culhane

SNAP 123

SPECIALTY PRODUCTS

PLASTIC BLEACHER SEATS

$ | NEW

Sturdisteel

EAGLE 1000 Bleacher Seats provide a defined seat space and create revenue opportunities for your school, team or organization.

Product Application
- For any venues requiring a reserved section
- Installs on new or existing aluminum seating
- Designed for comfort and longevity

Performance Data
- High-grade polyethylene and ultraviolet protection
- Four standard colors or optional custom colors
- Installs on 10-in.-square aluminum seat plank

www.sturdisteel.com
800.433.3116 | info@sturdisteel.com

SNAP 124

SPECIALTY PRODUCTS

SAFETY BARRIERS

NEW | GREEN | WR

A-Safe Inc.

Made from patented material, called Memaplex, that absorbs impacts from forklifts, preventing damage to the vehicle, ground and barrier.

Product Application
- Nestlé, Coca-Cola, Heineken, Kimberly-Clark
- BMW, Toyota, Volkswagen, Caterpillar, Cummins
- John Deere, DHL, Disney and many airports

Performance Data
- Designed to segregate pedestrians from traffic, machinery and potential hazards
- Hygienic, food-safe, modular design that is paint and maintenance free

www.asafe.us
866.858.0895 | sales@asafe.us

SNAP 125

SPECIALTY PRODUCTS

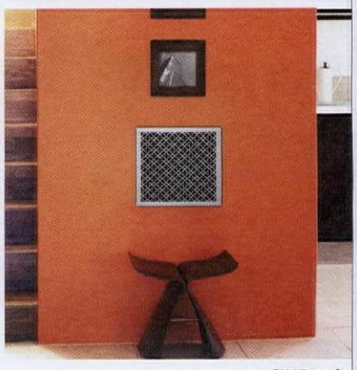
DESIGNER PERFORATED GRILLES

NEW | $$$

McNICHOLS

Add Hole Elegance to any room with McNICHOLS® Perforated Grilles. Many patterns and materials to choose from.

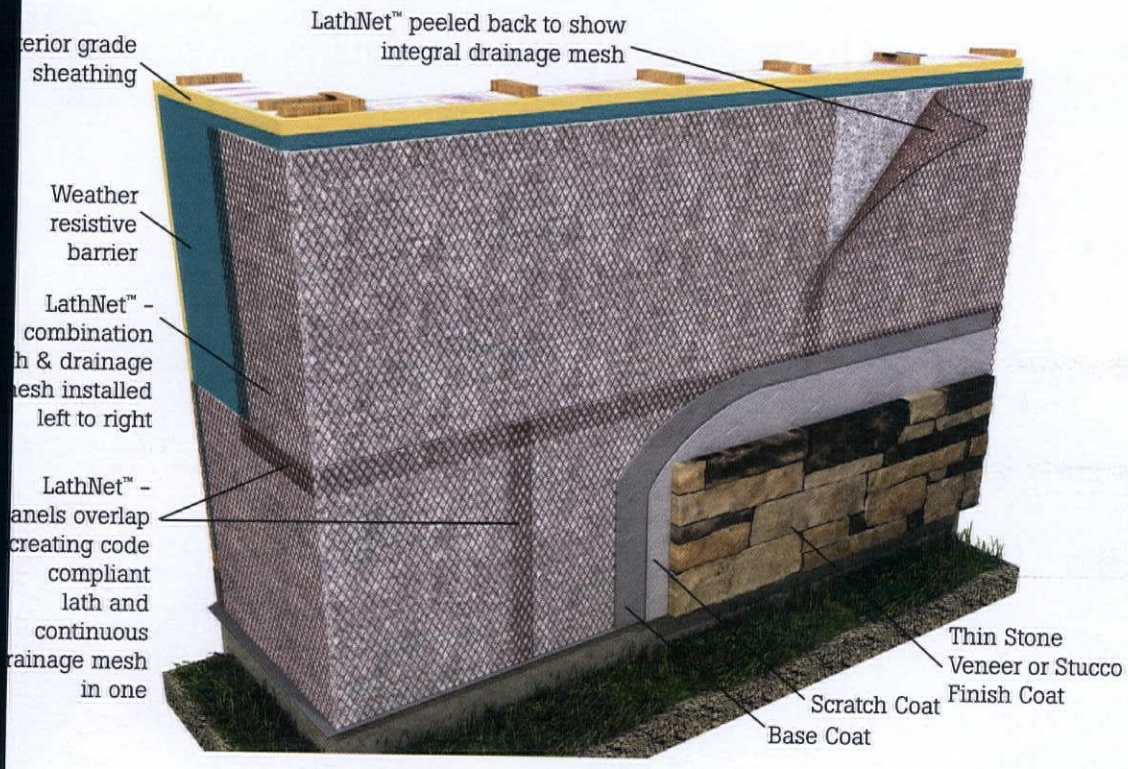
Product Application
- Used for interior and exterior applications
- Can be customized to the size you need



www.mcnichols.com
866.754.5144 | Rick Wan

SNAP 126

Introducing the industry's first factory-assembled drainage plane and metal lath system



See LathNet™ at World of Concrete, Booth #N1365

LathNet™

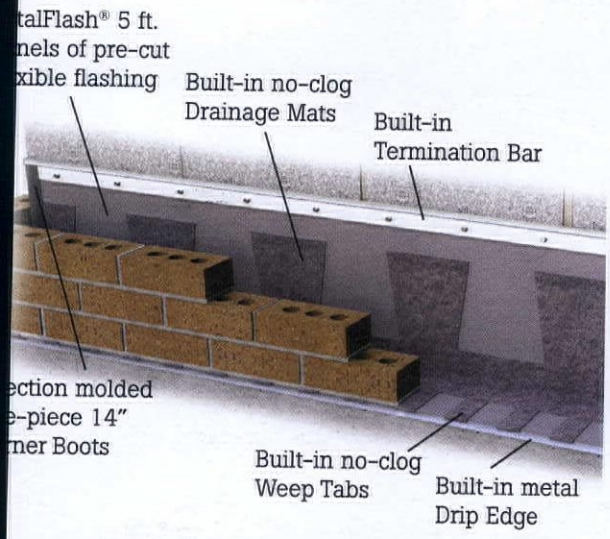
For Stucco and Adhered Masonry

- Install the drainage plane and metal lath in one simple step
- Prevent mortar bridging to the weather resistant barrier
- Reduce wall penetrations

Call or email for samples:
technicalservices@mortarnet.com

800.664.6638
mortarnet.com

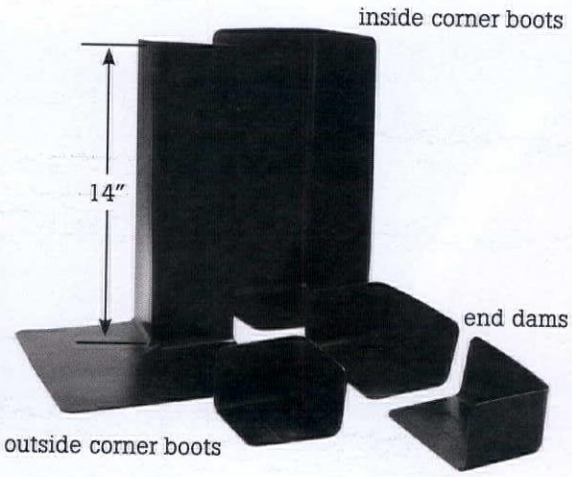
Mortar Net SOLUTIONS



TotalFlash® - Complete Masonry Cavity Wall Drainage Solution

uts Flashing System Installation Time, elps Keep Veneer Walls Dry

- 5' (net) panels with flashing membrane, drainage mat, weep tabs, termination bar and drip edge
- Applicable in all flashing locations, including base of wall, parapet walls, and above bond beams, wall openings and structural steel members
- Perfect for new construction and masonry restoration
- Available in EPDM, TPO, RA and PVC stabilized with Elvaloy® KEE



CompleteFlash - Industry-First 14" High Corner Boots, only from Mortar Net Solutions

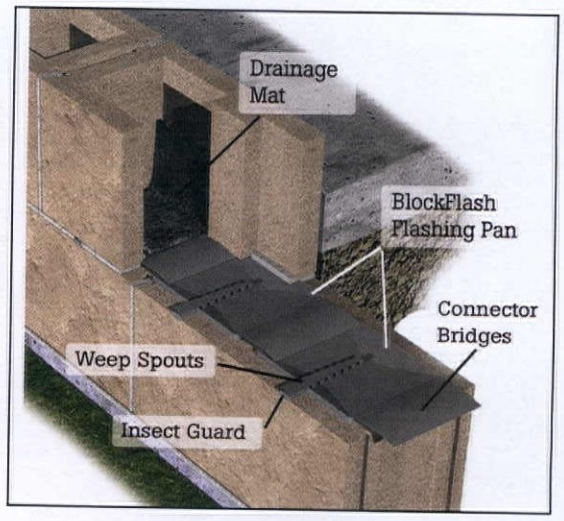
The only corner boots that extend above standard flashing

- One-piece, injection molded
- Highly puncture-resistant to prevent leaks
- Available in synthetic rubber/polypropylene blend, TPO and PVC stabilized with Elvaloy® KEE

Inside and outside corner boots, right, left and universal end dams available.

Mortar Net SOLUTIONS

326 Melton Road
Burns Harbor, Indiana 46304
Phone: 800.664.6638
Fax: 219.787.5088



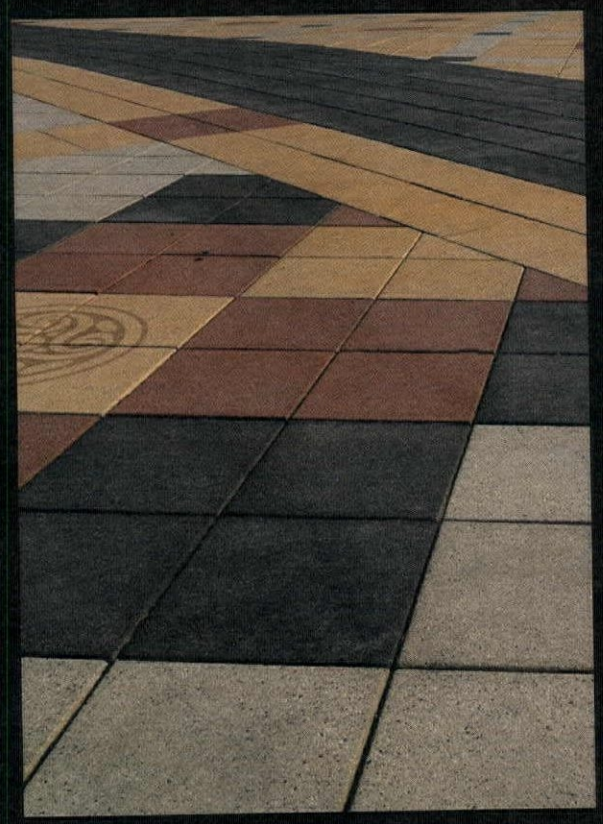
BlockFlash® – The Only Embeddable Flashing Solution For Single-Wythe CMU Walls

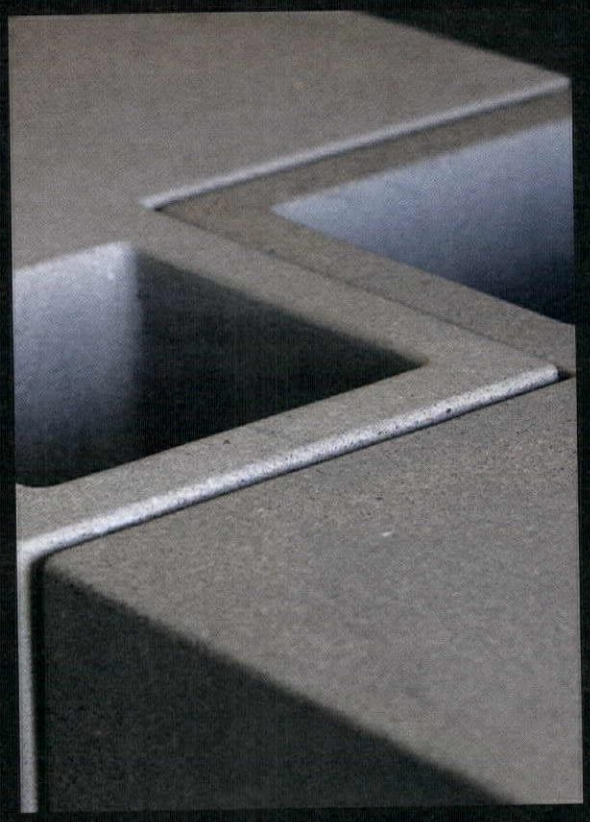
- Sloped pans with integrated weep spouts collect and channel moisture out of the wall
- Up to 50% faster installation than through-wall flashing
- Included drainage mesh prevents mortar damming
- 10X stronger block bond than through-wall flashing
- Snap-off connector bridge for easy installation at grouted cells and corners
- Integrated insect guards keep bugs out

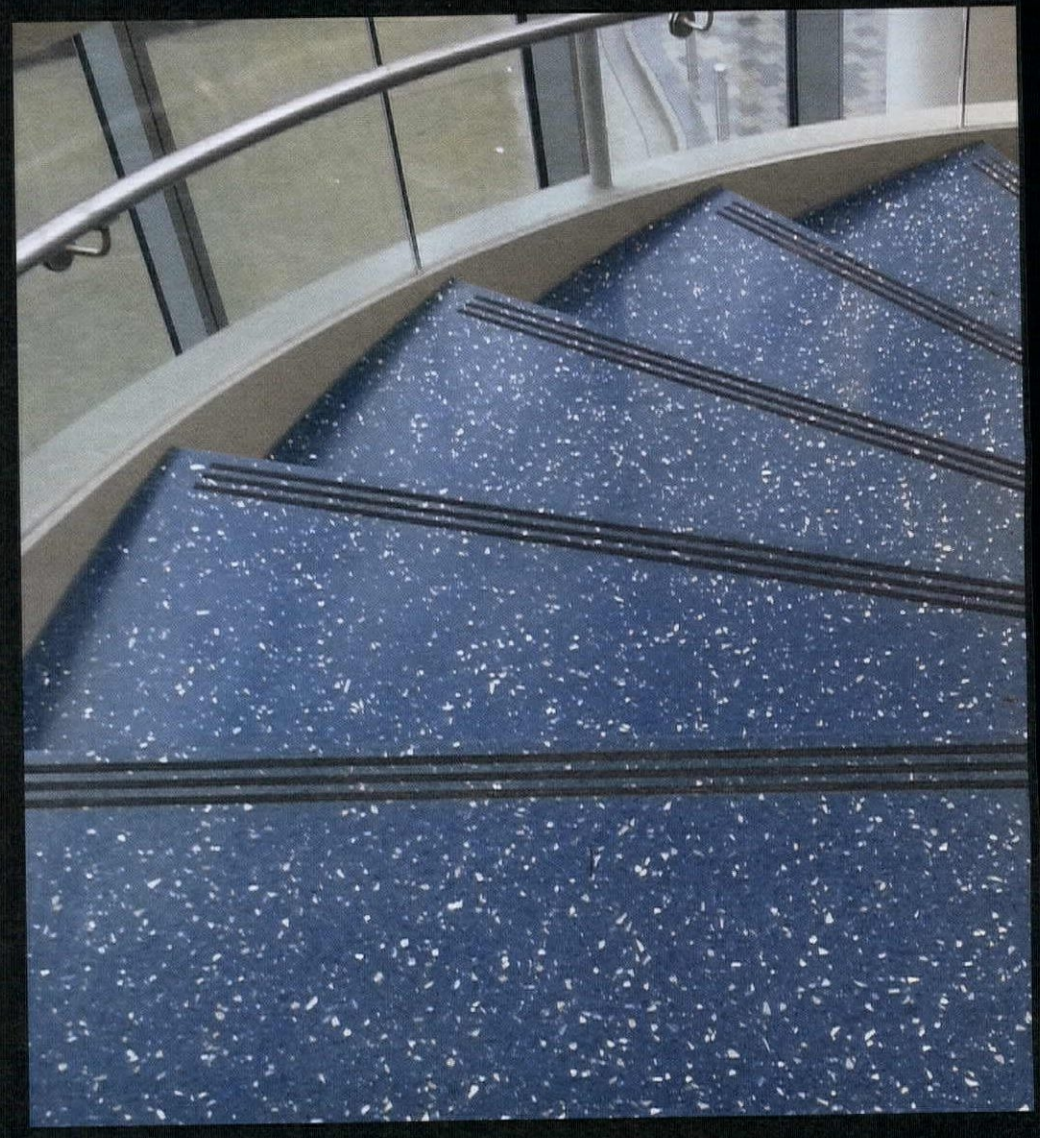
MADE IN
WAUSAU®
Wausau Tile

Put a beautiful, durable finishing touch on your next indoor or outdoor project with site furnishings, pavers, custom precast concrete and terrazzo from **Wausau Tile**. Visit **wausautile.com** to see more of our unique products.

800.388.8728
wtile@wausautile.com







PRODUCT SPOTLIGHTS

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Doors, Windows	Pgs.	87-90
Materials	Pgs.	93
Landscaping, Sitework	Pgs.	95
Mechanical Systems, HVAC, Plumbing	Pgs.	97

INTERIOR FINISHES, FURNISHINGS

SEAMLESS HIGH-DESIGN FLOOR SYSTEMS

$$

Stonhard

Stontec URF is a seamless, chemical-, stain- and impact-resistant, urethane-based floor system with a decorative flake-infused design. A designer's choice.

Product Application
- Stadiums and entertainment venues
- Restaurants, food courts and concessions
- Box suites, locker rooms and concourses

Performance Data
- Seamless, easy to clean and high performing
- Stands up to heavy traffic and continuous use

www.stonhard.com
800.257.7953

SNAP 127

INTERIOR FINISHES, FURNISHINGS

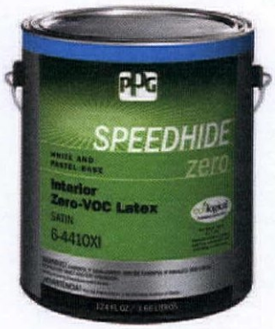
ZERO-VOC PAINT

PPG Architectural Coatings

Speedhide zero is a low-odor, no-VOC latex paint designed for professional application.

Product Application
- Recommended for interior walls, ceilings and trim and ideal for painting occupied spaces

Performance Data
- Quick dry for faster recoat
- Uniform, durable and washable finish



www.ppgpaints.com
866.298.7245

Booth: #C7816 IBS

SNAP 128

INTERIOR FINISHES, FURNISHINGS

BENCHES, COAT HOOKS & RACKS

GOF Ltd./A.J. Binns

A.J. Binns manufactures a complete line of coat hooks, hangers, shelving and seating.

Product Application
- Changing rooms and educational, medical and athletic facilities, etc.

Performance Data
- Functional, adaptable and particularly durable
- Contemporary styling with no length restrictions
- Designed to eliminate potential injury

www.binnsgof.com
802.655.7502

SNAP 130

INTERIOR FINISHES, FURNISHINGS

ACOUSTICAL SOLUTIONS FOR OVER 65 YEARS

WR | GREEN

Tectum Inc.

Tectum panels are available in any Sherwin-Williams color.

Proven acoustical performance and abuse resistance, coupled with new design options using color and shape, make Tectum products surprisingly new and surprisingly chic.

.

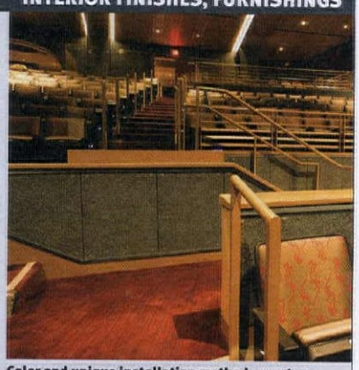
Naturally environmentally friendly, Tectum products contribute points to LEED certification.

.

Visit their website to find out more, request samples or download BIM models.

Product Application
- Schools, theater and public spaces
- Retail, office spaces, lofts
- Churches and worship facilities
- New construction and acoustical dampening in existing spaces

Performance Data
- Contributes to LEED certification
- Noise reduction coefficient of up to 1.00



Color and unique installation methods create a chic image.

www.tectum.com
888.977.9691 | info@tectum.com

SNAP 129

All products in this section are accessible on sweets.com.

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G = Product marketed as green | **NEW** = Released in the past 12 months

INTERIOR FINISHES, FURNISHINGS

UNIQUE TECHNOLOGY DELIVERS GREATER DEPTH OF COLOR

Corian® DeepColor™

DuPont™ Corian® DeepColor™ Technology: Delivering greater depth of color and improved durability as well as improved color-fastness to allow for extraordinary design possibilities.

Performance Data
- More durable
- Reduced scratch appearance by up to 50%
- Increased resistance to impact whitening

Corian

corian.na.dupont.com
800.426.7426

SNAP 131

INTERIOR FINISHES, FURNISHINGS

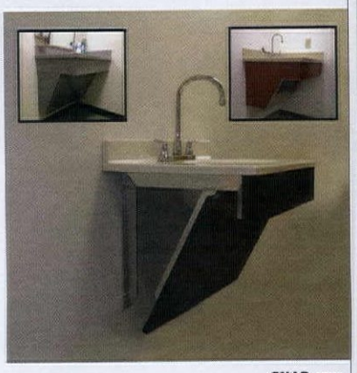
VANITY BRACKETS

$ | GREEN

Rangine Corporation/Rakks

Rakks inside-wall support brackets are screwed to the stud before installation of the drywall. Visit their website for more information on their full line of counter supports and shelving hardware.

Performance Data
- Supplied with wooden strips on the front faces to provide for the convenient mounting, or removal, of laminated or solid surface pane
- Customized made-to-order available



www.rakks.com
800.826.6006 | David Greenberg

SNAP 132

INTERIOR FINISHES, FURNISHINGS

HOSPITALITY GLASS COLLECTION

$$ | NEW

Bendheim

The collection features five Bart Halpern Glitterati textiles laminated in low-iron glass. Subtle at a distance, the combination of sensual natural hues and metallic shimmer is dazzling up-close.

Product Application
- Screens, partitions and ceilings
- Stair railings and balustrades

Performance Data
- Can improve STC rating to STC 35 or better
- Laminated safety glass meets building codes

www.bendheimarchitectural.com
800.221.7379 | info@bendheim.com

SNAP 133

INTERIOR FINISHES, FURNISHINGS

GLASS TREADS & LANDINGS

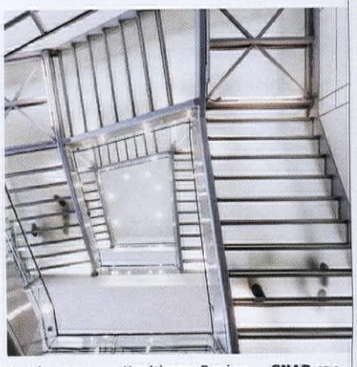
$$$ | GREEN

Nathan Allan Glass Studios Inc.

Leading designer and manufacturer of innovative glass solutions for architects and interior designers who seek to make a statement in their projects.

Product Application
- Stair treads, landings, flooring

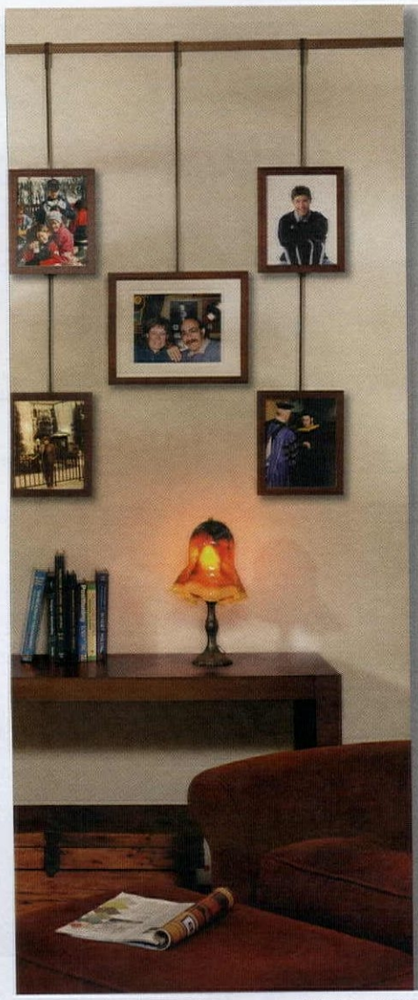
Performance Data
- All products are engineered
- Individual glass layers are safety tempered
- Glass layers are laminated together
- All-exclusive slip-resistant surface exceeds ADA requirements



www.nathanallan.com
604.535.8849 | Barry Allan, bm@nathanallan.com

Booth: 1229 Healthcare Design

SNAP 134



Life's all about change.

Walker Display helps you design an efficient system for exhibiting artwork anywhere. The functional no-nails design works on all wall surfaces, allowing creativity and easy rearrangement of artwork.

WalkerDisplay
INCORPORATED

COMPLETE ONLINE CATALOG
800-234-7614
www.walkerdisplay.com

SNAP 76

ENR
EVENTS & CONFERENCES

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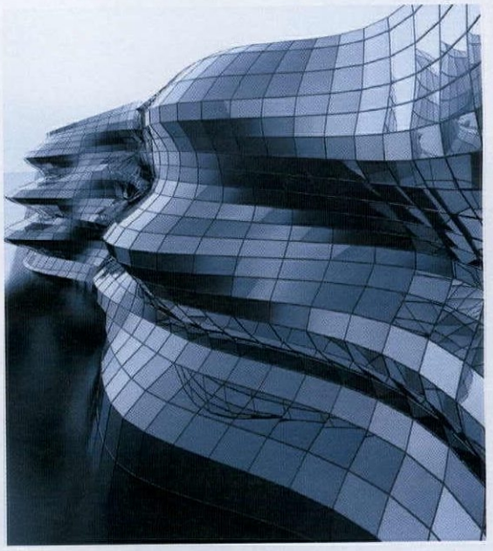

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Silver Sponsors: COSENTIAL DODGE kespry

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SNAP 94

JUDGE A BUILDING
BY ITS COVER

Complement your overall building design with a highly aesthetic roofing membrane.

Fiberlite® BRITE™
BY SEAMAN CORPORATION

REQUEST A SAMPLE AND LEARN MORE:

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SNAP 65

PRODUCT SPOTLIGHTS

Specialty Products	Pgs.	71-76
Interior Finishes, Furnishings	Pgs.	79-80
ROOFING, SIDING, THERMAL & MOISTURE PROTECTION	**PGS.**	**83-84**
Doors, Windows	Pgs.	87-90
Materials	Pgs.	93
Landscaping, Sitework	Pgs.	95
Mechanical Systems, HVAC, Plumbing	Pgs.	97

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

WALL PANELS

$$ | GREEN

Petersen Aluminum Corporation

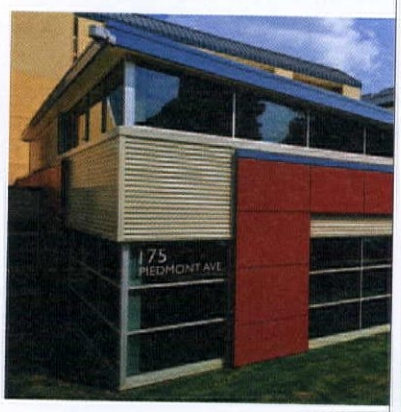
PAC Precision Series wall panels have a corrugated 4-in. rib profile in 12-in. and 16-in. widths. They are 7/8 in. deep to create a dramatic shadow line. Can be installed horizontally or vertically.

Product Application

- Georgia State University, Piedmont North Student Housing dining hall addition, Atlanta, GA

Performance Data

- Direct concealed fasteners or clip installation
- Cost-effective installation in all weather conditions



www.PAC-CLAD.com
800.PACCLAD | Blake Batkoff

SNAP 135

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

MASONRY CAVITY WALL DRAINAGE

$$ | GREEN

Mortar Net Solutions

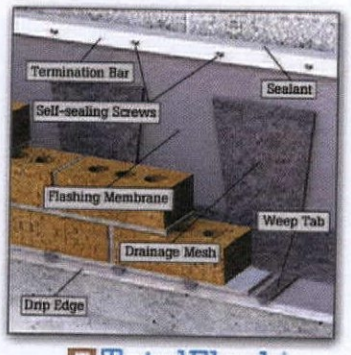
Patented TotalFlash® Cavity Wall Drainage Solution is a complete flashing system for masonry cavity walls. 5-ft panels.

Product Application

- Kansas University School of Pharmacy, Lawrence, KS
- Sarasota Fire Station, Sarasota, FL
- Fresenius Medical Center, Salem, OH

Performance Data

- Includes flashing membrane, termination bar, drainage mesh, drip edge & weep tabs
- 4 flashing membranes, 2 term bars, 6 drip edges



www.mortarnet.com
800.664.6638 | Steven Fechino

SNAP 136

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

ROOF MEMBRANE OFFERS AESTHETIC APPEAL & PROTECTION

NEW

FiberTite Roofing Systems

FiberTite® Brite™ with Kynar® is engineered for projects that require aesthetic appeal & long-term protection. Custom color options & a flexible membrane allow for infinite design possibilities.

Product Application

- Libraries, schools and universities
- Commercial buildings
- Sports and hospitality venues
- Museums and theaters
- Healthcare facilities
- Financial institutions

www.FiberTite.com/Brite
800.927.8578

SNAP 137

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

MODULAR METAL PANEL SYSTEM

NEW

CENTRIA Architectural Systems

The Intercept modular metal panel systems offer excellent aesthetics, performance, sustainability and value. Made of pre-painted, light-gauge aluminum or natural finish metals, Intercept panels can be configured in almost limitless ways, require little to no maintenance and offer a long product life cycle, making them an extremely economical solution for even the most complicated facade designs. The Intercept Entyre Modular System offers innovation excellence with a continuous, extruded engagement flange and concealed fasteners that work in conjunction with sequentially installed panel units. Material options include: .60-in. aluminum, 1.5mm zinc and class 1 anodize aluminum.

Performance Data

- Closed joint true rainscreen offers continuous venting at every horizontal panel reveal
- Pressure-equalized joint design
- Independent panel attachment
- Vertical and/or horizontal installation
- 100% recyclable

Intercept Entyre Panel System

CENTRIAperformance.com/intercept
800.250.9298

SNAP 139

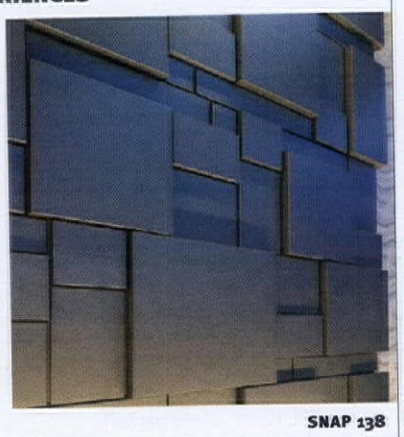
All products in this section are accessible on sweets.com.
$$$**= Premium cost | **$$**= Mid-range cost | **$= Value-oriented cost | **WR** = Wide range of price points | **NC**= No charge
G = Product marketed as green | **NEW** = Released in the past 12 months

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

ARCHITECTURAL APPEAL FOR GAMING EXPERIENCES

WR

Dri-Design Inc.



Dri-Design's Shadow Series brings dimension to buildings on the inside and outside because each panel face can be extended to varying depths based on the design and material choice of the project.

Product Application

- Prairie Meadows Racetrack and Casino, Altoona, IA
- Painted aluminum panels in weathered zinc finish
- Fastest, easiest application on the market

Performance Data

- True dry-joint rainscreen system—100% recyclable
- Exceeds performance specifications of AAMA 508-07 and Dade County

www.dri-design.com
616.355.2970 | sales@dri-design.com

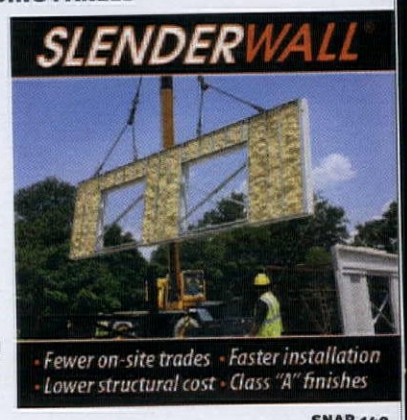
SNAP 138

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

ARCHITECTURAL PRECAST CONCRETE CLADDING PANELS

GREEN | WR

Easi-Set Worldwide



Ultra Hi-Performance Slenderwall is a 28 lb/sf award-winning architectural precast concrete and steel-stud exterior panel system wind-load tested to 226 mph.

Product Application

- BioInnovation Center, New Orleans, LA
- Johns Hopkins Hospital, Baltimore, MD
- Westin Luxury Hotel, Virginia Beach, VA
- US Army Legal Headquarters, Ft Belvoir, VA

Performance Data

- Factory-installed continuous closed-cell foam insulation – ASTM C-1363 hot box tested and compliant with all IECC/ASHRAE energy conservation codes

www.SlenderWall.com
800.547.4045 | info@easiset.com

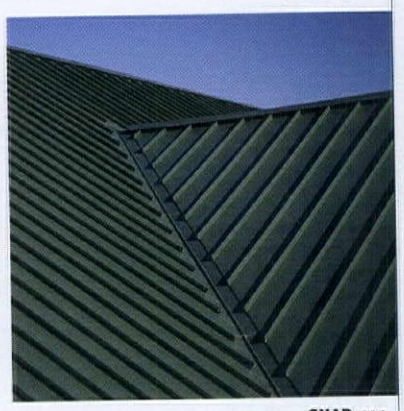
SNAP 140

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

CONCEALED FASTENING ROOF SYSTEMS

WR | GREEN

MBCI



MBCI's four concealed fastening roof systems are an aesthetically pleasing option typically used in architectural applications.

Product Application

- Washington County Coroner, Fayetteville, AR
- Thomaston Crossing, Macon, GA
- Northcentral Electric Power Assoc., Olive Branch, MS

Performance Data

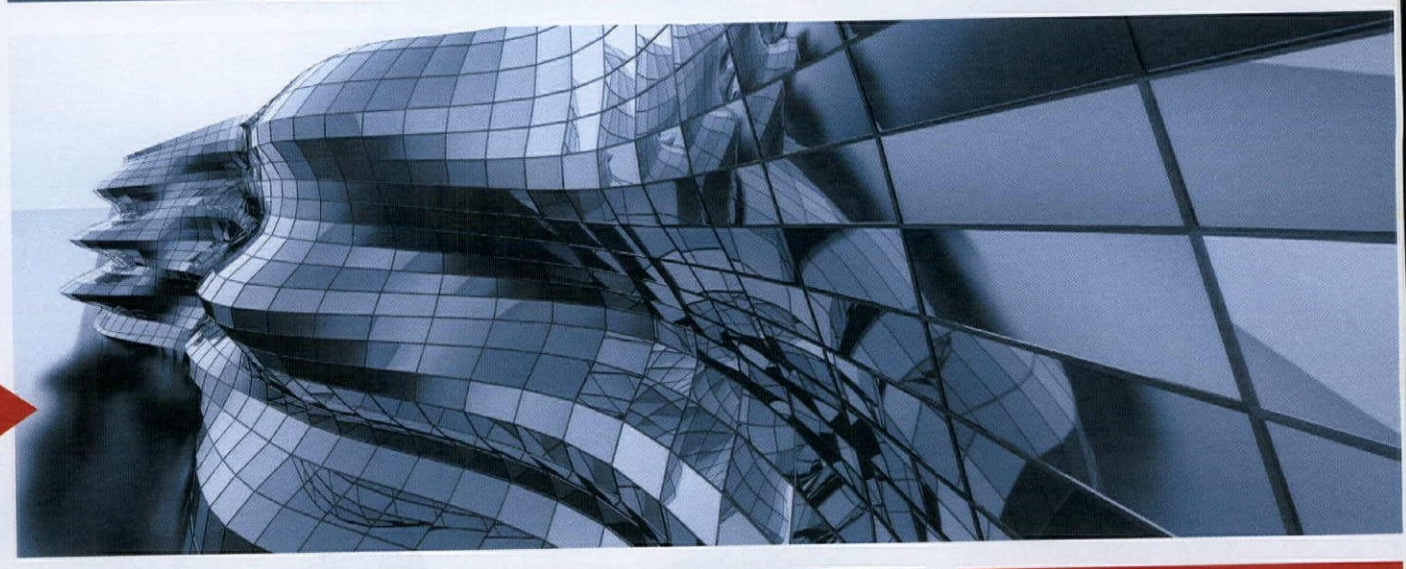
- Variety of concealed fastened clips available, including UL-rated clips
- All concealed fastener roofs have Florida Approvals

www.mbci.com
281.445.8555 | info@mbci.com

SNAP 141

ENR
EVENTS & CONFERENCES

FutureTech West Conference 2015
Construction's Leading Technology Forum



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Evolution™

Thermal and Moisture Protection

Thermal and Moisture Protection Roof and Wall Panels

Division 7 Thermal and Moisture Protection Specification Section 07411 - Manufactured Roof Panels

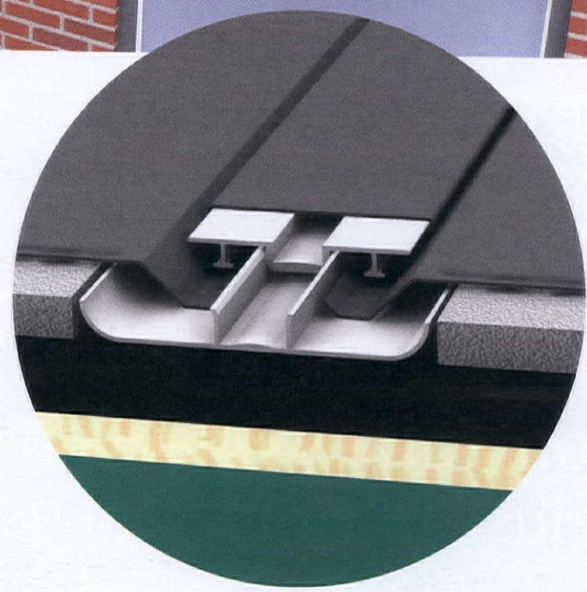
The Overly *Evolution* metal wall and roof system is without raised batten or standing seams and exposed fasteners. The system consists of a hidden drain channel, compression bar, cover cap and cladding sheets. The smooth, contemporary design appears monolithic when viewed from just a short distance. It's an 'Evolution' to all the standard metal wall and roof systems available throughout the history of the industry.

Applications

The Overly *Evolution* system can be installed on sloped roofs and vertical walls. Panels can be curved and/or tapered for barrel vaults and domes or spherical shapes. The system features hidden fasteners and an internal drainage component which removes any moisture that migrates into the system and skillfully designed joints which allow for expansion and contraction. The system is the exterior exposed component of a wall/roof composite assembly. Several composite assemblies are available ranging from thin to thick as determined by aesthetic preferences or as necessary to meet performance requirements such as thermal, structural and fire ratings.

Materials

- Aluminum Alloy 3003-H14, Standard Thickness 18 gauge (.040")–16 gauge (.050") available in painted K500 finishes, brushed and mill finishes
- Stainless Steel type 304 and type 316, 24 gauge (.024") –20 gauge (.036") available in 2B, 2D, #4 and several custom directional and non-directional finishes
- Titanium Grade 1, gauges .018"–.024" available in standard mill or matte finishes
- Zinc, gauge .028"–.032" available in natural or pre-weathered finishes
- Recycled content varies upon material selected. 100% recyclability of all metal components



System Design Data

- Width of Compression Cover: 2.75"
- Mininum/Maximum Spacing between Compression Covers: 12"–48"
- Maximum Length of Panels: 40'
- Compression Extrusion Thickness: .056"
- Channel Extrusion Thickness: .056"
- Test data in accordance with ASTM E 283, ASTM E 330, ASTM E 331 and UL 580 (Class 90 available upon request)

It's more than metal...*it's personal.*

OVERLY

MANUFACTURING COMPANY

P.O. Box 70
Greensburg, PA 15601-0070 USA
Phone: (724) 834-7300
Fax: (724) 830-2877
E-mail: overly@overly.com
Website: www.overly.com

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Sometimes what you don't see is just as important as what you do.

RIXSON®
ASSA ABLOY

An architect's vision often leads to majestic and imaginative new designs. That's why they count on RIXSON, the company that makes it possible for their buildings to be adorned with highly impressive openings.

From the most modest to the grandest of doors, RIXSON's concealed closers and pivots ensure effortless operation and superior performance, without sacrificing lasting beauty.

Left to Right:
Electromagnetic Door Holder/Release, Offset Pivot, Floor Closer, Checkmate® Stops and Holders

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ASSA ABLOY, the global leader in door opening solutions

PRODUCT SPOTLIGHTS

Specialty Products	Pgs.	71-76
Interior Finishes, Furnishings	Pgs.	79-80
Roofing, Siding, Thermal & Moisture Protection	Pgs.	83-84
DOORS, WINDOWS	**PGS.**	**87-90**
Materials	Pgs.	93
Landscaping, Sitework	Pgs.	95
Mechanical Systems, HVAC, Plumbing	Pgs.	97

DOORS, WINDOWS

CAST IRON DOOR CLOSER

$$$

Norton Door Controls

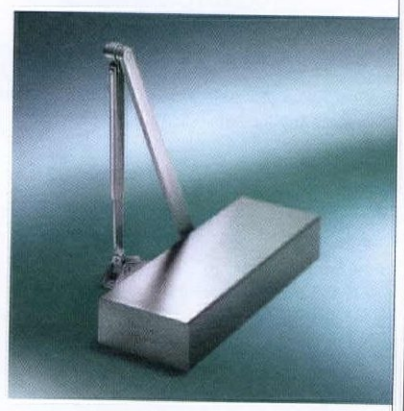
Ideal for high-use openings, the Norton 9500 Series Cast Iron door closer offers durability, flexibility and strength.

Product Application

- Forged standard and heavy-duty arms
- Adjustable spring sizes 1-6
- Closer mounting installation bracket standard

Performance Data

- Exceeds 20 million cycles (witnessed & verified by UL)
- 25-year limited warranty



www.nortondoorcontrols.com
704.233.1586 | Lana Kirkpatrick

SNAP 142

DOORS, WINDOWS

ALUMINUM FULL-VIEW DOORS

$$$

Amarr Garage Doors

2-in. heavy-duty doors for a clean, bright look for any facility. Door widths avail. up to 24 ft 2 in., in 1-in. increments. Optional aluminum panels, full-view glass, anodized and powder coat colors.

Product Application

- Service stations, fire stations, restaurants, sports complexes, automotive showrooms and repair centers

Performance Data

- Eco-friendly – provides maximum natural light and visibility to help reduce electric light requirements
- Heavy-duty (Model 3550) and light-duty (Model 3500) options

www.amarr.com
800.503.3667

SNAP 143

DOORS, WINDOWS

CLOSURE SYSTEMS

MobilFlex Folding & Rolling Closures Inc.

MobilFlex provides imaginative options for a wide range of storefront entrance and space delineators.

Product Application

- Malls, window protection, banks, schools, hospitals, airports, ships, reception desks

Performance Data

- Any layout, any radius curve
- Large spans – up to 19 ft high, 200 ft wide
- Distinctive looks, rugged protection

www.mobilFlex.com
800.501.3539

SNAP 144

DOORS, WINDOWS

BARN DOOR HARDWARE

$$

Crown Industrial

Flat-track barn door hardware used for interior and exterior sliding doors.

Product Application

- Hotels
- Restaurants
- Conference rooms

Performance Data

- High-performance ball-bearing wheels
- Finishes: stainless steel, flat black, galvanized, painted bronze, raw steel sanded with clear coat

www.crown-industrial.com
650.952.5150 | Beverly Morgan

SNAP 145

DOORS, WINDOWS

HURRICANE FOUR-FOLD DOORS

NEW

International Door, Inc.

Miami Dade tested and approved for pressure rating and missile impact criteria.

Product Application

- Fire stations
- Multi-modal facilities
- Municipal facilities
- Rail car maintenance facilities
- Special-purpose openings

Performance Data

- Pressure rated to +/- 65 PSF or greater
- Missile impact rated
- Miami Dade Testing Criteria TAS 201, 202 and 203

www.international-door.com
734.459.3000

SNAP 146

DOORS, WINDOWS

ONE-PIECE HYDRAULIC DESIGNER DOORS

Schweiss Doors, Moving Walls

Schweiss Doors manufactures custom designer doors like this one-piece hydraulic door for Under Armour in Maryland.

Product Application

- Moving doors and walls
- You think it, they build it
- Custom-designed storefronts and more

Performance Data

- Faster, safer operation
- Zero lost headroom
- Superior design that keeps working

www.schweissdoors.com
507.426.8273 | schweiss@schweissdoors.com

SNAP 147

DOORS, WINDOWS

WINDOW WALLS

WR | GREEN

Duratherm Window Corporation

Custom hardwood window wall systems for residential and commercial installations.

Product Application

- Barnes Museum and Art Education Center
- Monticello Visitor Center
- Mercersburg Performing Arts Center

Performance Data

- Sustainably harvested lumber for LEED
- NWDA tested; commercial grade
- Hurricane/impact performance class: Wind Zone 3, Missile Level D

www.durathermwindow.com
800.996.5558 | Timothy Downing

SNAP 148

All products in this section are accessible on sweets.com.

$$$**= Premium cost | **$$**= Mid-range cost | **$= Value-oriented cost | **WR** = Wide range of price points | **NC**= No charge
G = Product marketed as green | **NEW** = Released in the past 12 months

DOORS, WINDOWS

LIBRARY LADDERS & SLIDING DOOR HARDWARE

Specialty Doors

World's largest selection of sliding door hardware.

Product Application
- Wine cellars
- Restaurants/bars
- Libraries
- Closets
- Kitchens

Performance Data
- German precision
- Telescoping top
- Curves available

www.specialtydoors.com
866.815.8151 | Tom Gross

SNAP 149

DOORS, WINDOWS

DO YOU DREAM IN DAYLIGHT?

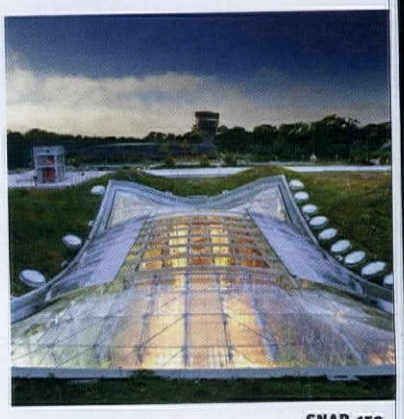
$$$ | GREEN

Bayer Material Science

Makrolon polycarbonate sheets provide clear advantages over glass in architectural glazing, such as break resistance and design freedom.

Product Application
- California Academy of Sciences, San Francisco, CA
- Sparks High School, Sparks, NV
- Canada Place, Vancouver, Canada

Performance Data
- Abrasion resistance and weatherability
- 15-year warranty for Makrolon 15



www.sheffieldplastics.com
877.413.7957 | Cindy Race

SNAP 150

DOORS, WINDOWS

IN-FLOOR ELECTROMECHANICAL SWING DOOR OPERATOR

WR

Tormax Technologies, Inc.

Fully concealed in-floor operator was designed for rigorous conditions of commercial use for doors weighing up to 1,000 lb.

Product Application
- Buildings that meet the Historic Preservation Society guidelines

Performance Data
- Solid glass, wood, metal, fiberglass and/or arched doors
- Elevated design for convenience, comfort, safety
- Eco-friendly, 110-VAC electromechanical operator

www.tormaxusa.com
888.685.3707

SNAP 151

DOORS, WINDOWS

BALANCED DOORS DELIVERED IN UNDER 30 DAYS

CRL-U.S. Aluminum

CRL-U.S. Aluminum manufactures Balanced Door solutions that empower architects to specify with confidence and eliminate the need to compromise design intent in the interest of budget or lead time.

Product Application
- High-traffic applications
- High-wind/pressure applications
- ADA-compliant accessibility

Performance Data
- Made in the U.S.A.
- Tested to perform for over 1.5 million cycles

www.crl-arch.com/balanced-doors
800.421.6144 | architect@crlaurence.com

SNAP 152

DOORS, WINDOWS

GARAGE DOORS

Clingerman Doors – Custom Wood Garage Doors

High-end Versatex garage doors without the maintenance.

Performance Data
- Low maintenance
- Lifetime section warranty

www.woodgaragedoor.com
814.784.3634 | Sloan

SNAP 153

DOORS, WINDOWS

ADJUSTABLE CONCEALED HINGES

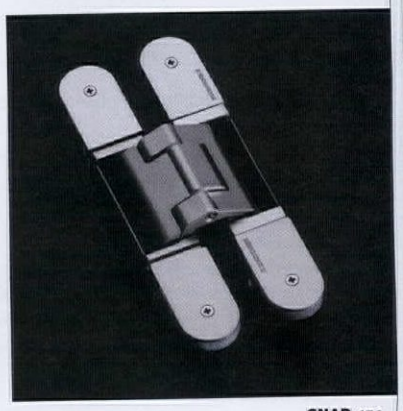
$$$

SIMONSWERK North America, Inc.

The TECTUS 3-way adjustable concealed hinge series for doors offers designers and architects an entire range of hinges for different architectural openings.

Product Application
- Hospitality – Armani Hotel, Burj Khalifa, Dubai, U.A.E.
- Residential – 2012 Olympic Village, London, U.K.
- Retail – Apple Retail Stores, global

Performance Data
- Maintenance-free slide bearings for doors up to 300 kg/660 lb
- Designed for high-frequency use (not limited to low-frequency applications)



www.simonswerk-usa.com
262.472.9500 | info@simonswerk.com

SNAP 154

DOORS, WINDOWS

INTERIOR GLASS WALL SYSTEMS

$$ | GREEN

DORMA

Frameless glass walls bring simple, luminous and unifying elegance to the workplace. Choose from sliding or pivoting doors in glass, wood, composite or metal to realize your architectural vision.

Product Application
- Sliding and pivoting doors
- Office fronts and glass enclosures
- Optional DORMOTION soft-close cushioning feature

Performance Data
- Wall, ceiling or floating header installations
- Doors up to 10 ft high

www.dorma.com
800.523.8483 | Melissa Evans

SNAP 155

Question:

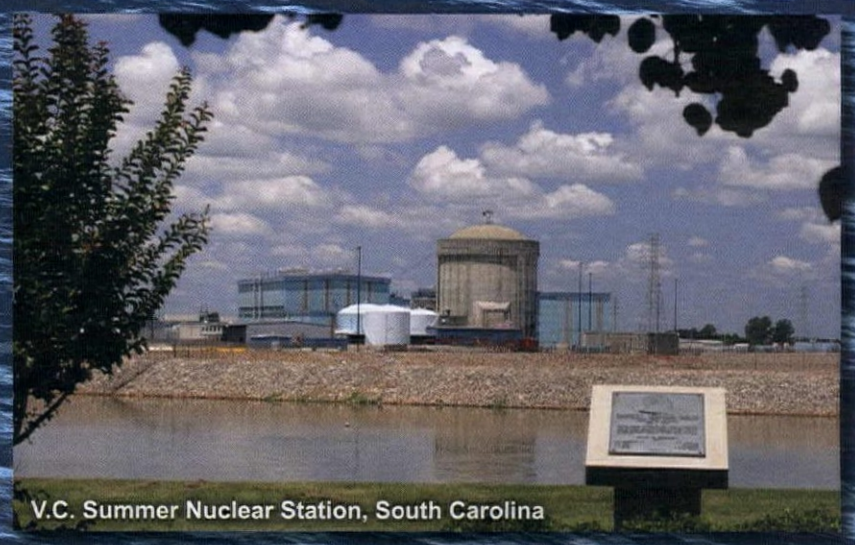
WHAT DO THE WHITNEY ART MUSEUM, NASA, & THE V.C. SUMMER NUCLEAR STATION HAVE IN COMMON?

Answer:

FLOOD PROTECTION FROM WALZ & KRENZER OF COURSE!

Whitney Museum, New York

NASA, Texas


V.C. Summer Nuclear Station, South Carolina

Contact the experts at Walz & Krenzer for all your flood barrier, watertight and blast closure needs.

Walz & Krenzer, Inc.

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Tel: 203-267-5712 • Fax: 203-267-5716 • E-mail: sales@wkdoors.com

DOORS, WINDOWS

STAINLESS STEEL SLIDING WOOD DOOR SYSTEM

Amba Products

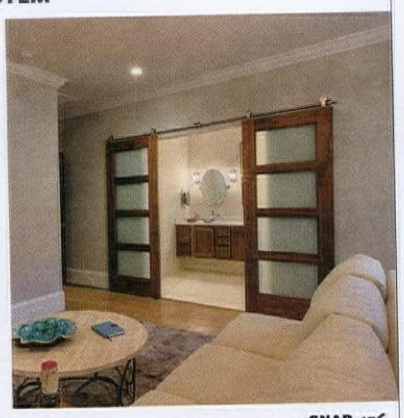
The Slick 2 stainless steel sliding door system for wood doors provides an elegant and practical solution for a doorway or even dividing a room.

Product Application

- Bi-parting and bypassing doors
- Can be mounted to glass walls
- Couplers available to join systems

Performance Data

- Intertek tested and passed Grade 1 requirements of ANSI/BHMA
- Door weight up to 320 lb (145 kg)



www.ambaproducts.com
404.350.9738 | harris@ambaproducts.com

SNAP 156

DOORS, WINDOWS

SLIDING & STACKING ROOM DIVIDERS

Hawa Americas Inc.

The HAWA-Aperto 60/H is a flexible room divider system with multiple stacking options for wood sliding doors up to 132 lb.

Product Application

- Commercial, hospitality, residential
- Enables flexible layouts, curved installations and directional changes
- Hardware is also available for glass applications

Performance Data

- Stacking area accommodates up to 9 - 3'0" wide panels
- High quality, yet economical and easy to assemble

www.hawa.com
214.760.9054 | payne.chariessa@hawa.com

SNAP 157

DOORS, WINDOWS

AUTOMATIC DOOR BOTTOMS: REGULAR OR HEAVY DUTY

$$

Zero International

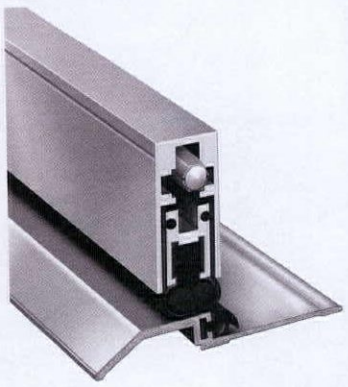
Patented technology activates to drop the seal with a smooth, scissor-like motion when closing and retracts when opening. No drag and a tight seal against the saddle or floor.

Product Application

- Many models to choose from
- Sound or fire ratings
- Surface, semi- or full-mortised mountings

Performance Data

- Maximum drop 1 in. unless specified
- Reversible for left- or right-handed doors
- Closed-cell neoprene or lead-lined



www.zerointernational.com
718.585.3230

SNAP 158

DOORS, WINDOWS

RIBBON WALL SYSTEM

NEW | $ | $$

EFCO Corporation

The 600R Ribbon Wall System is a hybrid between a storefront and curtain wall system that's available pre-glazed to save on labor costs and installation time.

Product Application

- Curtain wall and storefront applications
- Low- to mid-rise hospitality, office and multifamily residential buildings

Performance Data

- Capable of 5 ft x 12 ft standard; custom options avail.
- Thermal simulation achieved a .40 U-factor w/ .24 COG

www.efcocorp.com
800.221.4169 | Richard Paulsen

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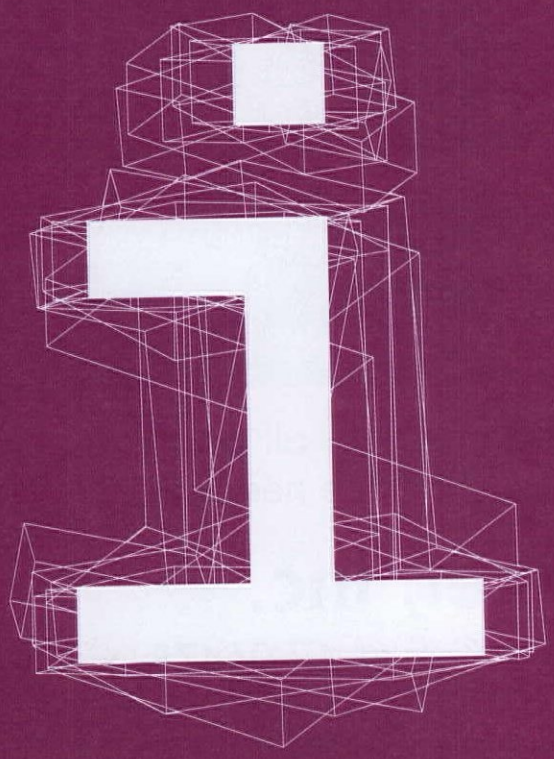

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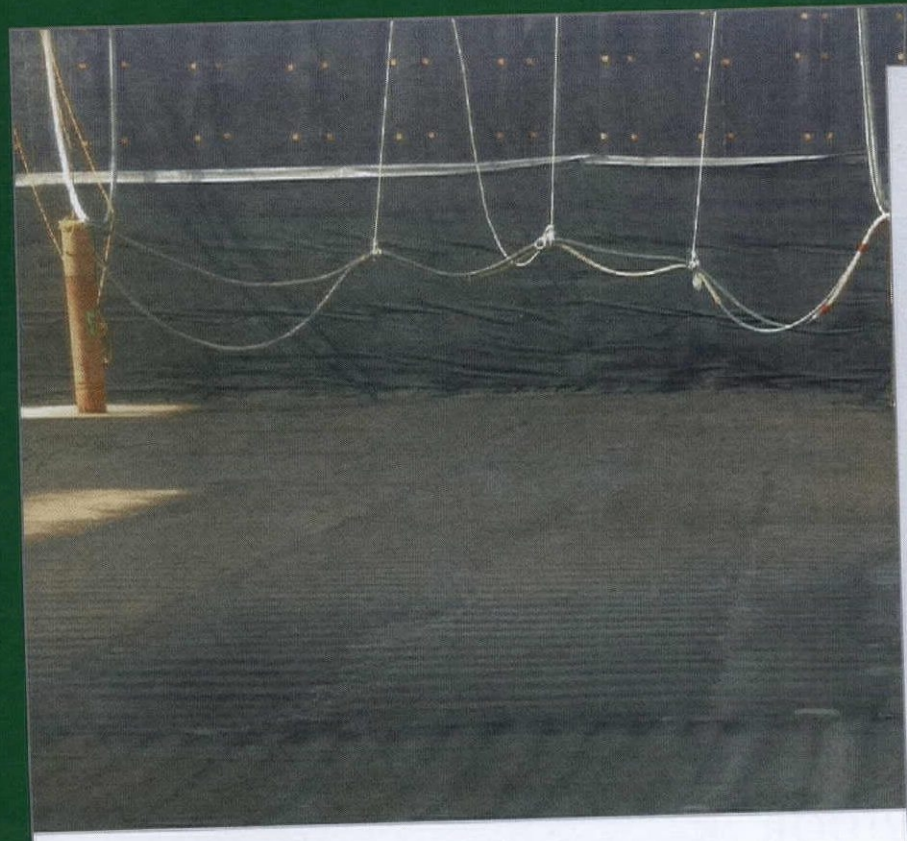

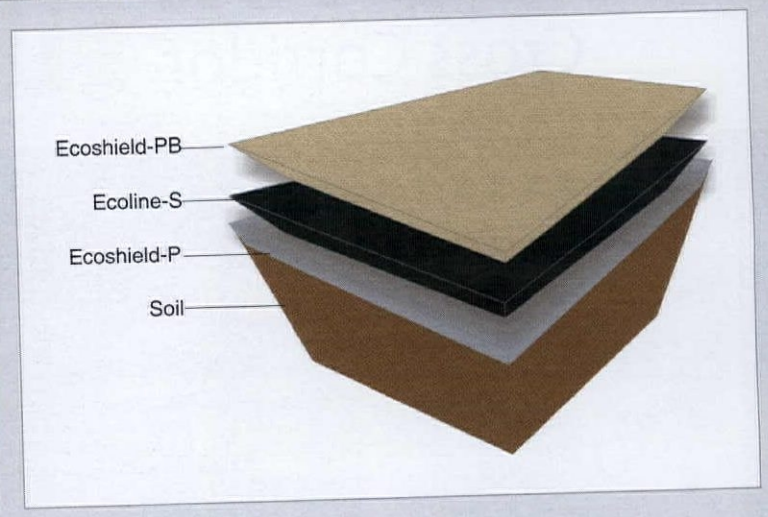

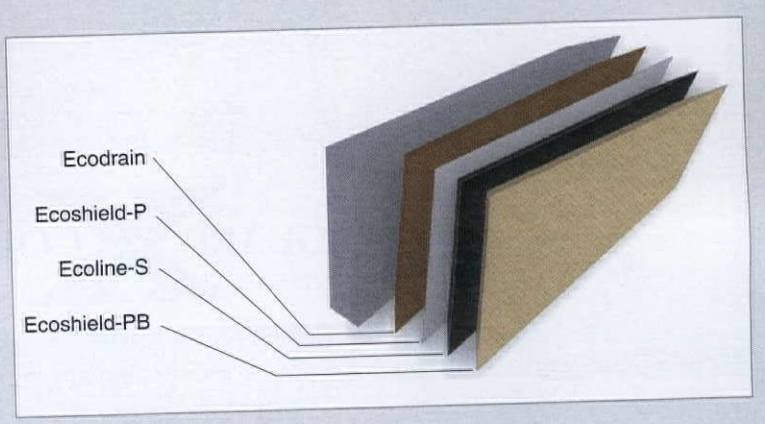

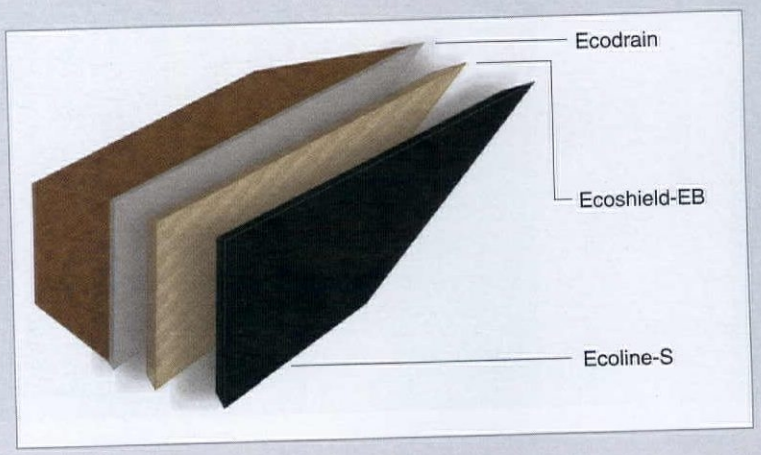

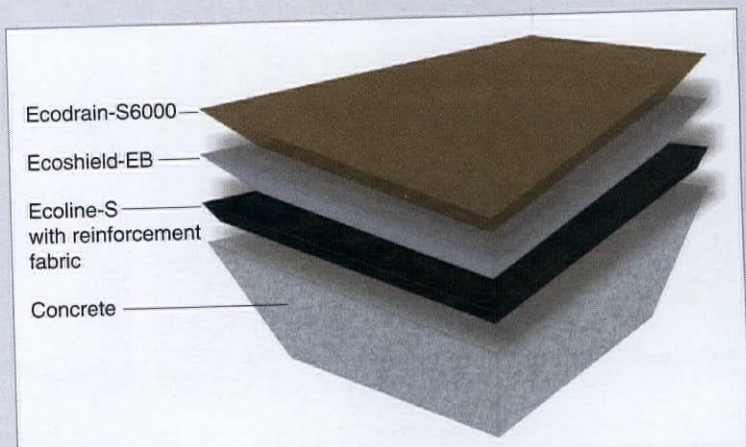

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- System III RDB Roof / Deck Waterproofing
- System III MBB Waterproofing / Gas Barrier
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MATERIALS

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WR | GREEN

Sitecraft, Inc.

Sitecraft's Greenwood, a replacement for wood lumber applications, is perfect for your project and great for the environment. Benches, planters, tables, trash receptacles and fencing.

Product Application

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Performance Data

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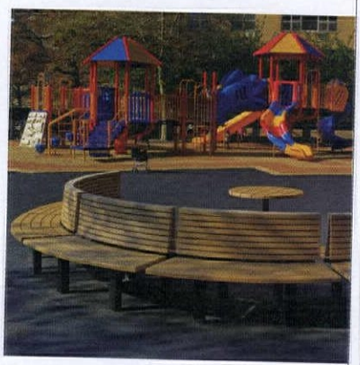

www.site-craft.com
800.937.0203 | Wigens Lindor

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MATERIALS

QUALITY CLAY MASONRY UNITS, UNIQUE COLORS

Endicott Clay Products Co.

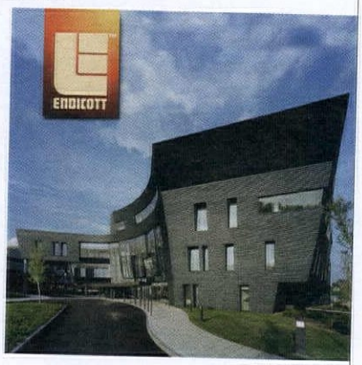
Face brick, thin brick, tile and pavers. A variety of sizes in a unique palette including exclusive Ironspot colors and endless special shapes.

Product Application

- Yale Health Center, New Haven, CT (at right)
- Prudential Center (arena), Newark, NJ
- Target Corporation Headquarters, Minneapolis, MN

Performance Data

- Meets or exceeds ASTM standards
- Backed by a large BIM catalog



www.endicott.com
402.729.3315 | Gary Davis

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MATERIALS

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Product Application

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- Universities, education, institutions, libraries, malls
- Prisons and water treatment facilities

Performance Data

- Meets all code requirements
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www.spectraglaze.com
800.638.3188 | James Franz

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MATERIALS

70% PVDF ARCHITECTURAL COATINGS

$$$

Valspar

Fluropon 70% PVDF coating systems provide field-proven, high-performance protection for exterior coil and extrusion architectural building products.

Product Application

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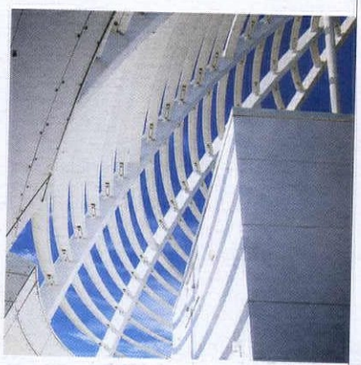
- Aspen Art Museum

Performance Data

- Exceptional color retention
- Resistant to UV rays, chemical degradation, chalking and fading
- Wide color range and solar reflective options available



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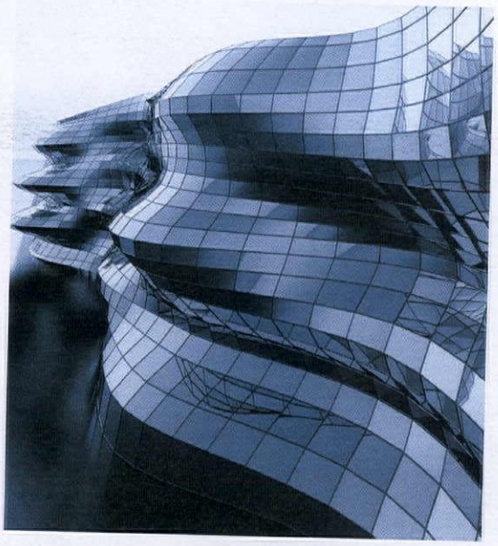

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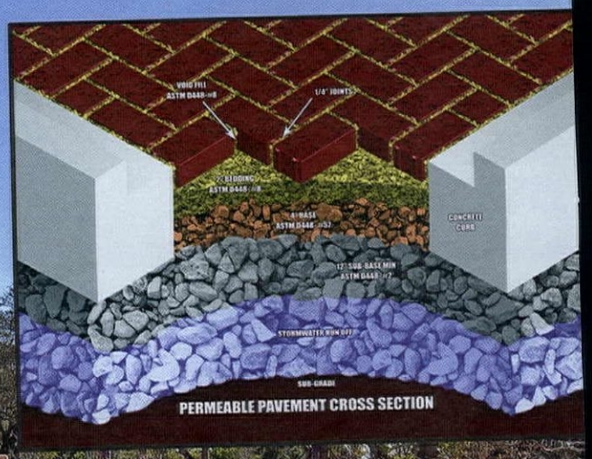

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Performance Data

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Performance Data

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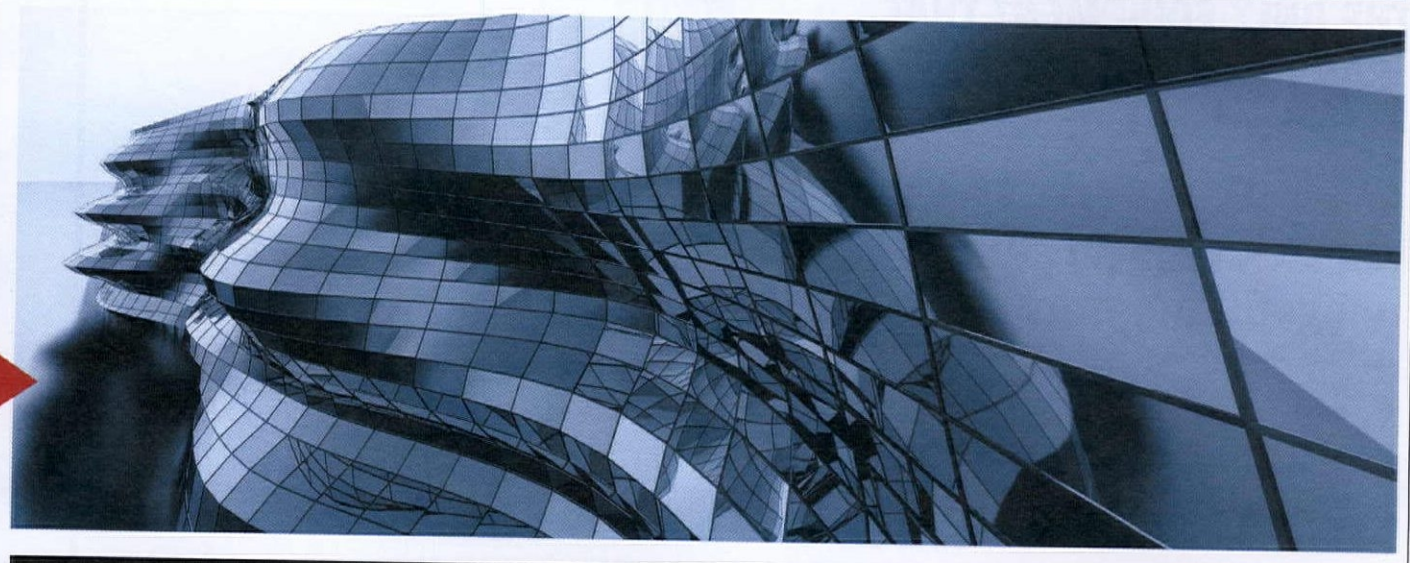

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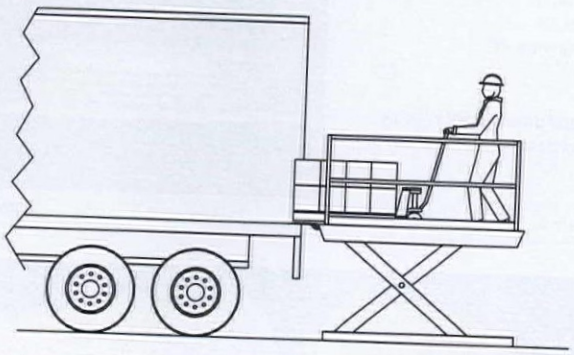

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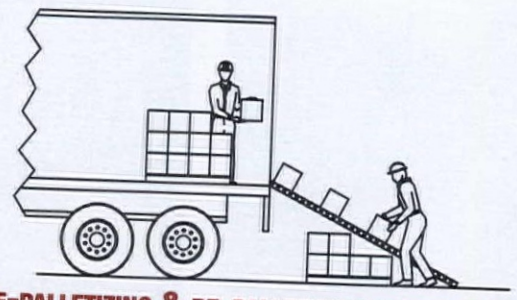

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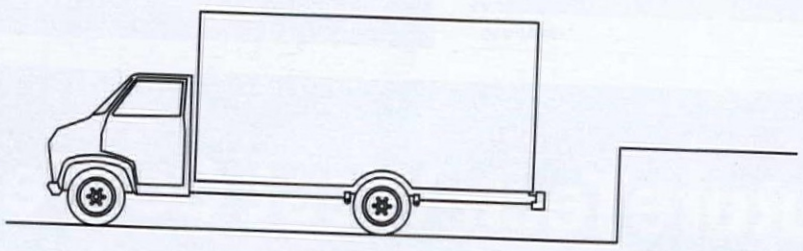

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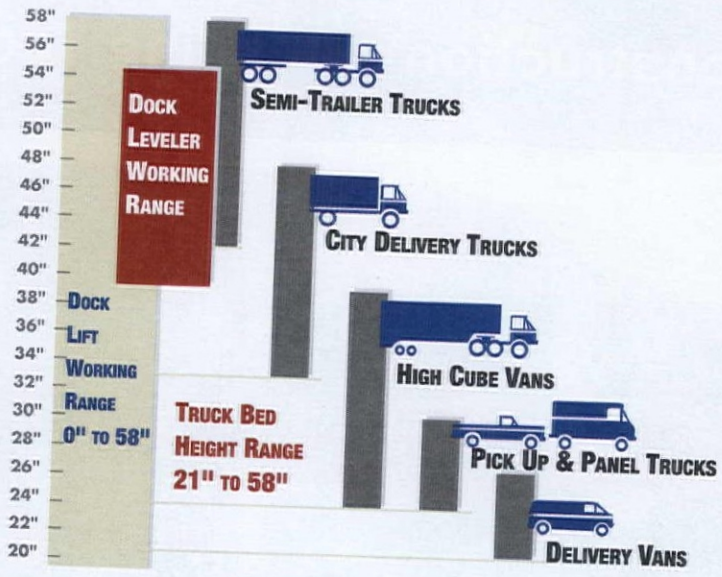
DOCK LIFTS ALSO PROVIDE DOCK-TO-GROUND ACCESS



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Advance Lifts

With a concrete pad & an electrical power source, you can put this lift on the pad, plug it in & lag it down. It's that easy. This instant dock services any height truck & provides ground access.

Performance Data

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www.advancelifts.com
800.843.3625 | Michael Renken

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Just Manufacturing

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Product Application

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Performance Data

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Product Application

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Performance Data

- Cost-saving solution for bathroom remodels
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800.446.8827 | David Sotelo

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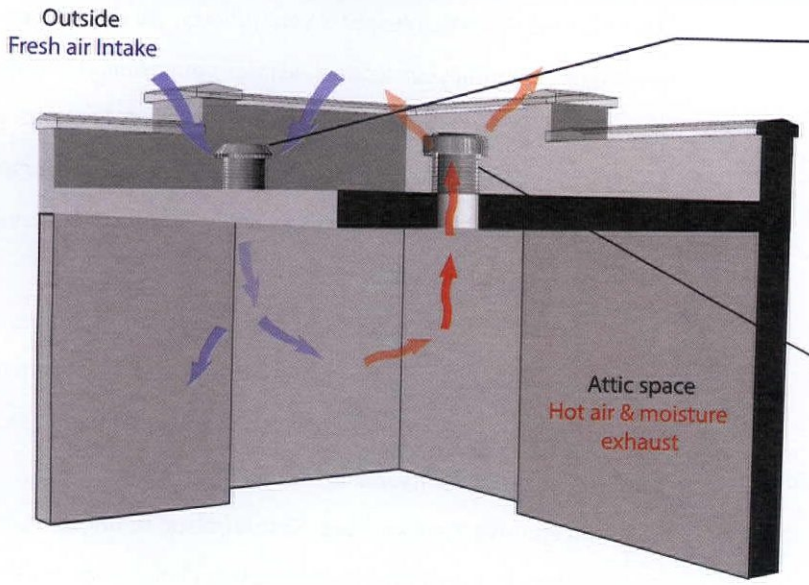

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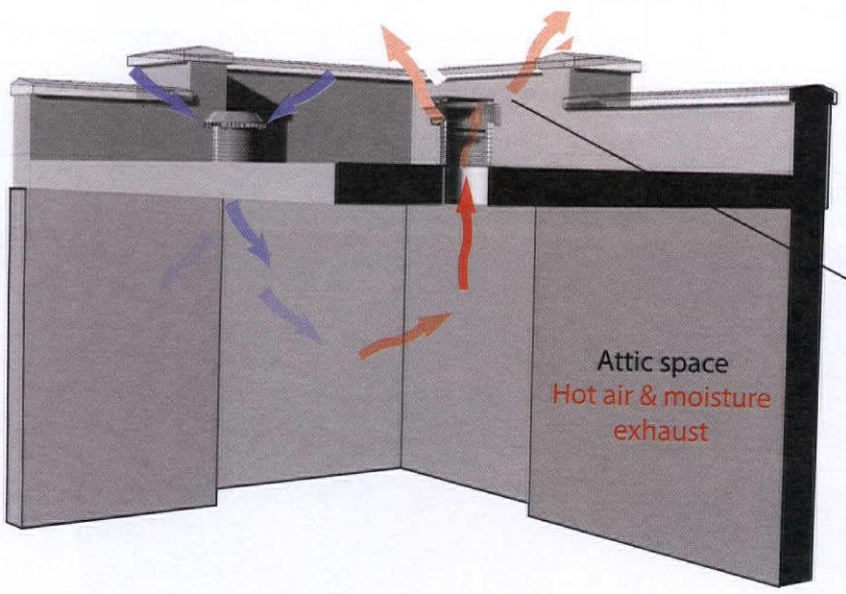
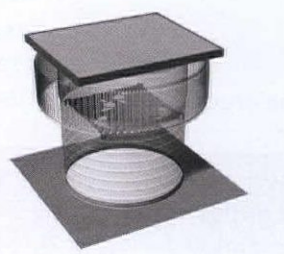
(Air Intake)

Aura Vent
(Air Exhaust)





Aura Solar Fan
(Air Exhaust)

Wall Louver
SV-W10-L18
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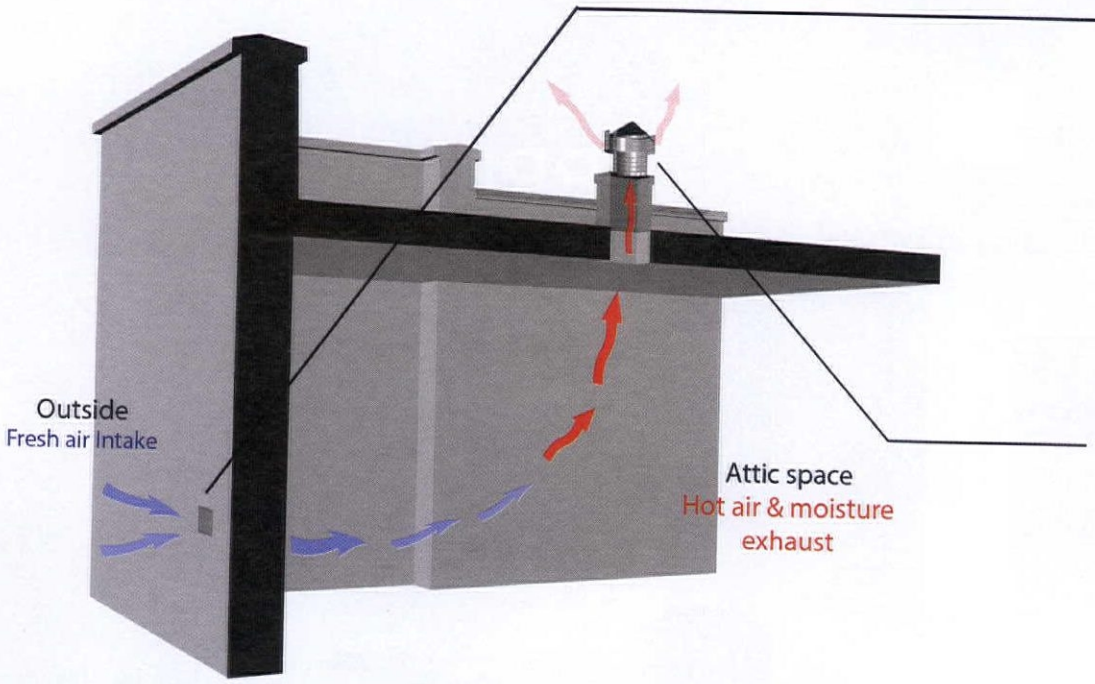

Witches Hat w/ curb mount
flange & roof curb
(Air Exhaust)

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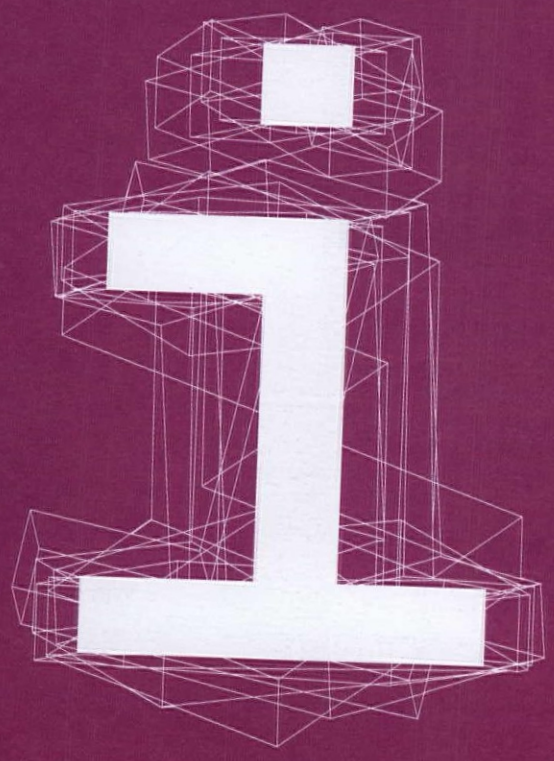

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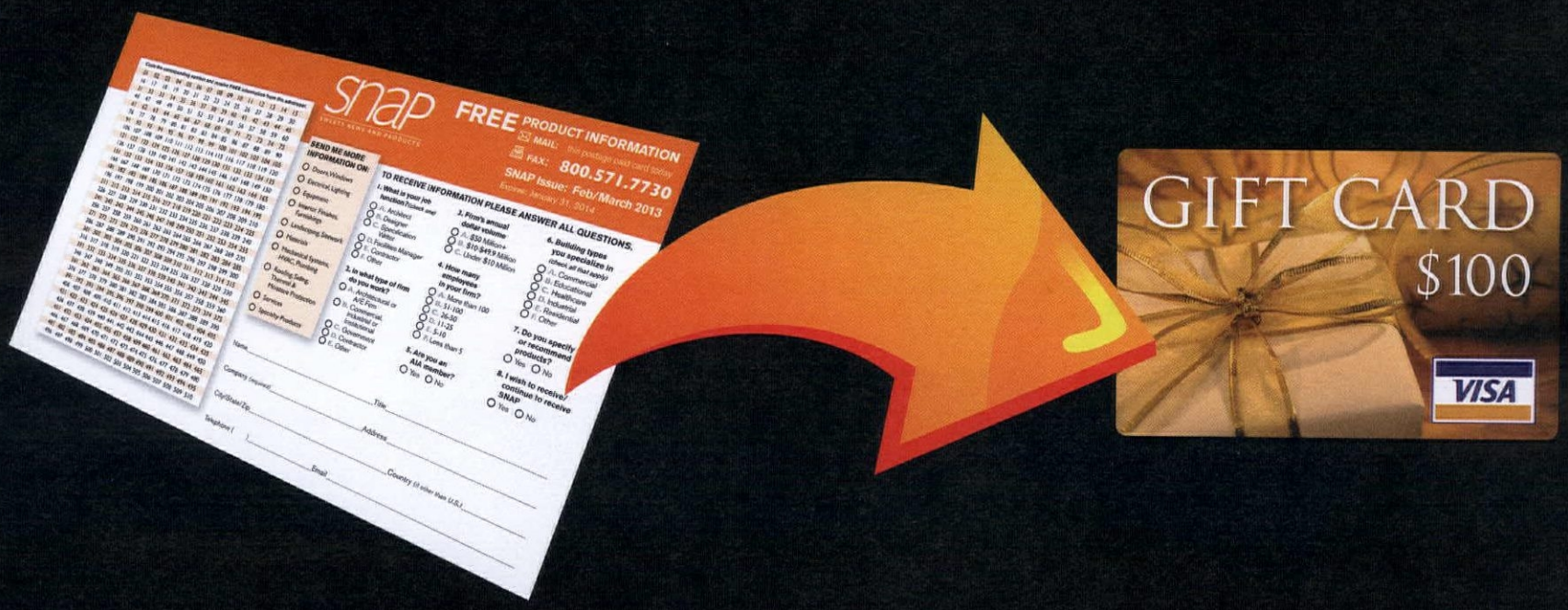

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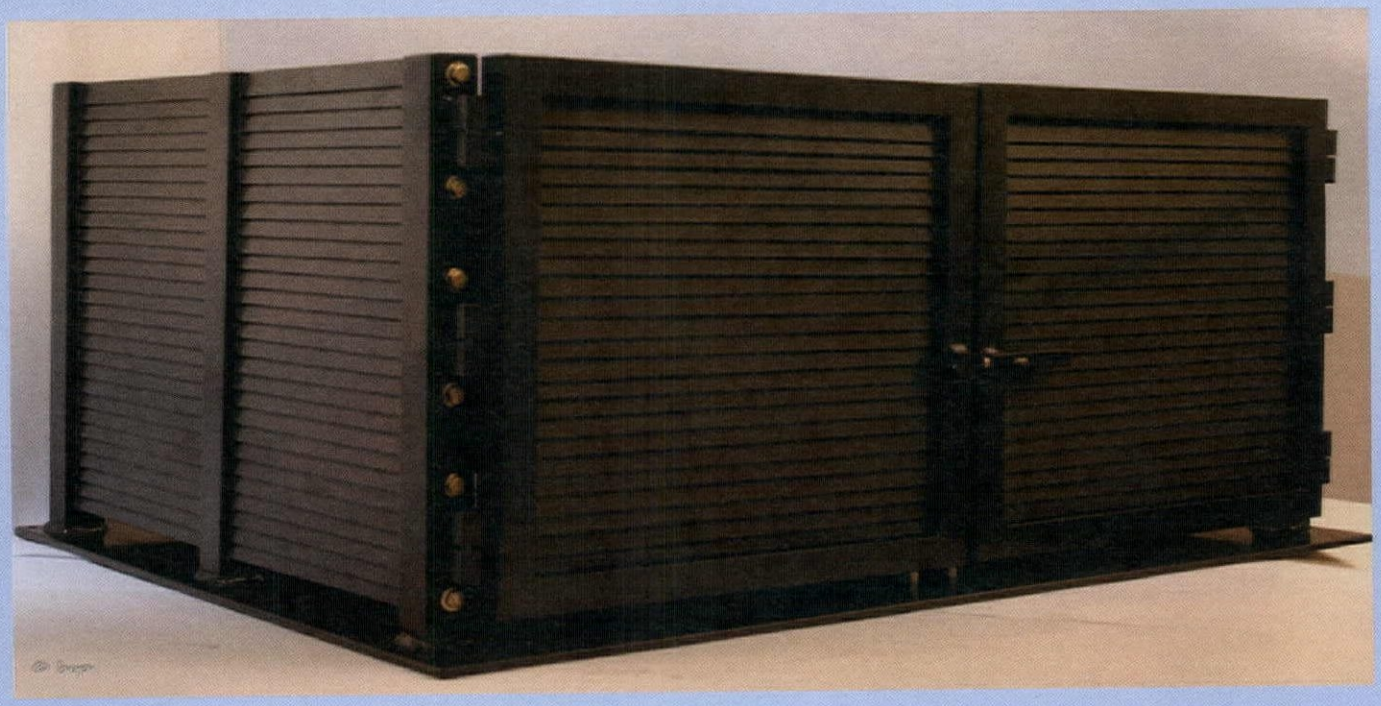

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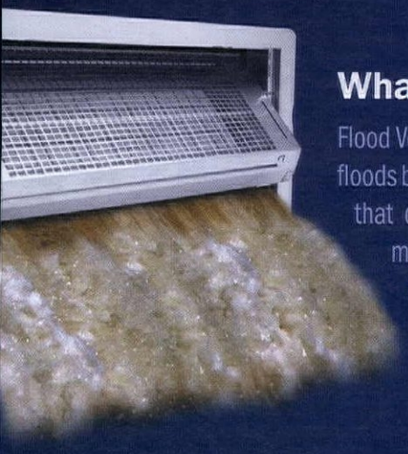
Certified Floodplain Manager



What is a Flood Vent?

Flood Vents protect houses and buildings during floods by preventing hydrostatic pressure buildup that can destroy walls and foundations. This mitigation technique, referred to as Wet Floodproofing, allows floodwater to freely flow through an enclosure such as a crawlspace or garage.

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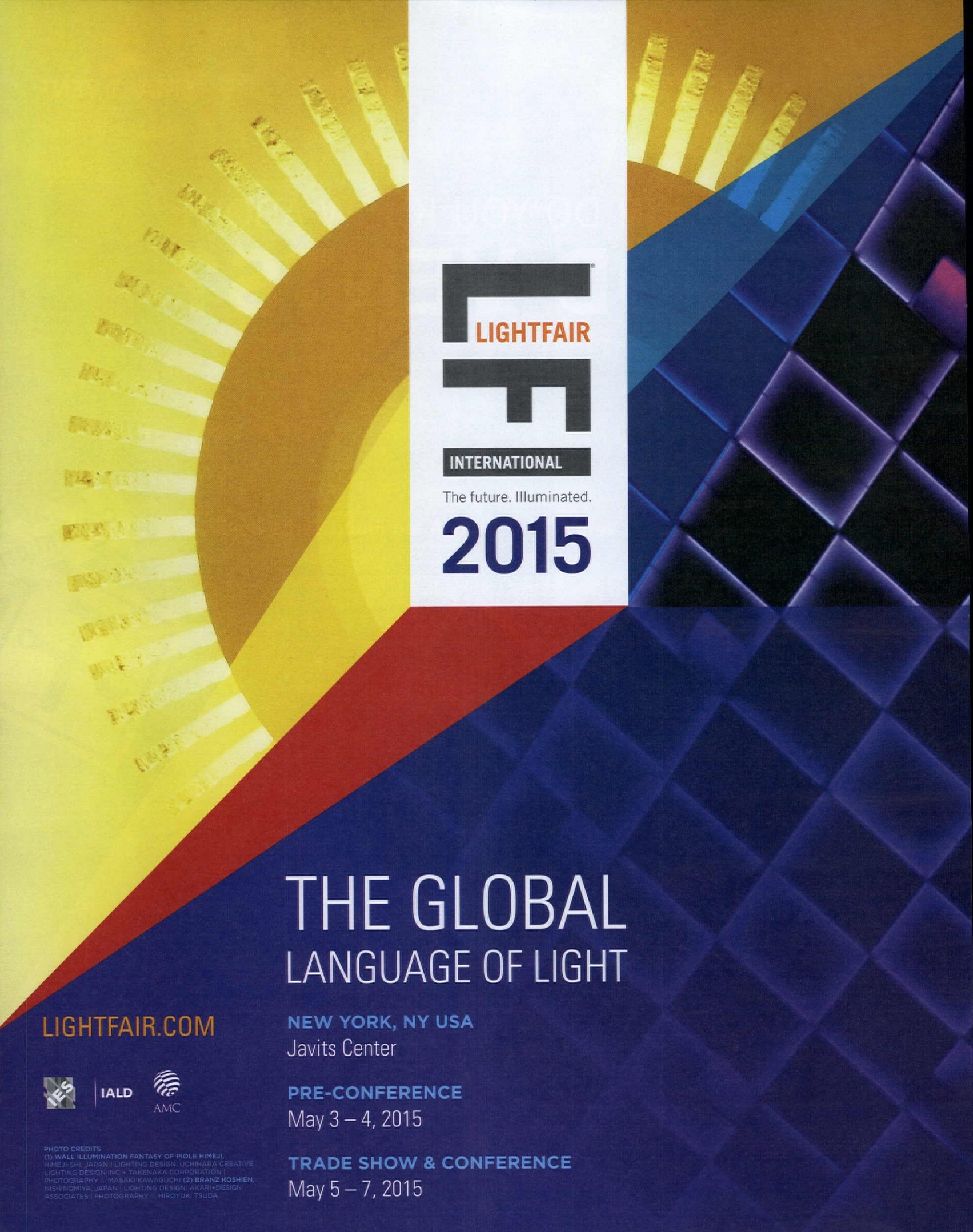
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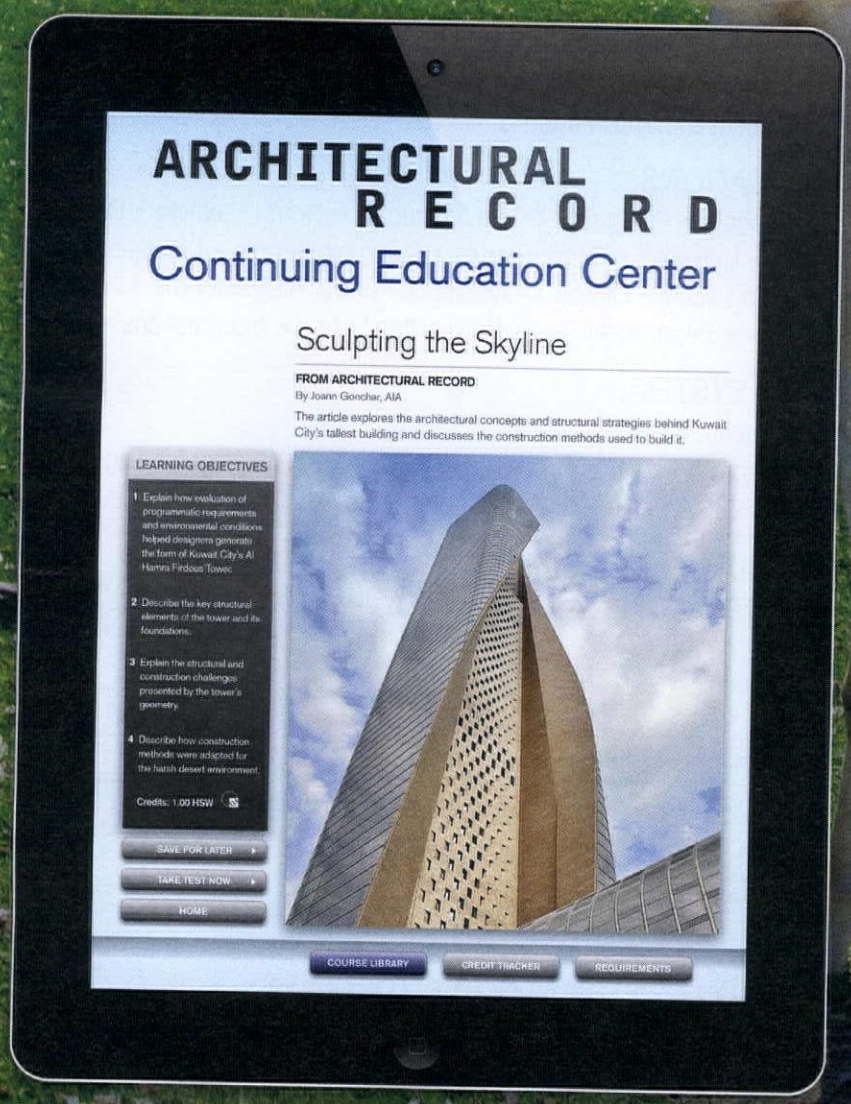

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LAY-IN SYSTEM:

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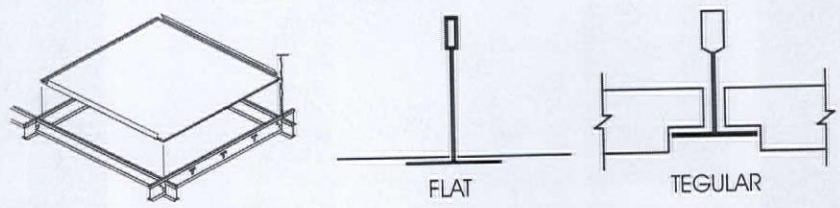

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EXHIBITIONS

Assembled Realities: Jeff Chien-Hsing Liao's New York

NEW YORK CITY

Through February 15, 2015

A portrait of New York as seen through more than 40 large-scale photographs of the city's landscape, *Assembled Realities* features work by Taiwanese artist Jeff Chien-Hsing Liao, who came to New York at the age of 18 to study photography. Pushing the boundaries of traditional documentary photography, Liao creates large-scale panoramas by combining multiple exposures of the same location. At the Museum of the City of New York. For more information, visit *mcny.org*.

Building Connections 2014

NEW YORK CITY

Through February 28, 2015

Building Connections 2014 is the Center for Architecture Foundation's annual exhibition of K–12 student design work from its in-school residencies and vacation studios. The exhibition highlights the Center's design education methods and program themes and celebrates the creativity of our students, design educators, and partner teachers through a dynamic display of drawings and models. It is a valuable resource for educators interested in integrating design into their own classrooms. For more information, visit *cfa.aiany.org*.

COOP HIMMELB(L)AU: Dynamischer Raumplan

LOS ANGELES

Through March 8, 2015

Dynamischer Raumplan is a spatial installation based on the city as a dynamic and complex adaptive system. It displays the creation and use of energy as a critical parameter for urban planning of the 21st century and as a catalyst for a new city morphology. The installation can be read in several scales: a city block, a city district, or an urban region. At SCI-Arc. For more information, visit *sciarc.edu*.

New Territories: Laboratories for Design, Craft and Art in Latin America

NEW YORK CITY

Through April 5, 2015

This exhibition examines the confluence of art, design, and craft in several cities throughout Latin America, where some of the most pertinent new directions are emerging. *New Territories* explores the collaborations between small manufacturing operations and craftspersons, artists, and designers, and demonstrates how the resulting work addresses not only the issues of commodification and production, but also of urbanization, displacement, and sustainability. The exhibition explores a number of key themes, including the dialogue between contemporary trends and artistic legacies in Latin American art, the use of repurposed materials, the blending of digital and traditional skills, and the reclamation of personal and public space. At the Museum of Arts and Design. For more information, visit *madmuseum.org*.

The Way We Live Now, Modernist Ideologies at Work

CAMBRIDGE, MASSACHUSETTS

Through April 5, 2015

The Way We Live Now is a group exhibition exploring the influences and legacies of modernist visionaries on contemporary art and life through site-specific installations at Le Corbusier's majestic 1963 Carpenter Center. It also features existing work that stands in dialogue with the legacy of figures such as Mies van der Rohe, Eileen Gray, Bruno Taut, Anne Tyng, Adolf Loos, Lilly Reich, and others. The exhibition looks at the aspirations of these modernist architects and how their experiments with architecture and design radically transformed the way we experience the built environment today. At the Carpenter Center for the Visual Arts. For more information, visit *ccva.fas.harvard.edu*.

One Way: Peter Marino

MIAMI BEACH, FLORIDA

Through May 3, 2015

American architect Peter Marino has been celebrated over the past four decades for his forward-thinking work, which exists at the intersection of art, fashion, and architectural design. Curated by Jérôme Sans, this exhibition, at the Bass Museum of Art, explores the interplay between Marino's iconic architectural designs and his personal collection of contemporary art, which includes pieces by Loris Gréaud, Keith Haring, Richard Serra, Rudolf Stingel, and Andy Warhol. A handful of artists, Gregor Hildebrandt and Erwin Wurm among them, will also present new work commissioned for the exhibition. For more information, visit *bassmuseum.org*.

Sink or Swim: Designing for a Sea Change

LOS ANGELES

Through May 3, 2015

Through the work of a select group of architectural, fine art, and news photographers, *Sink or Swim* casts an eye on both the problem of climate change in densely populated coastal regions and contemporary design as a means to navigate the changing landscapes. It explores the story of resilience, from adaptation for human survival to ambitious infrastructure planning, in some of the world's richest and poorest coastal communities. Curated by architecture writer and radio host Frances Anderton with the Annenberg Space for Photography, *Sink or Swim* features newly commissioned and archival works by photographers Iwan Baan, Stephen Wilkes, Paula Bronstein, Jonas Bendiksen, and Monica Nouwens. Images show highly complex coastal flood mitigation in the Netherlands, controversial sea walls in Japan, and innovative homes and community buildings by leading architects including Thom Mayne, Toyo Ito, and Shigeru Ban. For more information, visit *annenbergspaceforphotography.org*.

The Architectural Image, 1920–1950: Prints, Drawings, and Paintings from a Private Collection

WASHINGTON, D.C.

Through May 3, 2015

Between 1920 and 1950, architecture changed more profoundly and more rapidly than during any similar timespan in history. The changing tastes, theories, and obsessions of that era were often documented by prominent artists who found architecture and construction to be compelling subject matter. The National Building Museum presents an exhibition of 70 prints, original drawings, and paintings from this period in architectural history, drawn from the collection of David M. Schwarz, a prominent Washington, D.C., architect. The works reveal an enduring fascination with architectural and engineering imagery and offer glimpses into the artists' personal impressions of the built environment. Included are works by artists Howard Cook, Louis Lozowick, and Charles Turzak. For more information, visit *nbm.org*.

Uneven Growth: Tactical Urbanisms for Expanding Megacities

NEW YORK CITY

Through May 10, 2015

As the world's population approaches 8 billion, city authorities, urban planners and designers, economists, and many others will have to join forces to ensure that expanding megacities remain habitable. To engage this international debate, *Uneven Growth* at the Museum of Modern Art showcases the work of six interdisciplinary teams who present new architectural possibilities for global metropolises Hong Kong, Istanbul, Lagos, Mumbai, New York, and Rio de Janeiro. The resulting proposals show how emergent forms of tactical urbanism can respond to alterations in the nature of public space, housing, mobility, and other issues in near-future urban contexts. For more information, visit *moma.org*.

Provocations: The Architecture and Design of Heatherwick Studio

LOS ANGELES

February 20–May 24, 2015

Held at the Hammer Museum, *Provocations* will feature the imaginative work of British designer Thomas Heatherwick and his London-based studio, established in 1994 and recognized for combining novel engineering with new materials and innovative technology to create unusual, often sculptural, building forms. Heatherwick is known for unique design concepts and for range, from small products to large structures. A selection of projects will be on display, including prototypes, scale models, objects, photographs, and film and video footage. For more information, visit *hammer.ucla.edu*.

Hot to Cold: An Odyssey of Architectural Adaptation

WASHINGTON, D.C.

Through August 30, 2015

The international design firm BIG-Bjarke Ingels Group (BIG) returns to the National Building Museum with a behind-the-scenes look at its creative process. The exhibition takes visitors from the hottest to the coldest parts of our planet and explores how BIG's design solutions are shaped by their cultural and climatic contexts. More than 60 three-dimensional models will be suspended at the second-floor balconies of the Museum's historic Great Hall in an unprecedented use of this public space. *Hot to Cold* premieres 20 of the studio's latest projects, interpreted through Iwan Baan's photography of BIG's built work, films by Ila Bêka and Louise Lemoine, and the graphic artist Stefan Sagmeister's design for the accompanying catalog. For more information, visit *nbm.org*.

LECTURES, CONFERENCES, AND SYMPOSIA

Gregg Pasquarelli: Never Ever Don't: Why SHoP Breaks the Rules

LOS ANGELES

February 11, 2015

Since 1996, SHoP has set the standard for creative exploration in the field of architecture and modeled a new way forward with its unconventional approach to design. At the heart of the firm's method is a willingness to question accepted patterns of practice, coupled with the courage to expand, where necessary, beyond the architect's traditional roles. Founding partner Gregg Pasquarelli has been at the center of this deeply collaborative practice for nearly 20 years. At SCI-Arc. For more information, visit *sciarc.edu*.

2015 SAH Annual International Conference: Chicago at the Global Crossroads

CHICAGO

April 15–19, 2015

The Society of Architectural Historians (SAH) will celebrate its 75th anniversary during this conference, which includes lectures, roundtables, and 36 paper sessions covering topics in architecture, art and architectural history, preservation, landscape architecture, and the built environment. SAH is committed to engaging both conference attendees and local participants with public programming that includes more than 30 architectural tours, a plenary talk, and a half-day seminar addressing Chicago's waterways and neighborhoods. For more information, visit *sah.org/2015*.

AIA Convention 2015

ATLANTA

May 14–16, 2015

AIA Convention 2015 is one of the largest annual gatherings of architects and design professionals in the U.S. Attendees will get the latest on energy efficiency, learn about LEED with behind-the-scenes tours of sites, and immerse themselves in intensive ADA training. There are nearly 300 opportunities for high-quality, interesting, of-the-moment education. This year's keynote speaker is President Bill Clinton. At the Georgia World Congress Center. For more information, visit *convention.aia.org*.

COMPETITIONS

2015 AIANY Design Awards

Submission deadline: February 6, 2015

AIA New York's annual Design Awards Program recognizes outstanding architectural design by AIA New York Chapter members, New York City–based architects in any location, and work in New York City by architects around the globe. The purpose of the awards program is to honor the architects, clients, and consultants who collaborate to achieve design excellence. Submissions that reflect a broad and inclusive definition of design excellence are encouraged. Submissions must exhibit design achievement that demonstrates exemplary skill and creativity in the resolution and integration of formal, functional, and technical requirements, including ecological stewardship and social responsibility. For more information, visit *aiany.org*.

CitiesAlive: Call for Papers

Abstract and bio deadline: February 27, 2015

This call for papers is an opportunity to present groundbreaking research, novel policy changes, or innovative design case study to a highly interested group of green-roof and -wall enthusiasts at the CitiesAlive conference. CitiesAlive is heading to the Big Apple for the first time in October 2015 and expects to draw 1,000 delegates. They will work to explore and showcase underutilized living-architecture opportunities. For more information, visit *citiesalive.org*.

PARTNERS IN DESIGN

BY INGRID SPENCER

ANURAG NEMA

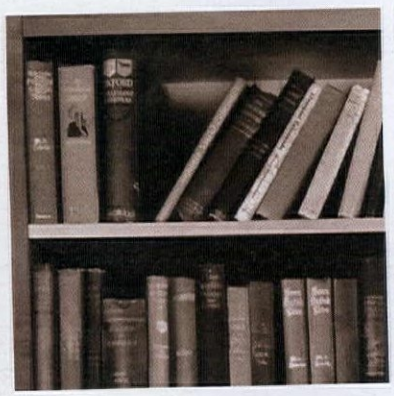
The principal of Nemaworkshop, Nema has designed hospitality projects around the world. Before founding his firm in 2004, he was a project manager at Rockwell Group.

nemaworkshop.com

CHRISTIAN MCAULEY

McAuley joined Imagine Tile as a marketing assistant 17 years ago and became its president in 2004; he has expanded the New York City–based company's custom capabilities.

imaginetile.com



NEW YORK CITY may be chock-full of coffee shops, but the 420-square-foot D'Espresso café is more memorable than most. Thanks to a collaboration between architect Anurag Nema of Nemaworkshop and Christian McAuley of Imagine Tile, the café just down the street from the iconic 42nd Street branch of the New York Public Library was designed to resemble a bookshop: tiles depicting stacks of shelved tomes clad the walls, ceiling, and floor. After fielding nearly five years' worth of nonstop inquiries, Nema and McAuley parlayed the project into a stock product, the Bibliophile Collection. The creative partnership was Imagine's second; the first, with Adam Tihany, produced the smoke-wisped Fumo series for a cigar bar. "I wanted the same kind of easily recognized imagery at D'Espresso," Nema says. Nemaworkshop provided the photographs—taken at a local bookshop—and Imagine Tile translated the high-resolution imagery to 16-inch-square commercially rated tiles in sepia tones with a matte finish. Eighteen images in all went into the 48-by-96-inch repeat. "The process is done with ceramic glazes, not inks or dyes," says McAuley. "It's a unique combination of sophisticated printing technology and the age-old art of ceramic tile making." (SNAP #39)

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