

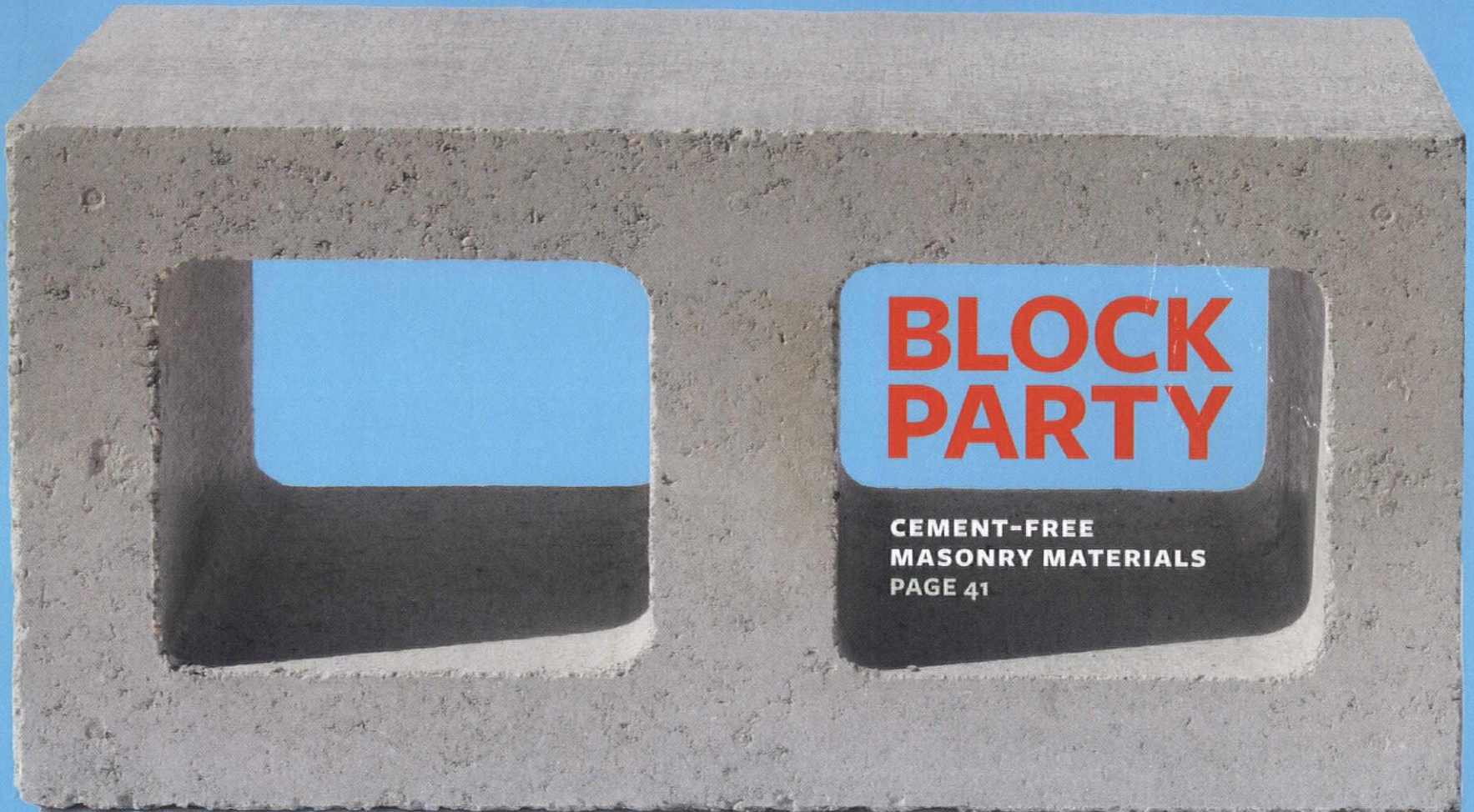
SNAP

ARCHITECTURAL NEWS + PRODUCTS

SPOTLIGHT ON CULTURE

A SHINY FACADE REVS UP L.A.'S
PETERSEN AUTOMOTIVE MUSEUM
PAGE 14

NEW EATERIES APPEAL TO
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STICK WITH IT

America gets
its first cross-
laminated timber
manufacturer

PAGE 26

GREEN GENES

New York opens
a paradigm
net zero public
school

PAGE 44

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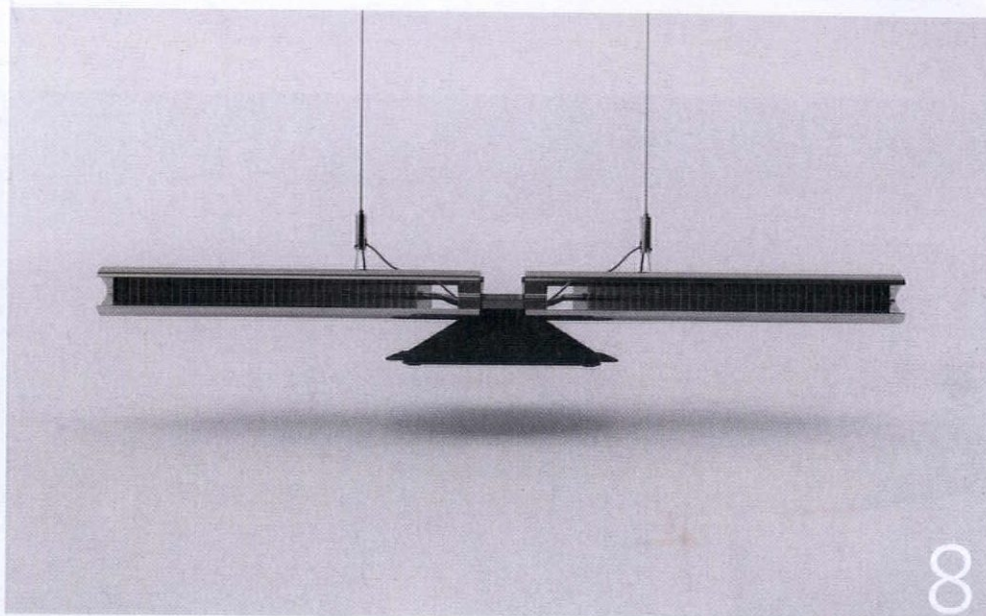
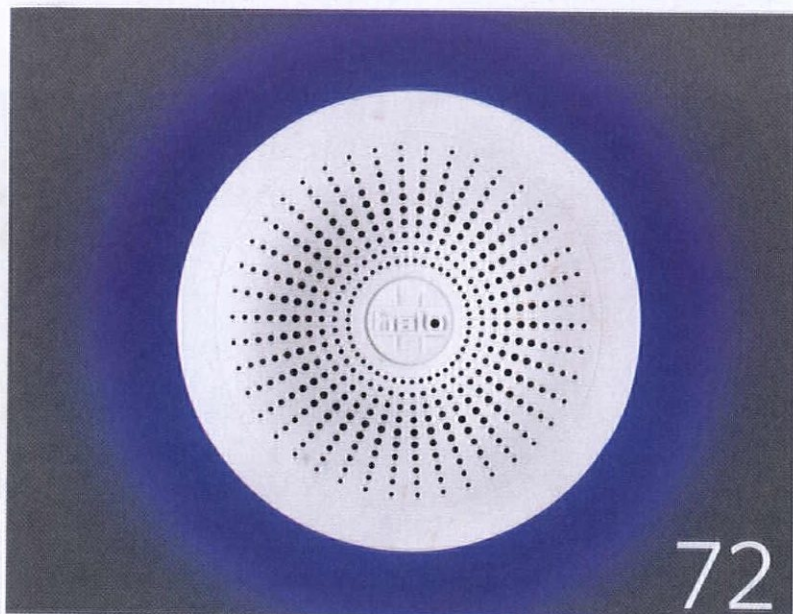
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MARCH/APRIL 2016



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NEW GEOMETRIES

Halo+ (top left) offers two types of smoke detection as well as monitoring of heat, humidity, and carbon-monoxide levels. The Cu-Beam LED fixture (top right) marks Dyson's entry into yet another field. Domestically made cross-laminated timber (left) is to debut in a Portland, Oregon, structure.

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Steven Harris's flagship store for Barneys New York references the retailer's storied past.

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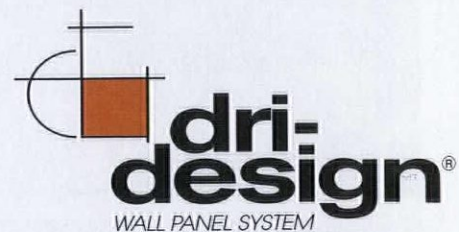
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Architect: MacLennan Jaunkalns Miller Architects



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All in a Word



CULTURE HAS so many meanings that it's difficult to define. It can be a lineage that you're born into, a piece of art that you view, or a way of life that you create. It is also subjective: An activity that one person might consider full of cultural value, someone else might not.

In this issue of *SNAP*, we concentrate on another aspect of culture—our experiences with the built environment. We start with the **Petersen Automotive Museum** in Los Angeles (page 14) and move on to the new Chelsea flagship store for

Barneys New York (page 16), whose location, form, and interior reference the retailer's storied history. We visit museum cafés (page 20), which arts institutions are using to attract the larger public as well as patrons. Finally we arrive at the first net zero school in the northeast United States, **P.S. 62** in Staten Island, New York (page 44), which many educators hope will become the paradigm for educational facilities.

Elsewhere in the issue, we look at products that are the nuts and bolts of the building trade: wood (page 26), plumbing fixtures (page 30), and concrete and masonry (page 40). We also offer a roundup of finds from the most important recent trade events (page 10), including the **International Builders' Show** and the **Kitchen and Bath Industry Show** (page 72).

I'm looking forward to hearing your thoughts. Feel free to send them to me at taraskaj@bnpmedia.com.

Julie Taraska

JULIE TARASKA Editor



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Delivering Performance With Closed-Cell Spray Foam

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Easing Minds and Boosting Facade Performance

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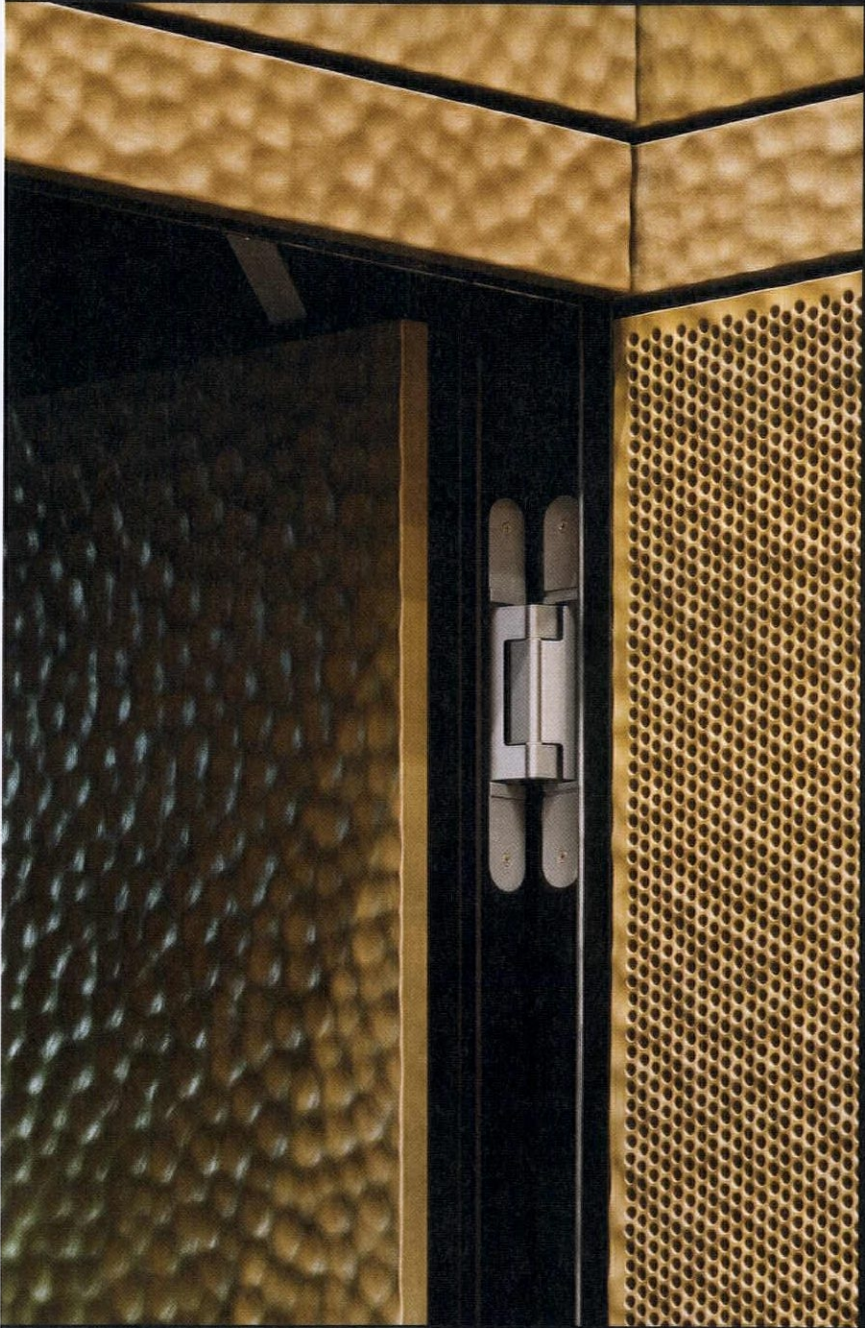
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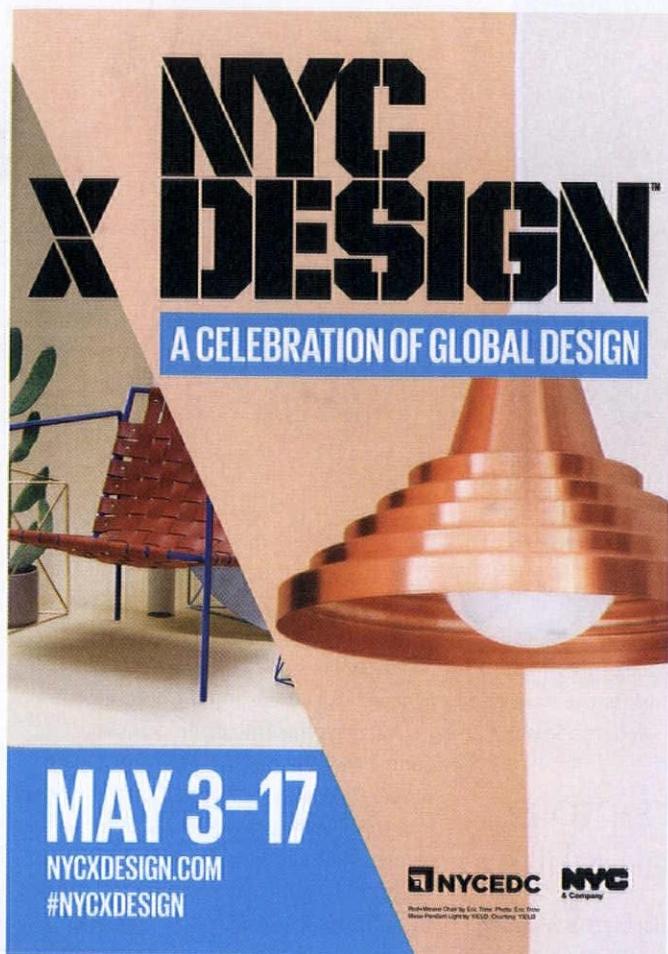
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COME TOGETHER

A bus shelter poster (left) advertises the citywide festival NYCxDesign. The annual event is increasing in length and breadth, covering more design disciplines and adding a new discussion series and awards program. The Susan group of LED replacement lamps (bottom) are among the bulbs offered with Lunera's SensAble Technology, which allows the lamps to respond in real time to motion, heat, and various types of light.

NYCxDesign Festival Expands Programming

SINCE ITS ESTABLISHMENT three years ago, NYCxDesign, New York's annual citywide design festival, has gone supersize. Municipal organizations and the local design community now stage nearly 600 events at 200-odd venues.

The 2016 edition of NYCxDesign, which is supported by the **NYC Economic Development Council** and marketing and tourism agency **NYC & Company**, will run longer this time, from May 3 to 17. In addition to showcasing New York's design industry through a smorgasbord of exhibitions, lectures, trade shows, and open studios, the festival will incorporate a wider net of independent events such as WantedDesign, BKLYN Designs, Collective Design, the Frieze Art Fair, and the International Contemporary Furniture Fair (ICFF). The programming will broaden, too, to encompass interactive, graphic, and urban design as well as architecture, furniture, and lighting.

One of this year's most significant additions will be a temporary pavilion complex at Astor Place, in Manhattan's East Village. Multifaceted talent **Harry Allen** will serve as creative director of the structures, which will feature an installation by architecture firm **Snarkitecture** and an interactive bar created by **DuPont Corian** in collaboration with industrial designer **Joe Doucet**. They will also contain a booth Allen himself is creating with **Ecovative**, a manufacturer specializing in mushroom-based material. "I am most interested in prompting new design," says Allen of his plans for the overall space. "Hopefully some innovation will happen."

Other new attractions include NYC Design Talks, a series of live discussions with industry professionals such as the architect **Rafael Viñoly** and the developer **Michael Shvo**. Also launching is an innovative, cross-disciplinary awards program open to all NYCxDesign participants that will complement the annual product awards at ICFF.

But events will not be geared solely to professionals, according to **Ilene Shaw**, the Design Talks organizer. With the festival and the series, she explains, "we are creating a design awakening within the public realm. We want both to enhance awareness of what designers and architects do."

—Anna Fixsen

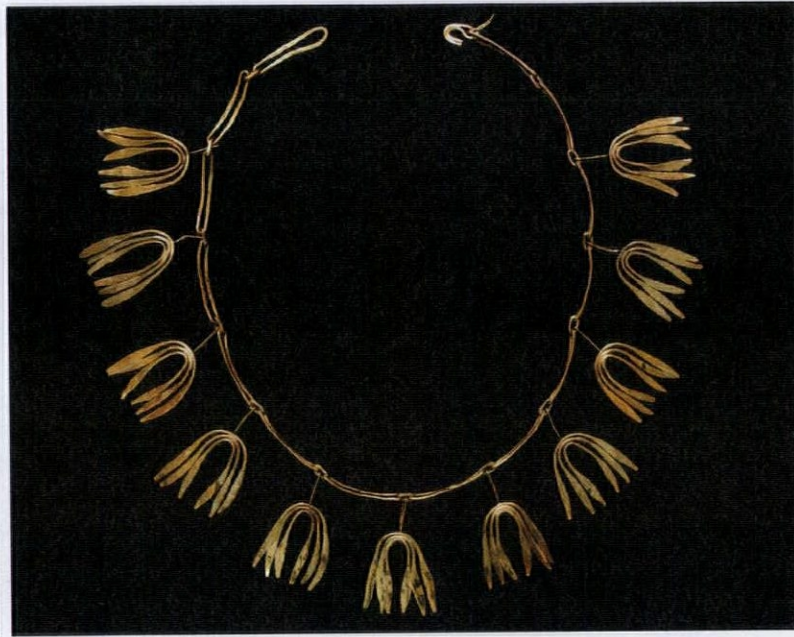
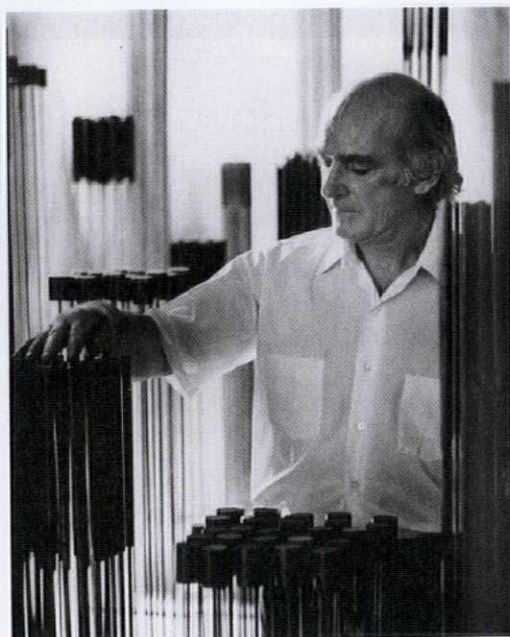
Lunera Bows IoT-ready Bulbs, Connected Software

AIMING TO OFFER companies a low-cost way of creating a smart lighting network, **Lunera Lighting** is introducing sensor-filled versions of all its plug-and-play LED replacement lamps, including those for CFL, metal halide, and high-pressure sodium bulbs.

Slated to debut in late April, the self-contained lamps with SensAble Technology will respond individually and in real time to motion, heat, and three types of light. Although the bulbs may be used alone, they also will be Internet of Things (IoT)-ready, meaning they will be able to communicate wirelessly with each other through an open-source ZigBee mesh network.

To manage the network, Lunera is introducing ST Connect, a proprietary software that can serve as its control hub. Managed with a dashboard app, the program collects data from the lamps and sends it, via an LTE modem, to a cloud service for analysis, measurement, and verification. (The company has secured a gateway partnership with an unnamed third party for the modem and cloud services.) ST Connect also allows the information to flow in the opposite direction to effect single or





RENAISSANCE MAN Harry Bertoia playing one of his sonambient sculptures (left); a necklace and brooch (center and right) that the designer created from scrap metal during his Cranbrook Academy days.

universal changes in light settings, schedules, and responsiveness.

Lunera CEO **Tom Quinn** describes the lamps and software as “a simple, inexpensive, and minimally disruptive way” for small-to-midsize companies to deploy a smart network without having to rip out walls or hire a facilities manager. “We’re adding sensors, wireless connectivity, and microprocessing power to a space without touching its infrastructure,” he explains.

The system can cost as little as 50 cents a square foot to install (that’s “one tenth the cost of deploying a traditional lighting control system,” Quinn points out). Near-immediate payoffs include increased energy efficiency and financial savings, particularly in regard to demand-response and rate charges, two pressing power issues in Lunera’s home state of California.

In the future, Quinn can see adding additional sensors to the bulbs, as well as creating cross-system applications for the network, such as asset tracking and responsive HVAC programs. And that’s where the possibilities really open up, he explains.

“Building systems tend to be silos,” Quinn says. “But once we have our network of sensors informing about light, why can’t they inform the adjacent systems of the findings? Why wouldn’t I tell the HVAC system there is no one in the room, so might as well as let the temperature adjust up a few degrees?” Quinn pauses. “Now, that really would be something.”

—Julie Taraska

Two MAD Exhibits Explore Bertoia’s Jewelry, Sonic Work

HARRY BERTOIA may be best known for the Diamond chair, an airy icon of sculptured wire. But on May 3, New York’s **Museum of Arts and Design** will debut two exhibits showcasing some of the Italian-born sculptor and designer’s less familiar talents: his jewelry and his forays into sonic art.

In the early 1940s, when wartime rationing forced him to finesse his metalsmithing on a small scale, Bertoia crafted hundreds of decorative pieces with melted-down scraps of metal. *Bent, Cast, and Forged: The Jewelry of Harry Bertoia* will feature these investigations of form and material—mostly produced while he was a student attending Michigan’s **Cranbrook Academy of Art**—alongside several monotype prints.

The other show, *Atmosphere for Enjoyment: Harry Bertoia’s Environment for Sound*, will document the designer’s 1960s and ’70s exploration of the relationship between sculpture and sound. Fascinated by the range of tones that emerged when pieces of metal hit metal, Bertoia created dozens of what he called sonambients: interactive, kinetic bundles of metal rods that produced tones when agitated by wind or human touch. He ultimately produced 11 LPs of the music drawing on material from the 400 or so tapes he made.

The exhibit will also feature an immersive four-channel sound installation that **John Brien** created with Bertoia’s recordings.

Several interactive sonic sculptures made by the subject’s son **Val** will add to the exhibit’s visual and aural appeal. —Rebecca Seidel

Dyson Enters into Architectural Lighting

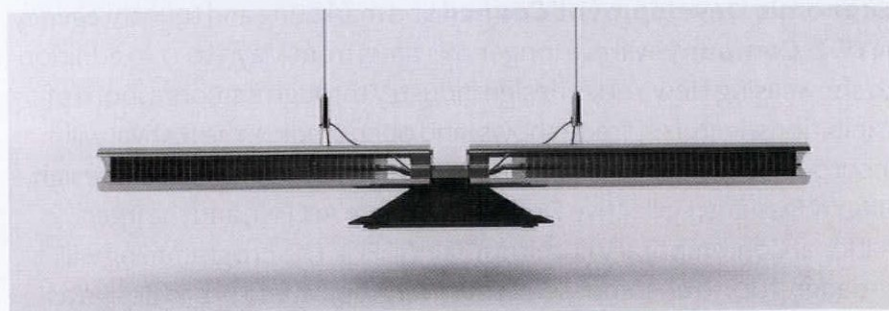
INDUSTRIAL-DESIGN manufacturer **Dyson**, maker of vacuum cleaners, fans, and hand driers, is expanding into a new category: architectural lighting. The company’s first effort, the Cu-Beam, will be released this summer. Offering a CRI of 82 and 88 lumens per watt, the suspended LED fixture will come in uplight and downlight versions that respectively provide ambient and focused illumination.

Designed by **Jake Dyson**, son of founder **James**, the Cu-Beam leverages the heat-pipe technology the younger Dyson introduced in 2012 with his self-released CSYS task light. The Cu-Beam combines that technology, which allows LEDs to run at lower temperatures and last longer, with a single high-powered LED

and a custom-engineered lens that directs light without compromising output.

Jake says that folding his namesake company—founded in 2004—into Dyson proper made sense. “All the Dyson engineers look to solve the problems that others often ignore, whether they be vacuum bags that clog or LED lights that lose brightness unnecessarily soon,” he explains. The younger Dyson feels the move is a good cultural fit—Jake spent years perfecting his lamps’ LED technology, much as his father did with 5,127 prototype vacuums—and is interested in the research and development support the privately held company can provide.

“Since joining the wider business,” Jake says, “I’m constantly learning and having my thinking challenged by Dyson’s team of 2,000 engineers.” Although Jake is continuing to develop his lighting—Dyson proper is taking over the production and distribution of CSYS—he is looking ahead, noting, “I am also working on technology that may not debut for five to ten years.” —JT



ALL IN THE FAMILY Jake Dyson’s Cu-Beam downlight combines his proprietary heat-pipe technology with a single LED and a custom-engineered lens that focuses illumination without sacrificing efficiency.

Contemporary Curve

Jefferson County Western Health Center, Midfield, AL

Owner: Jefferson County Department of Health

Architect: Birchfield Penuel & Associates, Birmingham, AL

General contractor: M.J. Harris Construction Services, Birmingham, AL

Installing contractor: CSC Roofing, Birmingham, AL

Profiles: Tite-Loc curved, Reveal Wall Panels

Colors: Cardinal Red, Sierra Tan



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Tom Kidwell, senior associate and project architect, Birchfield Penuel & Associates



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CASE STUDY



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P E T E R S E N



Finds from this year's first crop of trade fairs

1. ODE

MANUFACTURER: Herman Miller

PERFORMANCE: These 36-watt LED table, floor, and surface-integrated lamps use touch technology to turn on and off and switch between two light settings.

PRICE RANGE: \$\$

APPLICATIONS: Diffusers beneath the spun-steel shade soften the pools of illumination, rendering it suitable for task and ambient uses. Comes in two colors and five heights.

HERMANMILLER.COM
(SNAP #200)

2. SOLARBAN 90

MANUFACTURER: PPG

PERFORMANCE: This clear, low-E glass offers a solar-heat-gain coefficient of 0.23—a 15 percent improvement over sister product Solarban 70XL. It also has a 51 percent visible-light transmittance and 2.22 light-to-solar gain.

PRICE RANGE: \$\$\$

APPLICATIONS: Ideal for daylighting commercial buildings of all kinds.

PPGIDEASCAPES.COM
(SNAP #201)

3. CÔR HOME AUTOMATION SYSTEM

MANUFACTURER: Carrier

PERFORMANCE: This all-in-one solution allows users to remotely monitor and manage security, fire, and HVAC systems.

PRICE RANGE: \$\$

APPLICATIONS: Able to link 64 sensors, 250 Z-Wave-enabled devices, and 16 cameras, CÔR suits single-family homes or small buildings. Also offers professional monitoring option.

CARRIER.COM
(SNAP #202)

4. VEE TILE

MANUFACTURER: Kirei

PERFORMANCE: Made from recycled PET plastic, these 19 7/16-inch-square tiles retain up to 36 percent of an interior space's ambient noise.

PRICE RANGE: \$\$

APPLICATIONS: Installed via adhesive, mechanical fasteners, or aluminum moldings, the Class C fire-rated tiles suit offices, schools, healthcare facilities, and hospitality spaces.

KIREIUSA.COM
(SNAP #203)

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

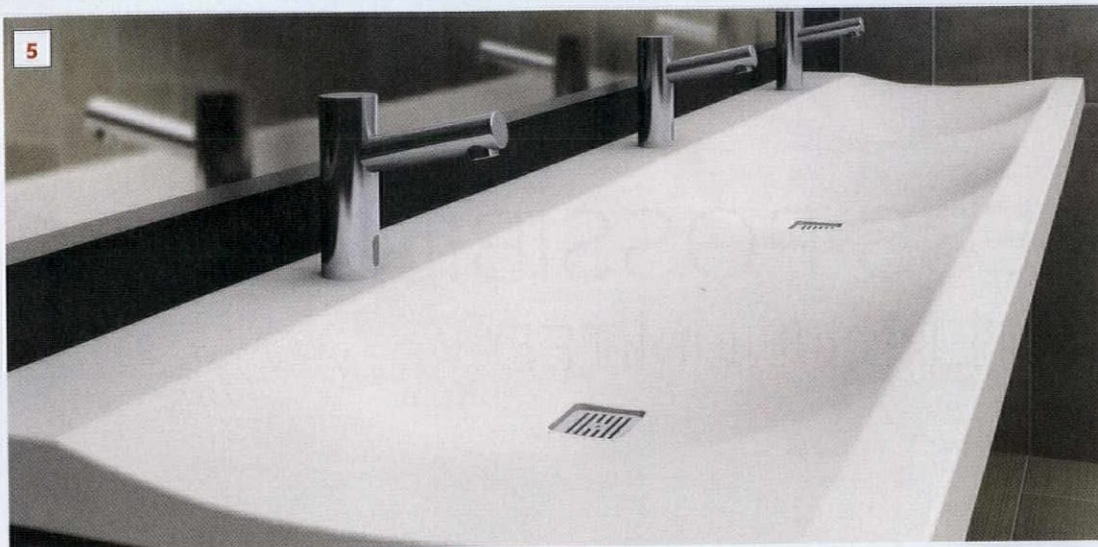
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5. VERGE LVS-SERIES

MANUFACTURER: Bradley
PERFORMANCE: This stain-, scratch-, and heat-resistant basin provides individual fixtures and handwashing space for up to three users.

PRICE RANGE: \$\$

APPLICATIONS: Class A fire-rated, the basins are offered in 15 shades and numerous Greenguard-certified materials, including composite quartz and bio-based resin.

BRADLEYCORP.COM
(SNAP #204)



6. NIGHTSIGHT

MANUFACTURER: Zumtobel
PERFORMANCE: This modular family of plug-and-play outdoor LED fixtures uses two types of luminaires to illuminate surfaces and set target accents.

PRICE RANGE: \$\$\$

APPLICATIONS: Created for urban environments, the fixtures come in five light-projection types and two color temperatures. They mount on masts, walls, floors, and ceilings.

ZUMTOBEL.COM
(SNAP #205)

7. SERIES 430

MANUFACTURER: Verpan
PERFORMANCE: Designed in 1967 by Verner Panton, this multipurpose stacking chair with a powder-coated, stainless-steel frame never went into production...until now.

PRICE RANGE: \$\$-\$\$\$

APPLICATIONS: Suited for hospitality, residential, and retail settings, the chairs can be upholstered in wool or velvet Kvadrat textiles.

VERPAN.COM
(SNAP #206)



8. LINILED HANDRAIL

MANUFACTURER: Organic Lighting

PERFORMANCE: This IP40- and IP68-rated stainless-steel handrail features dimmable LED strips that are cool to the touch.

PRICE RANGE: \$\$\$

APPLICATIONS: The ADA-compliant, indoor/outdoor system offers a choice of LED color and intensity options as well as handrail diameters and angles.

ORGANICLIGHTING.COM
(SNAP #207)

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Douglas Robertson: Our Man in L.A.

*Principal, House & Robertson Architects
Culver City, California*

WHAT WAS YOUR FIRM'S ROLE IN THE PETERSEN AUTOMOTIVE MUSEUM?

Kohn Pedersen Fox [KPF] did the initial design concept and renderings for the museum, which is in Los Angeles. As executive architect, we worked to preserve the design intent and make sure all hewed to it as the project went through construction.

TELL US ABOUT THE MUSEUM'S FACADE.

The ribbons create an enclosed volume at various points and roll over the top of the building, almost like an awning. The outside face is a nondirectional-finished stainless steel called Angel Hair, by Zahner. The red corrugated rainscreen, also by Zahner, is a textured, coil-coated aluminum. Using this standard material in a novel way gave the client a bigger bang for the buck.

WHAT WERE THE CHALLENGES IN WORKING WITH A 1960s BUILDING?

The building had been abandoned at one point so there was remedial work to be done. Plus there was the weight of the stainless-steel ribbons on the facade, which had not been constructed with that load in mind. To remedy that, we had to strengthen the building by adding shear walls and framing on the roof.

WHEN IT COMES TO CULTURAL PROJECTS, ARE YOU SEEING ANY TRENDS?

I think institutions are more and more clarifying their mission through design. For example, the Petersen museum wanted to tell the story of the automobile in Southern California, and one of its stated directives was to use the building to mark the entry to this part of L.A.

DO YOU HAVE A FAVORITE CAR IN THE MUSEUM?

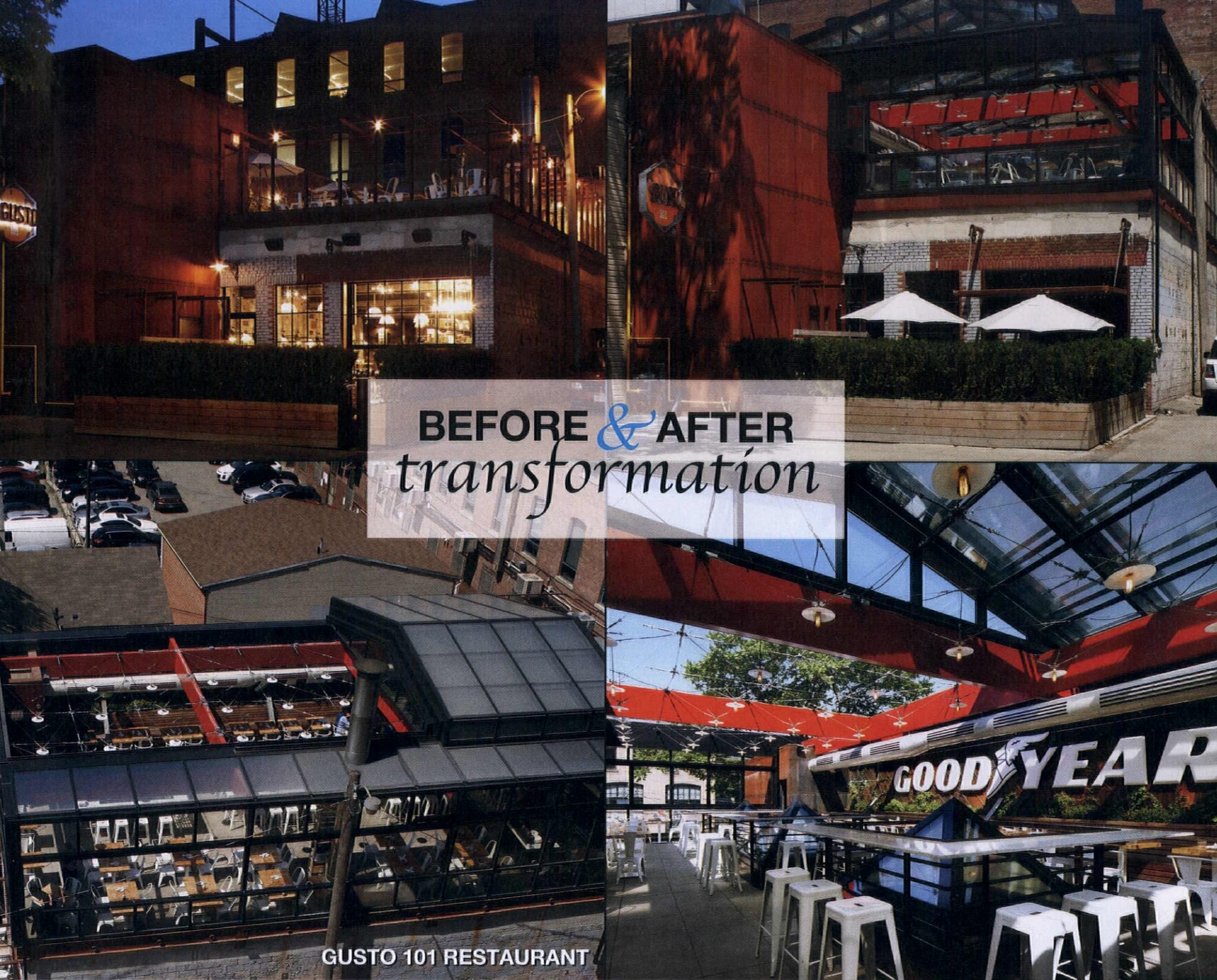
Yeah, the blue Bugatti on the ground floor. It's gorgeous.

Since cofounding House & Robertson in 1996, **DOUGLAS ROBERTSON** and partner Jim House have overseen more than 10 million square feet of construction. The firm specializes in Los Angeles-based projects, including the CNN Hollywood renovation and the Kings-Lakers Training Center.

100

The weight, in tons, of the steel ribbons on the facade.

The architect (above) stands by the facade of the 204,230-square-foot Petersen Automotive Museum in Los Angeles. The new exterior features stainless-steel ribbons suspended by structural steel outriggers that are connected to a corrugated red metal rainscreen.



BEFORE & AFTER *transformation*

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CASE STUDY: RETAIL

BY JOSEPHINE MINUTILLO AND REBECCA SEIDEL



BARNEYS NEW YORK CHELSEA FLAGSHIP, NEW YORK

Retracing Its Steps

PROBLEM: Design a contemporary flagship store that references a retailer's storied past in a nearby location.

SOLUTION: Open up the space, add sculptural details, and unify the layout with a grand staircase reminiscent of the original store's.

A LUXURY RETAILER known for its hip fashion offerings and extravagant window displays, Barneys New York returned to its roots this February with a new flagship in Manhattan's Chelsea neighborhood. Designed by Steven Harris Architects in partnership with interior designer Lucien Rees Roberts, the emporium stands on the block it occupied when it started out in 1923

and where it welcomed shoppers through 1997. Spanning five floors and 55,000 square feet, the store stretches across a great swath of pavement, announcing its presence with a 170-foot stainless-steel marquee and two vast display windows.

The same design team recently renovated two locations—Madison Avenue and Beverly Hills—and its aesthetic echoes in

LOOKING UP

Architect Steven Harris designed this spiral staircase as centerpiece—and an homage to the iconic original in Barneys' first Chelsea store.

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this flagship's glossy surfaces and neutral palette. Polished stainless-steel-clad columns add depth to the space's ground level, where leather goods are displayed on biomorphic tables made of granite and marble. Rich stone backdrops and sculptural motifs extend to every floor. But the store's centerpiece—and its ode to its founding location, just a few feet away—is the spiral staircase connecting the lower level to three of the upper floors.

"The idea for a circular stair was in the air since the beginning," says Steven Harris. The dazzling staircase that the French interior designer Andrée Putman created over 30 years ago for the original store lingers in the memories of its well-heeled patrons—and is still extant in the neighboring Rubin Museum of Art, which took over a corner of the store after Barneys' departure.

This design, conceived without Putman's delicate railings but a showstopper nonetheless, marries beauty and brawn. Inspired by the spiraling stairs of Oscar Niemeyer and Luigi Moretti, Harris unfurls his take like a white party ribbon, spanning four stories as it fills the store's glass-wall central atrium. "This was the largest void we could create without removing any columns," Harris says of the placement.

Harris's team made nearly 60 staircase models—via 3-D-printer—before finalizing the design. For the actual stair, a self-supporting steel undercarriage covered in fiberglass and then plastered forms the curves of the suspended structure. A sculpted alcove defines the handrails, which are accented by LED Linear's VarioLED lighting. Stair treads and risers are sheathed in white marble.

The glass surrounding the stair—reaching full height on upper floors, acting as a handrail with a skirt above for a smoke baffle on lower ones—has two layers of glazing with an interlayer of acrylic. Manufactured by Depp Glass, the panels feature a series of silkscreened lines (some mirrored, some matte gray) that are reminiscent of the work of Agnes Martin and Sol LeWitt. "I wanted that element to be distinct," explains Harris, "but still allow shoppers to see across it." He found inspiration from art in other areas of the store as well: The mirrored columns on the ground floor, for example, evoke John McCracken's work.

The sense of spectacle about the stair extends throughout the store—though the stairway remains the primary vehicle for seeing and being seen. "After all," Harris says, "stores are very social spaces." ■



ARCHITECTS

Steven Harris Architects

TYPE

Retail

PRODUCT

Flow Flex
Curvable
LinearLED

MANUFACTURER

Eclipse Architectural Lighting

PERFORMANCE

Factory-angled at 30° and 60°, the made-to-measure LEDs can be curved without any visible light disruptions.

PRICE RANGE \$\$\$

APPLICATIONS

For retail use in coves and vitrines, it provides ambient light over curved surfaces.

EKLIPSE
LIGHTING.COM
(SNAP #208)

BRIGHT IDEA

Recessed in ceiling coves, curvable linear LEDs by Eclipse cast a gentle light upon the women's ready-to-wear collection on the second floor of Barneys' flagship.

IN THIS PROJECT



VARIOLED FLEX HYDRA LD15



MANUFACTURER: LED Linear

PERFORMANCE: This rail lighting's single-layer, flexible circuit-board material offers a reflective white surface and advanced thermal management. Color temperatures range from 2000K to 5000K.

PRICE RANGE: \$\$

APPLICATIONS: This strip lighting can line stairway contours and railings and illuminate shelving and other interior accents.

LED-LINEAR.COM

(SNAP #209)



IMAGE-LAMINATED GLASS

MANUFACTURER: Depp Glass

PERFORMANCE: Meeting ASTM C1172 specifications, this flat laminated glass can be customized by thickness, size, translucency, and pattern.

PRICE RANGE: \$\$\$

APPLICATIONS: Laminated glass adds dimension and custom accents to walls, ceilings, and floors.

DEPPGLASS.COM

(SNAP #210)



BLIZZARD QUARTZ

MANUFACTURER: Caesarstone

PERFORMANCE: Consisting of up to 93% quartz, this stone surfacing—part of the Classico collection—retains a cool tactile quality. Polished and matte slabs are available in ¾- and 1 ¼-inch thicknesses.

PRICE RANGE: \$\$-\$\$\$

APPLICATIONS: Commonly used for kitchen countertops, bathroom vanities, wall paneling, and custom-built furniture.

CAESARSTONEUS.COM

(SNAP #211)



QUILL WALLCOVERING



MANUFACTURER: Maharam

PERFORMANCE: With 40+ hours of lightfastness, this 100% silk textile meets all flammability requirements for wall use.

PRICE RANGE: \$\$\$

APPLICATIONS: The Greenguard-certified covering is suitable for private offices, conference rooms, residential spaces, and other low-traffic areas where ease of cleaning is not a priority.

MAHARAM.COM


(SNAP #212)

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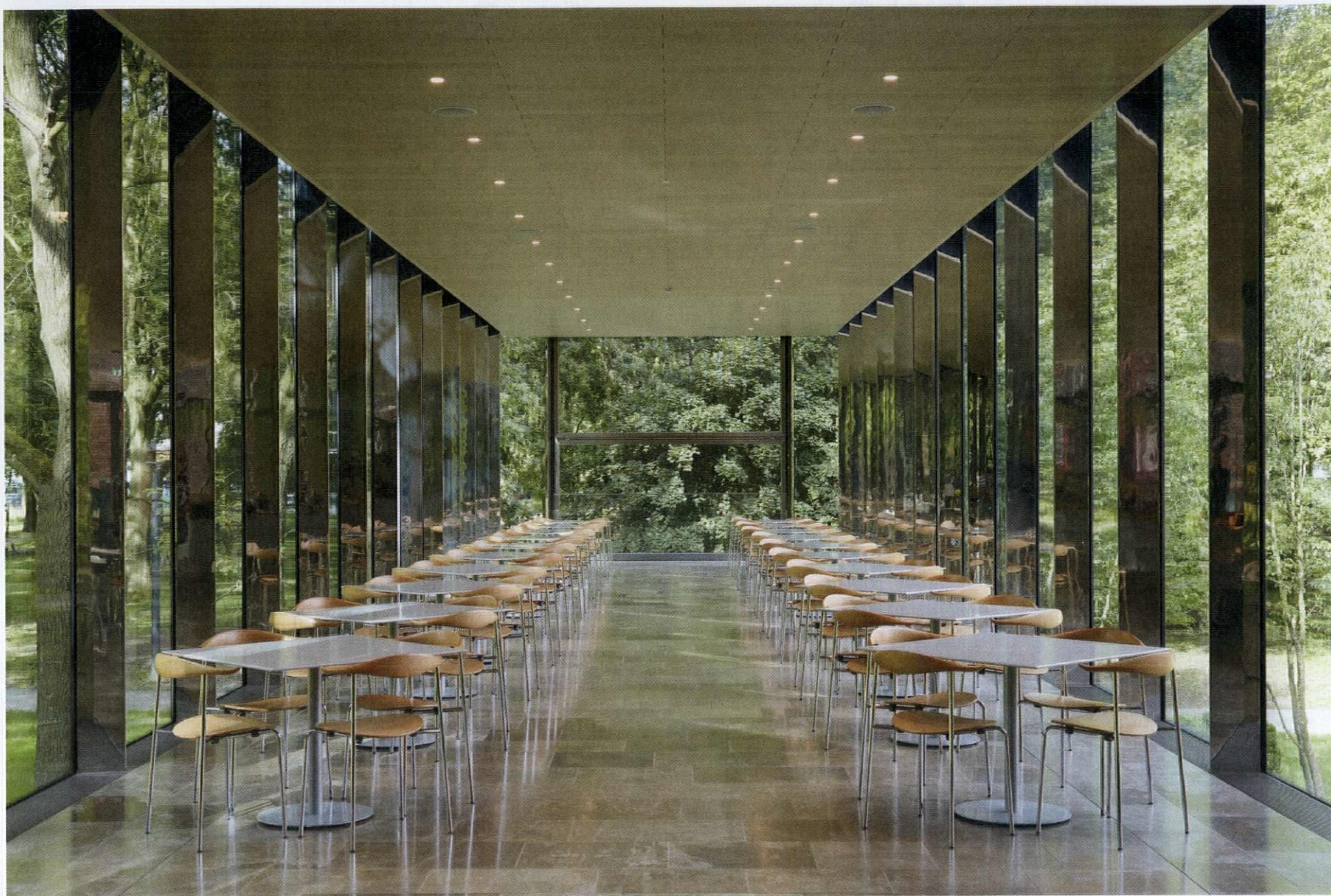
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NATURE PRESERVE

The Modern Caterer café at the Whitworth Gallery cantilevers into a treetop clearing, offering unobstructed views of the foliage and the museum's park-like grounds.

Cultural Exchange

Museums connect with patrons and the general public through new high-profile eateries.

BY BELINDA LANKS

CAFÉS HAVE LONG BEEN fixtures in museums. But rather than serving as mere rest stops—places to recharge with a latte and scone before heading to the next gallery—they've evolved into design and culinary destinations in their own right, amenities that can appeal to museumgoers as well as attracting a broader clientele.

To achieve this, cafés must seem like integral parts of their respective buildings yet distinguish themselves as separate entities. They can achieve this balance several ways, including through location, color, and materials.

MODERN CATERER, WHITWORTH GALLERY

The Whitworth Gallery sits in a 20-acre park in Manchester, England. But until recently, the turn-of-the-19th-century Edwardian building didn't have much of a connection to the landscape outside. A major renovation in 2015 by London-based architecture studio **MUMA** changed that. Nowhere is the new approach more apparent than in the museum's café, the Modern Caterer, which is housed in a rectangular glass room that cantilevers into a canopy of trees.



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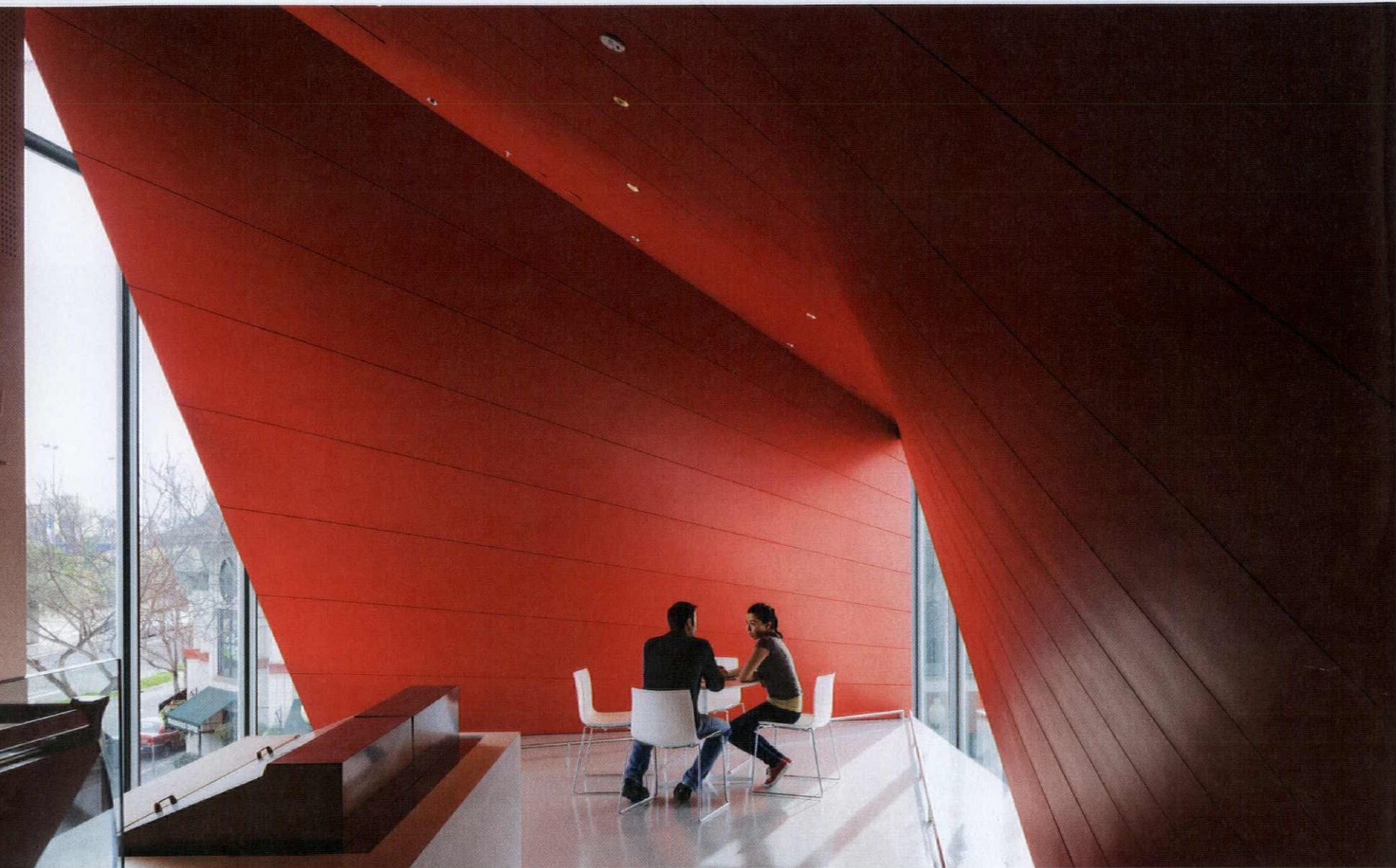
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VISUAL CUES

The Babette Café's vivid angles help draw passersby's attention to the Berkeley Art Museum and Pacific Film Archive, which is housed on the second floor of a San Francisco building.



This Miesian box—located on the museum's second floor—disrupts its environs as little as possible. It is wrapped in a **Schüco** double-glazed glass curtain wall, which features a high-performance solar-control coating and custom-pattern mirrored fritting. At the far end of the restaurant, an upward-folding glass wall lets in fresh breezes. Even the mullions serve to highlight the view: Their hand-polished, stainless-steel surface reflects the avenue of trees beyond.

Diners take in the surroundings seated in **Hans Wegner**'s iconic CH88 chairs, produced by **Carl Hansen & Sons**; they were chosen for their "elegant profile, stacking ability, and comfort," says MUMA principal Stuart McKnight. The tables are assembled from a **DuPont** Corian top and an off-the-shelf base. In selecting the minimal furnishings, "the view from below and outside the transparent café were carefully considered," says McKnight.

BABETTE CAFÉ, BERKELEY ART MUSEUM AND PACIFIC FILM ARCHIVE

Cantilevered dramatically above a busy pedestrian thoroughfare, its slanted, chile-red walls visible from the street, Babette Café—part of the Berkeley Art Museum and Pacific Film Archive (BAMPFA)—is impossible not to notice. And that was the idea.

The overhang gives the eatery "street presence," according to Duncan Ballash, principal and president of **EHDD**, the project's architects of record. "It helps the café overcome its location on the second floor, which is a challenge for a business looking for walk-ins outside of museumgoers," he says. The dramatic walls, made of **Vogl**'s perforated gypsum board, are more than just decorative, EHDD project manager Nick Morisco points out. Together with an acoustic backing, they prevent the "active café noise from spilling into the more contemplative gallery spaces," he says.

The rest of the eatery's decor is spare and simple. The **Dex-O-Tex** epoxy resin flooring is UV-stable and contains an anti-slip additive. Recessed DL2YP LED downlights from **Lucifer Lighting** illuminate the dining area, furnished with white Fred tables by **Jean-Marie Massaud** and Catifa chairs by **Lievore Altherr Molina**. Ballash says the designers chose the furniture, produced by Italian manufacturer **Arper**, for its "compact and light profile that fit the café's constrained footprint"—a long, narrow area that offers views of the street as well as the art galleries below.

UNTITLED, WHITNEY MUSEUM

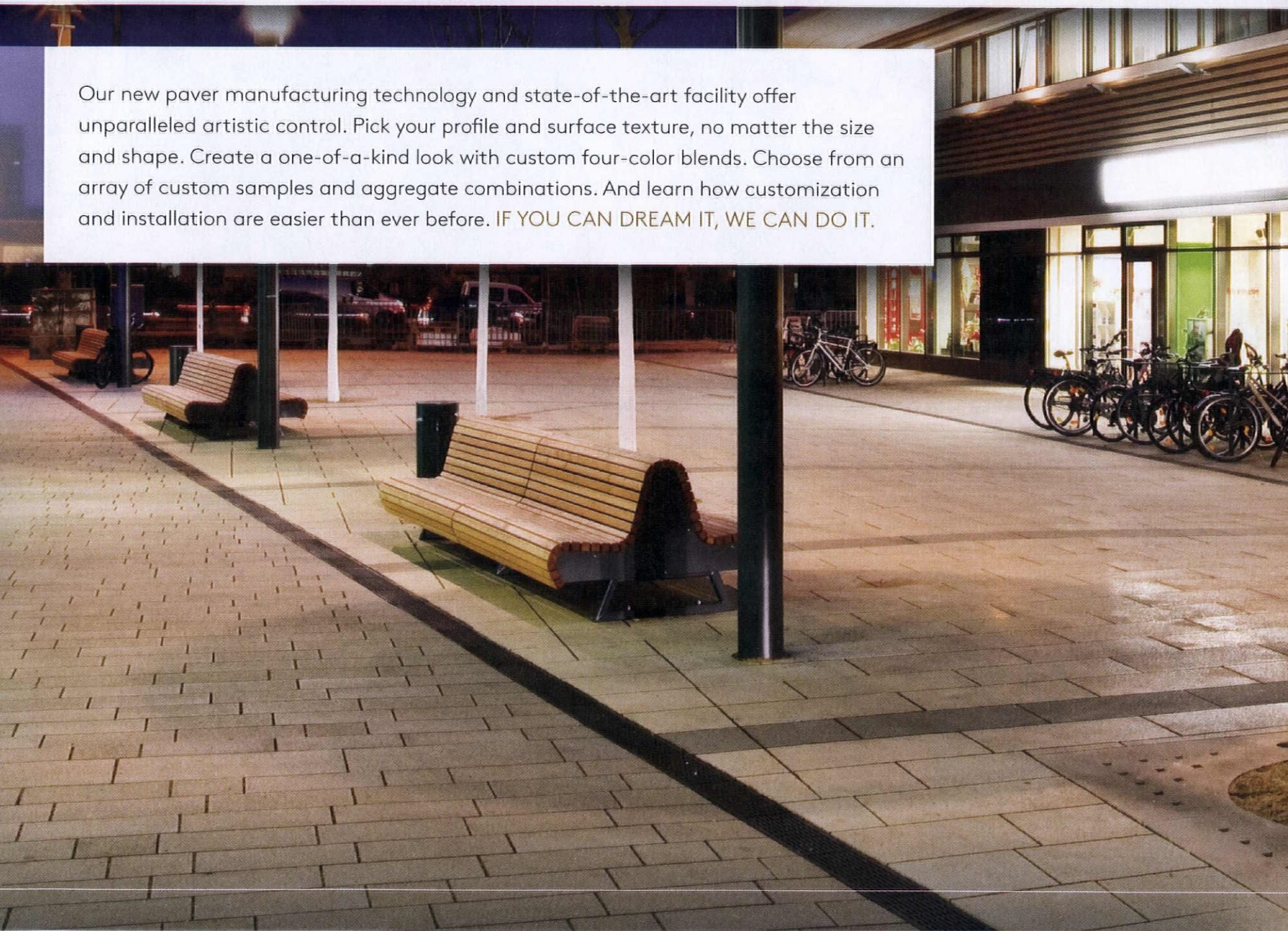
When New York's Whitney Museum of American Art decided to move downtown to the Meatpacking District, **Renzo Piano Building Workshop (RPBW)** was tapped to design the new building. It also was tasked with

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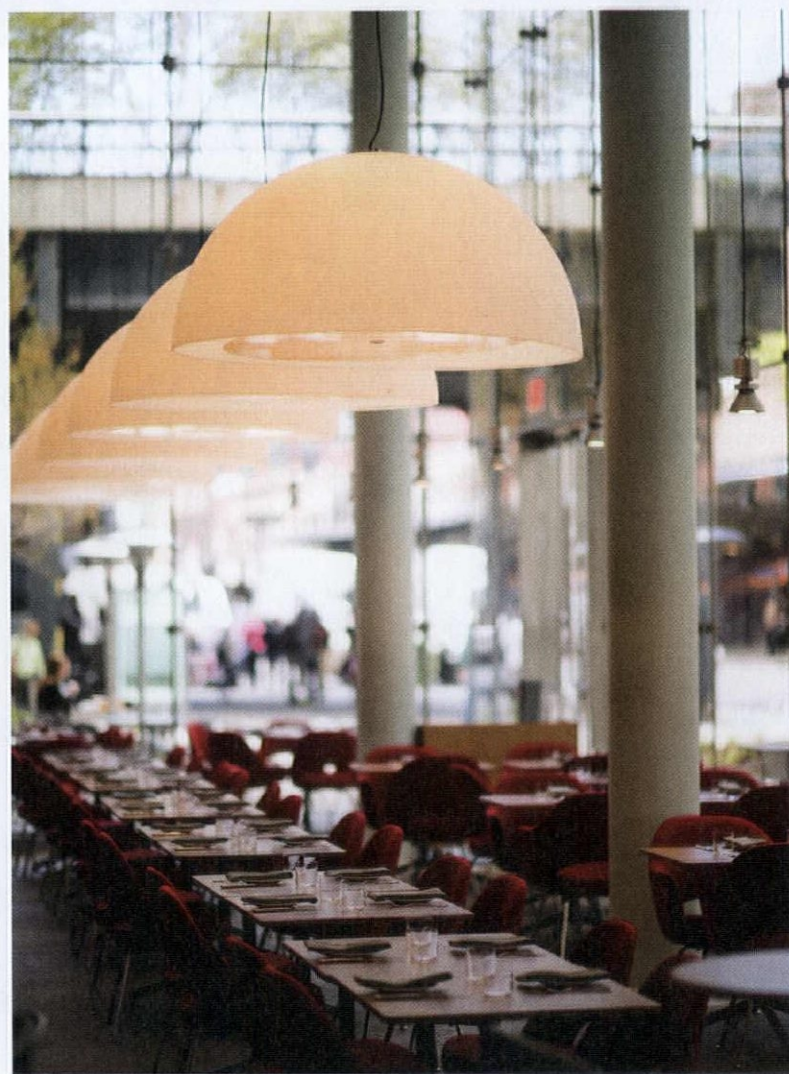
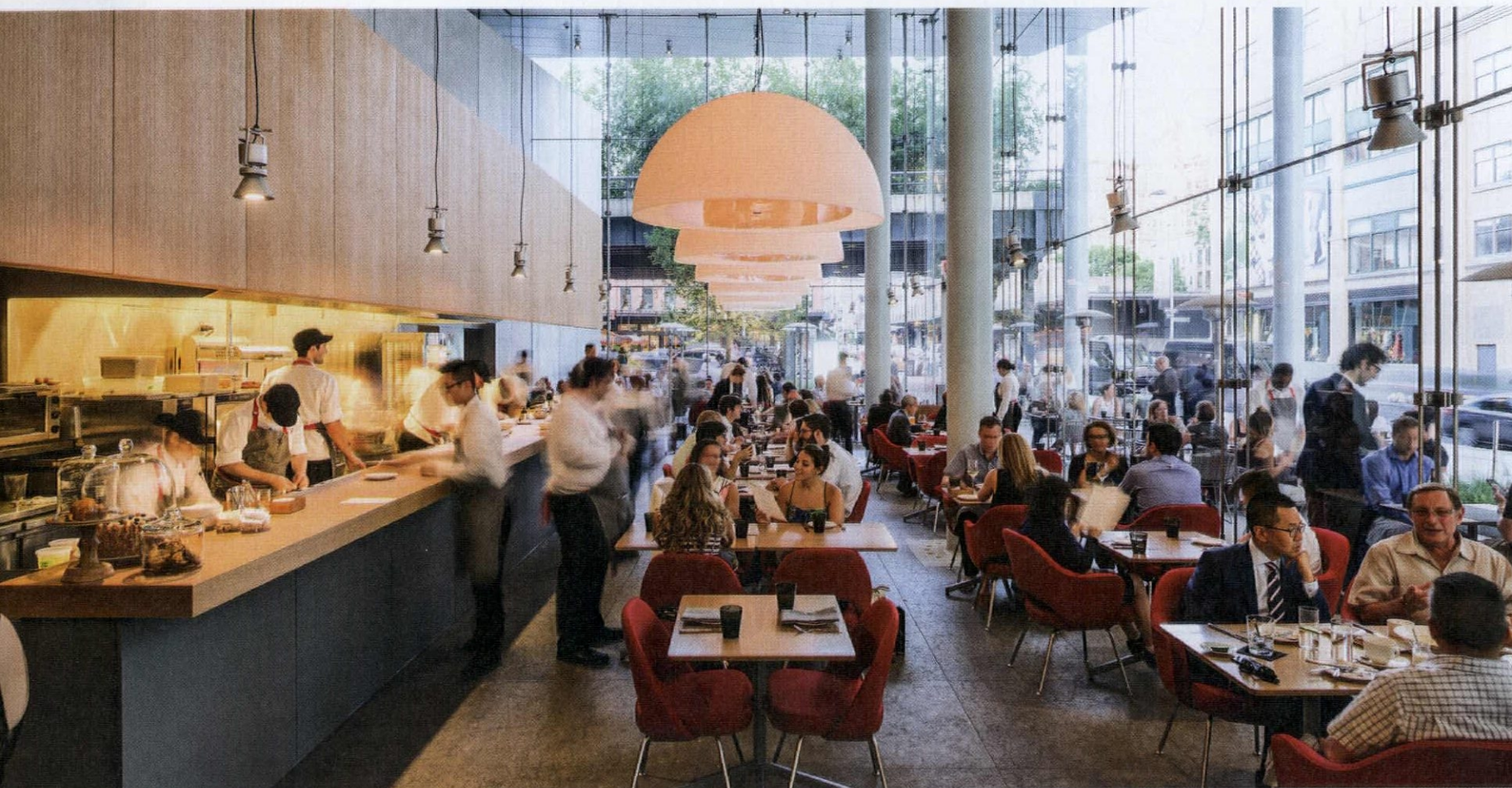
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SNAP 50



THE HIGH LIFE

The Whitney Museum's Untitled restaurant leverages its proximity to the High Line, providing eaters with an unobstructed view of the abandoned train tracks-turned-public park.

creating a ground-floor eatery, Untitled, which would be run by famed restaurateur **Danny Meyer** and his **Union Square Hospitality Group** (which also manages Gramercy Tavern, Union Square Café, and The Modern restaurant at the Museum of Modern Art).

Instead of having Untitled play up Meyer's history and culinary reputation, Piano's studio looked outward for inspiration. Literally: to the southern end of the High Line, the elevated park of converted train tracks beneath which the eatery is located.

"The shape of the building, and consequently the shape of the restaurant, came out of where we are," says RPBW principal Elisabetta Trezzani. "Mainly, we try to have a relationship with the High Line without being too close to it." The restaurant keeps a respectful distance from the park but allows patrons to enjoy its industrial beauty. To wit: Untitled's tilted ceiling directs diners' eyes up and out onto Gansevoort Street through a facade system of single-pane glass and steel cables from German manufacturer **Josef Gartner**. The solution was selected, Trezzani says, to "maintain the most transparency possible."

The restaurant has a strong visual connection not only to the outdoors but also to the museum's lobby, which is visible through an interior glass wall. Bluestone from **Campolonghi Italia** and precast concrete panels from **BPDL** extend from the museum's reception area into the dining space, reinforcing their relationship. **Baswa** acoustic ceiling panels, cut to the same dimensions as the steel panels on the museum's exterior, muffle the chatter of patrons and the clatter of dishes.

The custom white-oak tables, surrounded by **Knoll's** red Saarinen Executive Chairs, echo the room's other wooden elements, the bar top included; they also offer a warmer complement to the gray-plastered walls and floor. **Artemide's** Avico dome pendants and **iGuzzini's** Le Perroquet suspension lights hang from the ceiling.


RPBW sourced one decorative fixture directly from the Whitney's collection: a sign from **Robert Indiana's** *Eat* series. Bidding diners to do just that, it would be an appropriate touch in any of the new wave of museum eateries. For as inviting, atmospheric, and eye-catching as these destinations are, they pride themselves most of all on their food. ■



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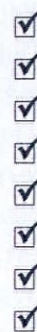
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SNAP 168

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Standing Tall

ALTHOUGH USED in tall buildings around the world since the 1990s, cross-laminated timber (CLT) has yet to catch on in the United States. But the material—made of layers of wooden boards stacked perpendicularly and bonded with structural glue—could become more visible stateside thanks in part to the efforts of **Oregon State University's College of Forestry**, clean-technology nonprofit **Oregon Best**, and **D.R. Johnson Wood Innovations**, the first U.S. sawmill to receive ANSI/API certification for CLT production.

Together, the trio is betting on CLT as a way to promote wood as a sustainable

construction material. It also hopes to use its production as a means to revitalize rural Pacific Northwest economies dependent on the timber industry.

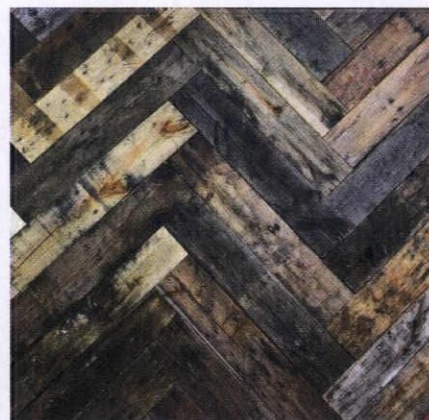
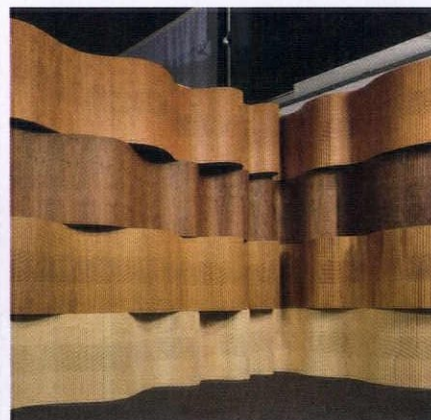
Cross-laminating timber creates exceptionally strong and stable panels that can be machined to $\frac{1}{16}$ inch, prefabricated in sizes up to 10 by 30 feet, and shipped ready to assemble. These qualities reduce material waste and construction time, says Todd Black, CLT sales manager for the Riddle, Oregon-based D.R. Johnson. CLT has other environmental benefits as well—for example, it produces significantly less carbon than structural steel or concrete during the manufacturing process and sequesters

the element so it stays out of the atmosphere for the life of the building.

Albina Yard, a 16,000-square-foot office building in Portland, Oregon, will be the first U.S. building to include American-made CLT panels. Designed by local firm **Lever Architecture** and slated for completion in July, the structure utilizes CLT in its floor slabs and main stairs. Lever, whose projects include **Framework**, the West Coast winner in the first U.S. Tall Wood Building competition, knows that wood's benefits extend well beyond construction efficiencies. "Timber buildings appeal to people with their natural beauty," notes Lever principal Thomas Robinson. "They also smell great." —*Alice Liao*

CROSS TRAINING

In addition to their strength and stability, cross-laminated timber panels can offer builders structural and environmental benefits.



ADVANTECH SUBFLOOR ADHESIVE

MANUFACTURER: Huber Engineered Woods

PERFORMANCE: This foam-to-gel formula fills gaps on irregular surfaces and prevents the differential movement between subfloor panels and joists that causes them to squeak.

PRICE RANGE: \$\$-\$\$\$

APPLICATIONS: Designed for use on residential floor joists, the spray-on adhesive applies quickly, even to frozen or wet wood, and is backed by a 10-year guarantee.

HUBERWOOD.COM

(SNAP #213)

WAVY

MANUFACTURER: PlyProject

PERFORMANCE: This lightweight, flexible acoustic paneling is made of bonded layers of foam, high-density fiberboard, and CNC-cut plywood. When applied flat, Wavy has a sound absorption rating between 100 and 400 Hz.

PRICE RANGE: \$\$-\$\$\$

APPLICATIONS: Ideal for acoustic wall and ceiling applications, Wavy is available in sizes up to 38 3/8 by 71 1/8 inches and with walnut, maple, or cherry veneers.

PLYPROJECT.COM

(SNAP #214)

ZIGZAG

MANUFACTURER: Viridian

PERFORMANCE: Made from reclaimed shipping crates, this rough-hewn wood paneling includes boards with heavy patina, weathered paint, and real nailheads.

PRICE RANGE: \$

APPLICATIONS: Available in widths of 4 to 6 inches and lengths of 24 to 36 inches, the roughly 3/8-inch-thick boards can be installed on walls in horizontal, vertical, or herringbone configurations.

VIRIDIANWOOD.COM

(SNAP #215)

TIMBERCUTS

MANUFACTURER: Armstrong

PERFORMANCE: New to the Artistic Timbers collection, these 3/4-inch-thick planks of maple, oak, and hickory flooring feature sawn marks for a rugged appearance.

PRICE RANGE: \$\$

APPLICATIONS: Available in 10 colors and three widths, the planks can be mixed and matched in residential and commercial applications.

ARMSTRONG.COM

(SNAP #216)

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

Sticking with It

A NEW ADHESIVE from **EcoPro Polymers** could revolutionize the manufacture of composite wood products. Derived from plant-based materials, the yet-to-be-named, formaldehyde-free resin is the first suitable for particleboard and MDF fabrication. It is also less viscous than the soy-based wood adhesives currently used in hardwood plywood applications. That means the substance can be converted into small droplets without compromising its strength or durability.

EcoPro Polymers' founder and CEO Hugh Mandal developed the adhesive with support from **Oregon State University** and **Oregon Best**, a nonprofit focused on clean-technology innovation. Mandal believes there will be considerable demand for his product, as several health organizations classify formaldehyde as a carcinogen. Its emission is heavily restricted in California, with a federal standard under proposal by the Environmental Protection Agency. Compliance is "a big pain point" for manufacturers, Mandal notes.

Spekply, another Oregon Best-funded startup, will be the glue's first client, incorporating it into a line of architectural panels to be introduced later in the year. Dirk Wallace, Spekply's owner and director of product development, says he plans to use the resin exclusively for all the company's composite materials. —AL



GLUE TRAP

Made from agricultural by-products, Spekply's architectural panels—available later this year—will be the first item to feature the new formaldehyde-free resin by EcoPro Polymers.

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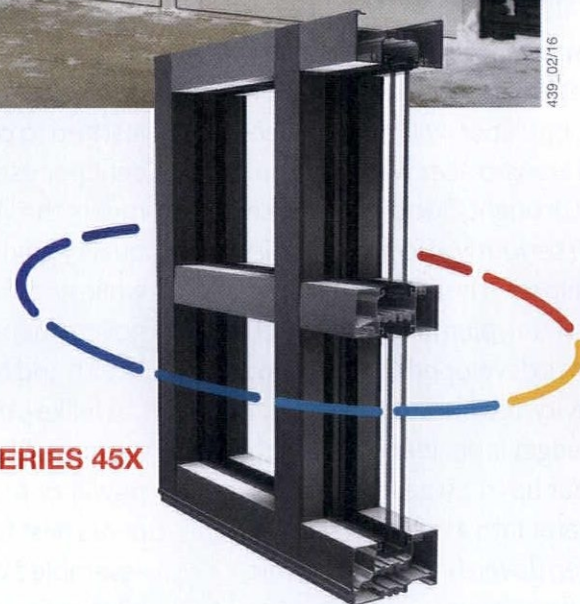
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SNAP 6



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Aquatic Altruism

THE WORLD HEALTH ORGANIZATION (WHO) estimates that by 2025, half the world's population will live in water-stressed areas: places where chronic or seasonal drought, flooding, or water pollution seriously affect the quality of life. To help such households clean their drinking water, plumbing manufacturer **Kohler** has developed Clarity, a low-cost, gravity-fed filtration system.

The gadget is decidedly low-tech. Users pour up to 2.9 gallons of contaminated water into a holding tank. The water then flows through a ceramic filter—which removes over 99 percent of bacteria—and into a 3.1-gallon reservoir, where the now-potable water is stored. Clarity can filter up to 10.5 gallons of water per day, meeting the

drinking-water needs of a three-to-four-person family. The \$20 ceramic filter lasts up to one year and costs less than a cent per user to operate daily. And it meets the WHO's interim-level water-quality guidelines, benchmarks which, while not the optimal goals set by government agencies, still ensure basic health and hygiene standards.

Unlike other, similarly scaled filter systems, Clarity doesn't require electric power or manual pumping. The components nest for easy shipping and can be assembled without tools. Also setting the filter apart is its relatively sophisticated appearance. "Our goal with Clarity is to provide a filter that's extremely efficient at creating safe drinking water and also becomes a fixture of convenience and

dignity in a home," says Mike Radloff, senior project manager of water technologies at the Wisconsin-based company.

Kohler is field-testing Clarity before its rollout to a set of nonprofit organizations focused on international socioeconomic and ecological issues; think **World Vision**, **International Development Enterprises** (iDE), and **Water Mission**.

Together, filtration efforts such as Kohler's are making a difference. In 2015, 91 percent of the world's population had access to an improved drinking-water source, compared with 76 percent in 1990. Says David Kohler, the company's president and CEO, "Business success doesn't matter much if we can't say that we left the world a better place than we found it." —*Leslie Claggett*

WATER WORKS
Clarity's lid, base, and nut are made entirely of plastics recycled from the production of toilet seats.



LITZE COLLECTION

MANUFACTURER: Brizo

PERFORMANCE: This collection of tub fillers, lavatory sets, and ceiling- and wall-mount showers give bathrooms a modern industrial look.

PRICE RANGE: \$\$

APPLICATIONS: The fittings come in four standard and three optional finishes. TempAssure thermostatic shower valves consolidate water volume, temperature, and flow in a single control.

BRIZO.COM

(SNAP #217)



NOKORI TUB

MANUFACTURER: BainUltra

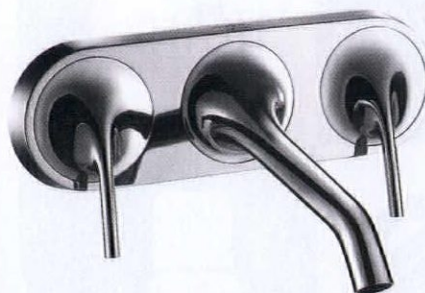
PERFORMANCE: This seamless acrylic model can be installed as a freestanding design or fitted against one, two, or three walls. Available in five sizes ranging from 58 to 71 inches in length.

PRICE RANGE: \$\$

APPLICATIONS: The optional Thermo-masseur package includes a heated backrest, air jets, and chromotherapy.

BAINULTRA.COM

(SNAP #218)



MY COLLECTION

MANUFACTURER: Jougor

PERFORMANCE: Created by British industrial designer Michael Young, these fittings made of medical-grade stainless steel feature a mirror-polish finish that exceeds chrome in brilliance and colorfastness.

PRICE RANGE: \$\$\$

APPLICATIONS: The fixtures and accessories suit contract and residential markets. The lavatory sets have a flow rate of 1.98 gallons per minute.

JOUGOR.COM

(SNAP #219)



SO613

MANUFACTURER: MGS

PERFORMANCE: This showerhead with three spray options runs custom and preset chromotherapy programs designed to relax and energize users.

PRICE RANGE: \$\$\$

APPLICATIONS: Ideal for luxury residential and hospitality projects, the fixture comes in two sizes and can be paired with a variety of thermostatic mixers and hand showers.

MGSTAPS.COM

(SNAP #220)

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



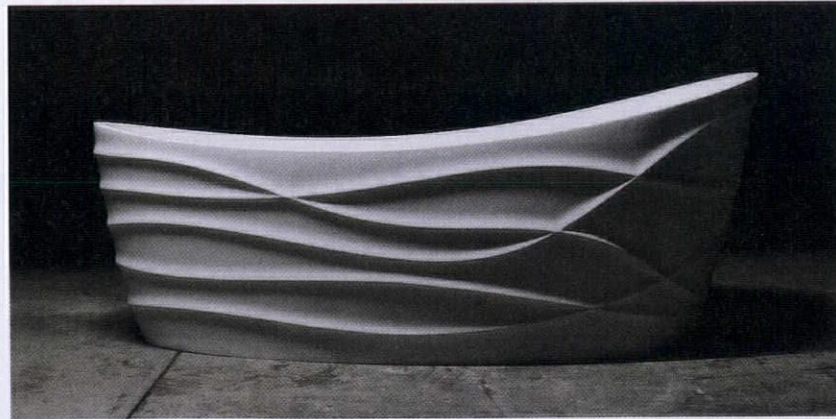
= ECO-FRIENDLY ATTRIBUTES

Shaping Up

THE ONCE-CLUNKY bathtub has taken a sculptural turn thanks to a new mineral-based acrylic. The through-color material—which **Duravit** incorporates under its DuraSolid brand and **Laufen** uses in its Sentec products—can be cast into forms with tight contours, crisp edges, and thin blades. Such shapes can't be achieved through typical production means like polymer thermoforming and metal or ceramic molding.

Bathtubs using this proprietary material are now making their way into the U.S. market. The models are lightweight yet strong—single-wall tubs are just as solid as ordinary double-wall soakers. They are color-stable under UV light and tolerate temperature fluctuations without buckling or deforming. Plus, should a tub get scratched, a light buffing restores its surface.

While the standard palette consists of whites and neutrals, the material can be special ordered in bolder, more saturated hues, some with an aggregate-like appearance mimicking stone. Its velvety finish provides a measure of slip resistance, which opens the acrylic up for other uses—for instance, in shower trays. "This material is something completely new for our company and the market," says Tim Schroeder, president of Duravit USA. "It's set to be the new standard for bathrooms." —LC



IN FINE FORM

The first wave of tubs available in the U.S. market made from a new acrylic include (clockwise from above left) Duravit's Cape Cod, Clarke Architectural's Dune, and Laufen's Ino.



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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.

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





The Big Picture

UNTIL WE ACHIEVE a sci-fi world where invisible plasma shields replace a building's windows and doors, we will have to accept obstructed views of the great outdoors. Meanwhile, manufacturers continue pushing material and engineering limits to make products as panoramic as they can, with slim profiles and large expanses of glass their latest tactic.

Available in standard or custom sizes up to 8 feet tall and 18 feet wide, **LaCantina's** Vinyl Folding Door system offers extremely narrow 2 15/16-inch stile and rail profiles; the pieces come in white or tan and with stainless-steel or bronze-finish hardware. If you're seeking increased visibility where wall meets wall, there is the Direct Glaze 90-Degree Corner window from **Marvin**, which

has a clad corner post only 2 15/16 inches wide. Factory mulling is available for vertical stacked construction.

Incorporating both windows and doors for a consistent design aesthetic, **Jeld-Wen's** EpicVue line features an aluminum-extruded sash for strength and stability. On offer are a variety of configurations, including swinging patio doors and folding wall systems. EpicVue comes in a choice of eight wood species, five stains, and 10 hardware finish options.

Maximum natural light and a seamless indoor-outdoor experience aren't always what a design requires. But when you want to let the sun stream in, manufacturers continue to open up the view. And that's no fiction. —*Braulio Agnese*



LOOK OUT

Manufacturers such as LaCantina (top) and Marvin (above) are maximizing views with doors and windows that pair wide expanses of glass with slender mullions.



BALDUR SLIDING-DOOR HARDWARE

MANUFACTURER: Krown Lab

PERFORMANCE: This patented hubless sliding system for interior barn doors can hold panels that weigh up to 400 pounds.

PRICE RANGE: \$\$\$

APPLICATIONS: Available in three stainless-steel finishes (brushed, polished, and black) and in top-, face-, and glass-mount configuration, Baldur suits both residential and commercial uses.

KROWNLAB.COM

(SNAP #221)



ARCADE WINDOWS

MANUFACTURER: Intus

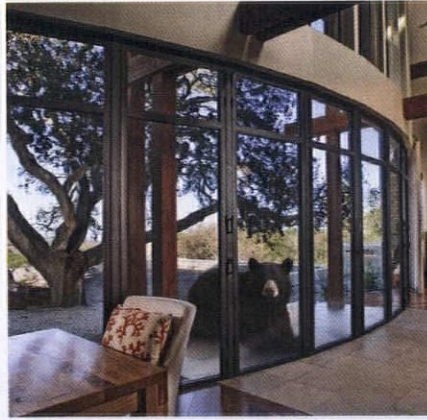
PERFORMANCE: This unplasticized polyvinyl chloride (uPVC), triple-glazed line of windows can achieve a DP70 rating and thermal insulation up to R7.

PRICE RANGE: \$\$

APPLICATIONS: An affordable, commercially rated uPVC product for multifamily buildings, Arcade offers eight exterior and 33 interior color laminates along with multiple hardware finishes, grille designs, and glazing options.

INTUSWINDOWS.COM

(SNAP #222)



BEARRICADE FOLDING GLASS WALL

MANUFACTURER: NanaWall

PERFORMANCE: Reinforced structural posts and impact-rated laminated glass keeps beasts at bay while enabling openings of up to 38 inches wide.

PRICE RANGE: \$\$\$

APPLICATIONS: Developed for structures in areas with active bears, this product provides peace of mind—along with a panoramic view.

NANAWALL.COM

(SNAP #223)



PERSPECTIVES DOOR GLASS

MANUFACTURER: ODL

PERFORMANCE: Available in dozens of sizes, this entry-door glass series comes in a choice of eight minimalist textures inspired by nature and geometry.

PRICE RANGE: \$\$

APPLICATIONS: Two styles offer severe-weather-impact options—for hurricane- and tornado-prone regions—while another is available in low-E glass. Several provide visual privacy without filtering out light.

ODL.COM

(SNAP #224)

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

Increased Transparency



SOMETHING TO DECLARE

The Renewal by Andersen double-hung window (pictured) is the first fenestration item on the market with a comprehensive Environmental Product Declaration, which quantifies its impact on the planet.

LAST SEPTEMBER, Andersen Windows became the first fenestration manufacturer to comprehensively disclose the environmental impacts of one of its products. The Environmental Product Declaration (EPD) for its Renewal by Andersen double-hung window arrived just weeks after the **Institute for Environmental Research and Education (IERE)** announced the first Product Category Rule for vertically hung windows, a move that created an industry standard for EPDs in that category.

Andersen's quickness with the EPD for Renewal was by design. The company, part of the IERE industry team that developed the rule over four years, had already conducted a life-cycle assessment on the window and was able to develop the EPD as the standard evolved, says Eliza Clark, Andersen's director of sustainability and environmental. "EPDs are resource-intensive efforts," she adds. "The process taught us a lot." Renewal is Andersen's consumer-facing replacement-window line, and thus, in Clark's words, "a pretty universal product."

What's next? Clark reports that among green initiatives on several fronts, Andersen is creating a new position that will focus exclusively on product and supply-chain sustainability. As for future EPDs, Clark expects to eventually have one for every Andersen window series because, she says, embracing environmental transparency "is something we've targeted as a key part of our business." —BA



Bridging Technologies

IN 2013, when **Leo Villareal** created his iconic *Bay Lights* installation on the San Francisco–Oakland Bay Bridge, the spectacle was lit only temporarily. The reason? The LED fixtures used weren't able to withstand the environment's high moisture levels.

Not so for a new, permanent version of the installation, which debuted on January 30. Utilizing **Philips** Color Kinetics eW Flex Compact lighting, this take features 25,000 individually controllable, fully encapsulated LED nodes protected from water and salt; the white light produced is also four times brighter than that of the original installation.

Other technological advancements helped as well. "We now have longer hybrid cables to carry power and data,"

says Saeed Shahmirzai, a senior project manager at **Zoon Engineering**, the installation's construction managers. "With the longer cables, we were able to space our fixture enclosures farther apart and reduce their number by 35 percent," thus saving on installation cost and maintenance. Philips' cloud-based ActiveSite System also enables remote diagnostics, analytics, and control of the lights, further simplifying and enhancing their management.

Illuminate, the nonprofit arts organization that first envisioned the project, estimates that the updated *Bay Lights* installation will bring \$1 billion in tourism and real estate revenue to the local economy over the next decade.

—Allison Craig



LIGHTING THE WAY

A new, permanent version of the *Bay Lights* installation on the San Francisco–Oakland Bay Bridge features 25,000 individually controlled LEDs.



ASL

MANUFACTURER: Hubbell Outdoor Lighting

PERFORMANCE: This compact outdoor LED luminaire can replace up to 400-watt HID fixtures and can be mounted on a pole or roadway bracket. The lens distributions are rotatable in 90° increments.

PRICE RANGE: \$

APPLICATIONS: Offered in 8-, 16-, and 24-LED configurations, the light is suitable for illuminating roadways and parking lots.

HUBBELLLIGHTING.COM

(SNAP #225)



BOOM LED

MANUFACTURER: BEGA

PERFORMANCE: Made of copper and cast bronze, these unshielded wall luminaires feature handblown, three-ply opal glass shades. They come with an integral 120–277V electronic driver and 0–10V dimming.

PRICE RANGE: \$\$

APPLICATIONS: The fixture, which comes in two sizes, is ideal for lighting entrances, arcades, and walkways.

BEGA-US.COM

(SNAP #226)



2-INCH ROUND STAINLESS-STEEL STEP LIGHT

MANUFACTURER: Stone Lighting

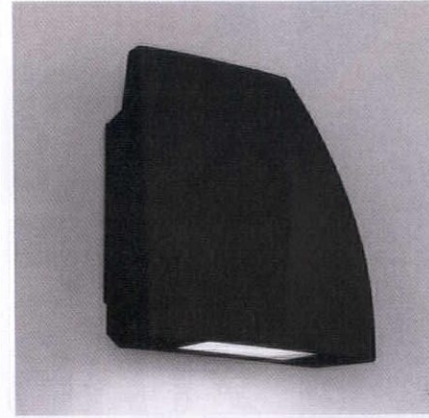
PERFORMANCE: This diminutive light is available in 1- and 3-watt versions. ADA-compliant and easy to install, it comes with housing options for masonry or concrete.

PRICE RANGE: \$\$

APPLICATIONS: Designed for interior and exterior applications in hospitality, multi-family homes, and healthcare facilities.

STONELIGHTING.NET

(SNAP #227)



FIN

MANUFACTURER: WAC Lighting

PERFORMANCE: With its sleek profile recalling a shark's fin, this dimmable LED wall fixture comes in three wattages and two color temperatures. The die-cast aluminum light-engine housing can be installed in any orientation without risk of water or dust leakage.

PRICE RANGE: \$\$

APPLICATIONS: Offered in graphite, bronze, and white, the light is suitable for any exterior commercial application.

WACLIGHTING.COM

(SNAP #228)

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

Rainbow Bright

THE FIESTA DISTRICT Improvement Project in Mesa, Arizona, is one of the largest adaptive reuse projects in the state's history. Once a graveyard of abandoned big-box stores, it is now a 1½-mile-long mixed-use urban corridor featuring high-end apartments, tech companies, restaurants, and five public pocket parks. Uniting the corridor elements is a custom street-lighting scheme designed by the Phoenix-based firm **Wright Engineering**.

Lighting was central to creating the district's synergistic streetscape, according to Jeff Velasquez, a project manager at **J2 Engineering & Environmental Design**, the scheme's landscape architects. The lighting systems—color-changing LED shade structures, water features, light columns, bus stop elements, and roadway and pedestrian fixtures among them—unified the revitalized Fiesta District through “the intricate balance of color, aesthetics, and function,” in Velasquez's words.

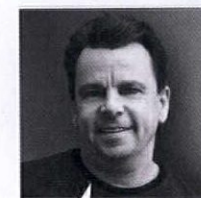
Lumascap Lighting provided the core lighting solution: a wireless control system that synchronizes the color rotation of all the elements. As Cliff Tolman, an associate engineer at Wright Engineering, points out, “The synchronization is what made the project complicated—but also what made it work.” —AC

TAPESTRY OF HUES

The designers of Mesa, Arizona's revitalized Fiesta District used a rotating palette of colors to unify various streetscape elements.



SNAP BACK



RENE BIHAN

Managing Principal
SWA Group
San Francisco,
California

“Lighting has really emerged as the newest and strongest placemaking instrument for my San Francisco urban-design projects. LED is still a nascent technology, and it seems like the sky is the limit in terms of new and emerging ways of using it to animate and enhance public spaces.”

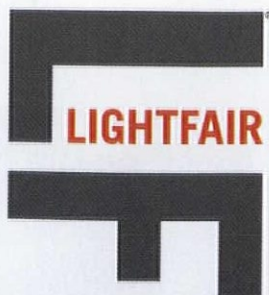
SNAP FACT

LED fixtures now make up more than

50%

of all new public outdoor lighting sold.

SOURCE: THE SMART OUTDOOR LIGHTING ALLIANCE



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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.

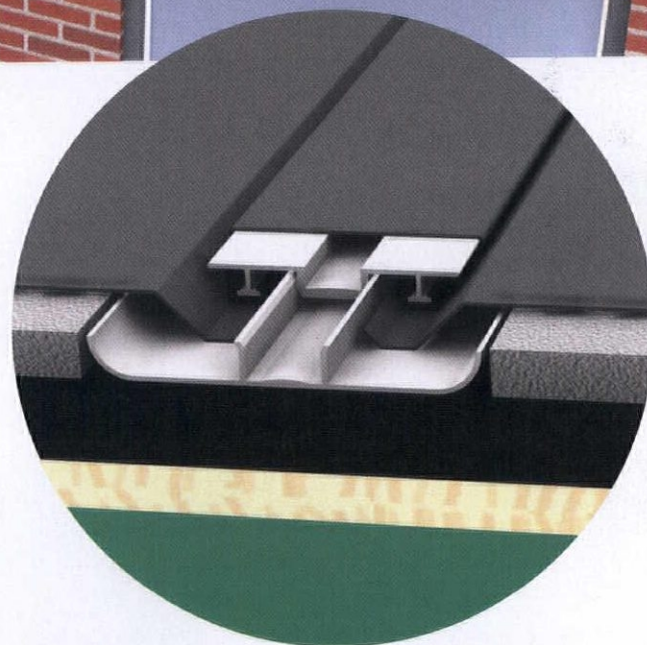
Applications

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"
- Minimum/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)

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E-mail: overly@overly.com
Website: www.overly.com



Cast in Concrete

BEST KNOWN FOR its medieval architecture, the Polish city of Toruń has added a thoroughly modern concert hall to its collection of UNESCO-protected landmarks. Designed by Spanish architect **Fernando Menis**, the new 235,052-square-foot structure takes inspiration from the past, inventively using red brick—the city’s historic building material of choice—for visual and acoustic impact.

The **CKK Jordanki** concert hall features a pale concrete exterior with cuts in the facade that offer glimpses of the cavernous interior. Menis covered the ceiling and walls of the building, which includes an auditorium, meeting rooms, and public areas, with a mixture of concrete and crushed brick: a technique he calls *picado* (Spanish for “chopped”). While the mosaic-like surface is a stunning reinterpretation of Toruń’s traditional brick, it mainly serves, Menis says, “to help

design excellent acoustics.”

The architect has spent the last decade perfecting the process, which he devised for the **Magma Arte & Congresos** center in Tenerife, Spain, employing a blend of volcanic ash and concrete. In Toruń, red brick was substituted for the ash, resulting in a product that increases the sound absorption of regular concrete. The shape of the *picado* slabs—combined with the auditorium’s height-adjustable ceiling—allowed Menis to fine-tune the acoustics of the concert hall so well, it could support a wide range of performance styles: theater and chamber music, opera and rock. Combined with the building’s dramatic appearance, the result is a space meant to delight the eyes as much as the ears.

—Alison Zingaro

SOUND IDEA

To improve acoustics and add interest to the CKK Jordanki concert hall (above), Fernando Menis applied a blend of concrete and brick fragments to its interior (left) and exterior.



THE HISTORIC DISTRICT BRICK COLLECTION

MANUFACTURER: Boral

PERFORMANCE: Inspired by the centuries-old buildings in various American cities, this collection melds the character of reclaimed brick with the durability of new brick.

PRICE RANGE: \$\$

APPLICATIONS: The low-maintenance exterior siding is ideal for residential projects and restorations.

BORALAMERICA.COM

(SNAP #229)



FORM & POUR CONCRETE MIX

MANUFACTURER: Quikrete

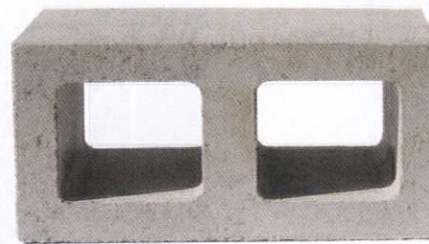
PERFORMANCE: The microsilica in this high-flow, pumpable concrete reduces the permeability to chlorine ions—thereby protecting the steel from corrosion—while an air-entraining admixture increases freeze-thaw durability.

PRICE RANGE: \$

APPLICATIONS: Designed for structural repairs to bridges, dams, tunnels, walls, and floors.

QUIKRETE.COM

(SNAP #230)



CEMENT-FREE MASONRY BLOCK



MANUFACTURER: Watershed Materials

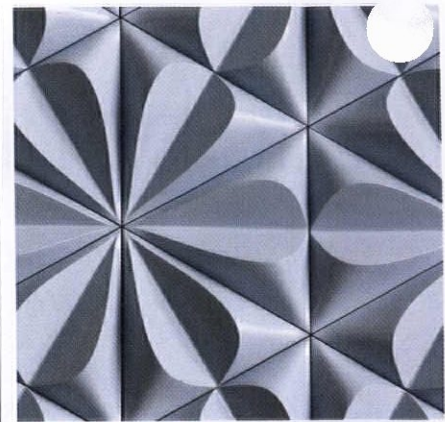
PERFORMANCE: Made of lime, aluminosilicates, and blast-furnace slag, these blocks provide an environmentally friendly alternative to Portland cement.

PRICE RANGE: \$\$

APPLICATIONS: Offering a compressive strength of 2,500 psi, these blocks can replace concrete ones in commercial and residential buildings.

WATERSHEDMATERIALS.COM

(SNAP #231)



KAZA COLLECTION

MANUFACTURER: Walker Zanger & Kaza Concrete

PERFORMANCE: These 3-D concrete wall tiles offer surface interests ranging from angular geometry to supple curves.

PRICE RANGE: \$\$\$

APPLICATIONS: Intended for both interior and exterior residential and commercial spaces, the tiles come in nearly two dozen patterns; bespoke options are also available.

WALKERZANGER.COM

(SNAP #232)

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



= ECO-FRIENDLY ATTRIBUTES

Electric Avenue

SNOW-PRONE CITIES spend millions annually removing the white stuff, not to mention the added expense of weather-related infrastructure repairs. But now a special type of conductive concrete that heats up to melt ice and snow has the potential to help lower maintenance costs while keeping streets and sidewalks safer.

Created by **Chris Tuan**, a civil engineering professor at the University of Nebraska–Lincoln, the concrete contains a blend of steel fibers, steel shavings, and low-purity carbon particles. Electrodes extract electricity from a power source, and the embedded metal elements in the concrete distribute the energy through the material as heat. While the technology was previously considered too expensive for real-world applications, this new formulation reduces the cost by utilizing industrial-waste versions of the elements recycled from metal-fabrication shop floors. The result, says Tuan, is “the most cost-effective design that meets strength and durability requirements” to date.

Tuan’s concrete has been used on the Roca Spur Bridge in Omaha and in parking ramps in Harbin, China. The **Federal Aviation Administration** is currently evaluating the material for high-traffic areas of tarmac, where snowplows and deicing equipment can be difficult to maneuver. If all goes well, the agency plans to implement the technology on the tarmac at its technical headquarters in Atlantic City.

Although Tuan says paving entire roadways with the concrete is still cost-prohibitive—the material is two and a half times the price of regular concrete—he anticipates that it will be used more widely for smaller applications like driveways, bridges, exit ramps, and parking lots. —AZ



WARM-UP

A new, lower-cost formulation of electrified concrete (in testing, above) could automatically melt snow and ice on runways, driveways, and bridges.

Little by Little

Slowly but surely, Virginia and the Carolinas are rebounding from the recession.

BY J. MICHAEL WELTON



ALTHOUGH ON the upswing in North Carolina, South Carolina, and Virginia, manufacturing is not exactly booming in the South Atlantic states.

"Manufacturing accounts for 8 percent of Virginia's total employment," says Brian Kroll, senior economist at the Virginia Economic Development Partnership in Richmond. The state's industry grew 0.4 percent over last year, led by transportation equipment, including **Volvo** trucks manufactured in Radford. But building products have played a role, too. Take **Trex** composite decking in Winchester. "They've expanded their facilities by 120 million square feet and added 36 jobs," Kroll says of the company.

North Carolina's manufacturing sector also continues to grow, albeit at uneven levels. "Although we're strongest in aerospace and aviation," says Phil Mintz, executive director of the North Carolina Manufacturing Extension Program, "even our traditional industries such as furniture manufacturing are undergoing a revival."

The state's building-products market, however, isn't having such luck. "What's holding us back is that younger people are continuing to rent" rather than buy a home, says Jay Watt, director of marketing at **National Gypsum**. "So we're seeing a lot of multifamily units, and they use less material than single-family homes."

In 2015, the manufacturing sector accounted for 86 percent of the capital investment made in South Carolina. Although the automotive industry has been the biggest driver, it's not the only one. "Since 2011, building-product manufacturers have announced seven economic development projects in South Carolina," says Jeremy Cauthen, communications manager for the state's Department of Commerce. "These investments total more than \$85 million and have created 220 jobs."

It looks as if that good ol' Southern hospitality is paying off after all.

North Carolina, South Carolina, and Virginia

1 MANUFACTURER: Ten Oaks
LOCATION: Stuart, Virginia
PRODUCTS: Unfinished and prefinished sealed solid-hardwood flooring.
FOUNDED: 2004
EMPLOYEES: 127
PRICE RANGE: \$\$
TENOAKSFLOORING.COM



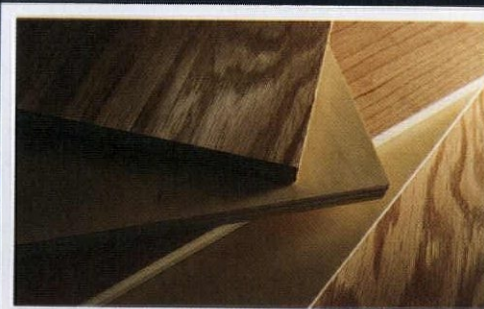
2 MANUFACTURER: CaptiveAire Systems, Inc.
LOCATIONS: Raleigh and Youngsville, North Carolina
PRODUCTS: Heaters, ductwork, utility sets, make-up air units, and commercial kitchen ventilation products.
FOUNDED: 1976 **EMPLOYEES:** 1,000+
PRICE RANGE: \$\$
CAPTIVEAIRE.COM



3 MANUFACTURER: CertainTeed
LOCATIONS: Oxford and Semora, North Carolina (manufacturing facilities)
PRODUCTS: Roofing, siding, decking, ceiling, and lightweight gypsum board products.
FOUNDED: 2012 **EMPLOYEES:** 425
PRICE RANGE: \$-\$\$\$
CERTAINTEED.COM



4 MANUFACTURER: HBF
LOCATION: Hickory, North Carolina
PRODUCTS: Contract textiles, seating, and tables.
FOUNDED: 1981
EMPLOYEES: 200
PRICE RANGE: \$\$-\$\$\$
HBF.COM



5 MANUFACTURER: Columbia Forest Products
LOCATION: Old Fort, North Carolina
PRODUCTS: Decorative hardwood plywood and veneer.
FOUNDED: 1956
EMPLOYEES: 2,000
PRICE RANGE: \$\$
COLUMBIAFORESTPRODUCTS.COM

SNAPSHOTS

VIRGINIA

The state's manufacturing sector employed

231,600

in 2014, an increase of 0.5% over the preceding decade.

In 2014, Virginia's manufacturers exported **\$16.25 billion worth of goods**—85% of the state's total amount.



SOURCES: VIRGINIA ECONOMIC DEVELOPMENT PARTNERSHIP, NATIONAL ASSOCIATION OF MANUFACTURERS

NORTH CAROLINA



The 2014 gross domestic product of North Carolina was **\$455.9 billion**, the ninth-largest GDP in the United States.

In January 2014, manufacturing employed

10.9%

of North Carolina's workforce.

Civilian aircraft, engines, and parts are the Tar Heel State's most lucrative manufacturing sectors, accounting for **\$1.2 billion** in 2014 (3.8% of the state's output).



SOURCES: ECONOMIC DEVELOPMENT PARTNERSHIP OF NORTH CAROLINA, NORTH CAROLINA DEPARTMENT OF COMMERCE, NATIONAL ASSOCIATION OF MANUFACTURERS

SOUTH CAROLINA

Since 2010, the state's manufacturing employment has increased by **13.1%**, to

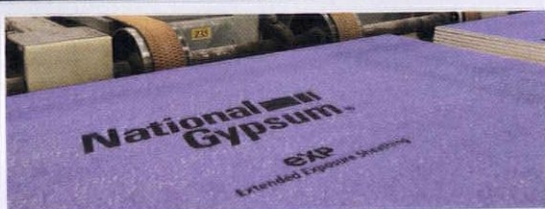
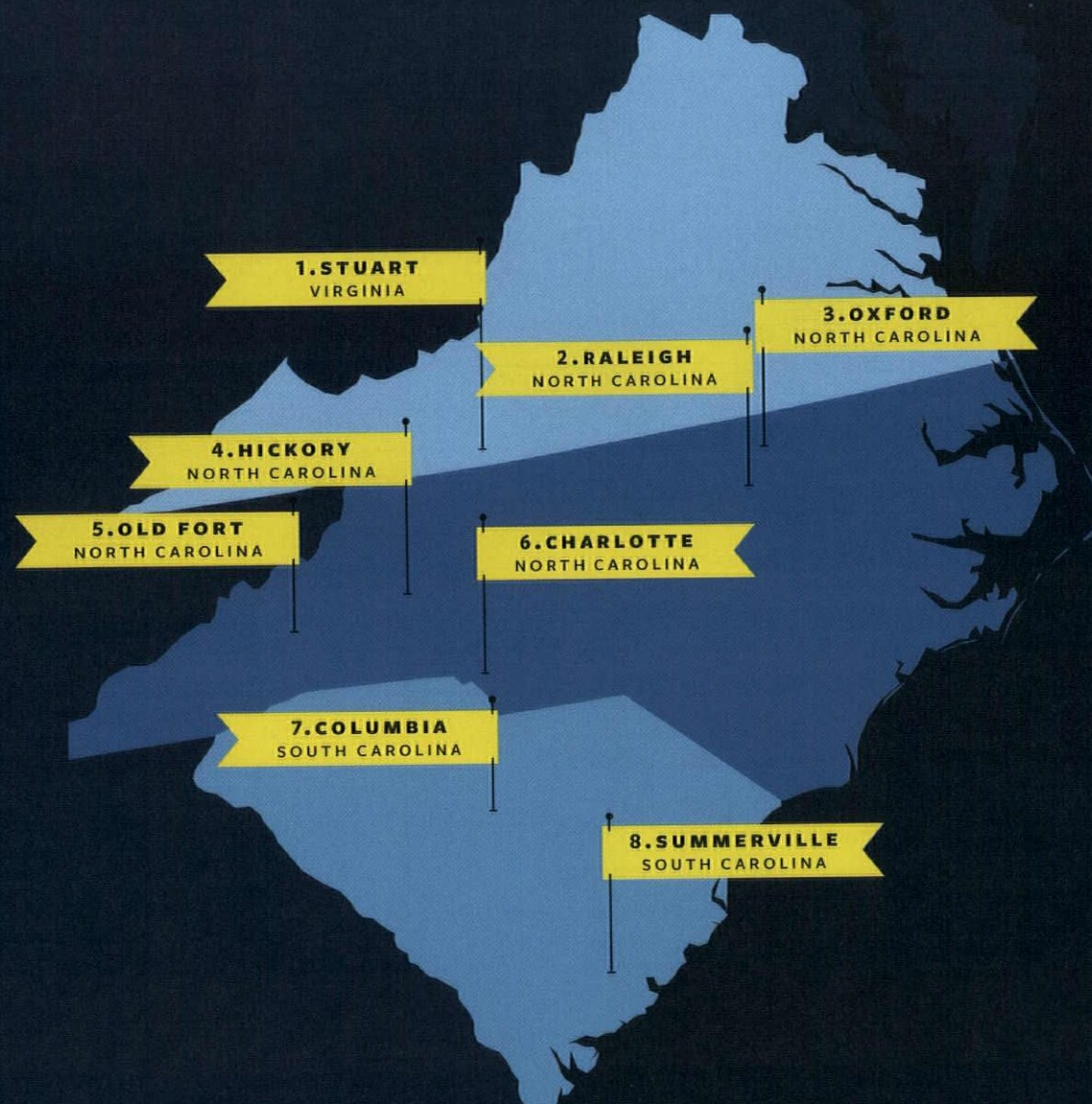
26,800 JOBS.



South Carolina leads the pack in the production and export of tires, accounting for more than **28%** of the nation's market in that segment.

Today there are approximately **150 building products manufacturing firms** operating in the Palmetto State.

SOURCE: SOUTH CAROLINA DEPARTMENT OF COMMERCE



6 MANUFACTURER: National Gypsum
LOCATION: Charlotte and Mount Holly, North Carolina
PRODUCTS: Gold Bond gypsum board, PermaBase cement board, DEXcell roofing, and ProForm interior finishing products.
FOUNDED: 1995 **EMPLOYEES:** 2,100+
PRICE RANGE: \$-\$\$\$
NATIONALGYPSUM.COM

7 MANUFACTURER: Carolina Ceramics Brick Company
LOCATION: Columbia, South Carolina
PRODUCTS: Multiple types of face brick, including pavers, shapes, and firebrick.
FOUNDED: 1939
EMPLOYEES: 50
PRICE RANGE: \$\$
CAROLINACERAMICS.COM



8 MANUFACTURER: Aamsco Lighting, Inc.
LOCATION: Summerville, South Carolina
PRODUCTS: Lightbulbs, antique reproduction lamps, and LED-backlit mirrors.
FOUNDED: 1975
EMPLOYEES: 20
PRICE RANGE: \$\$
AAMSCO.COM



IT'S A WRAP

At P.S. 62, PVs cover the south facade, extend over the roof, and cantilever above the north facade (above) and a playing field.

Where Zero Is the Top Score

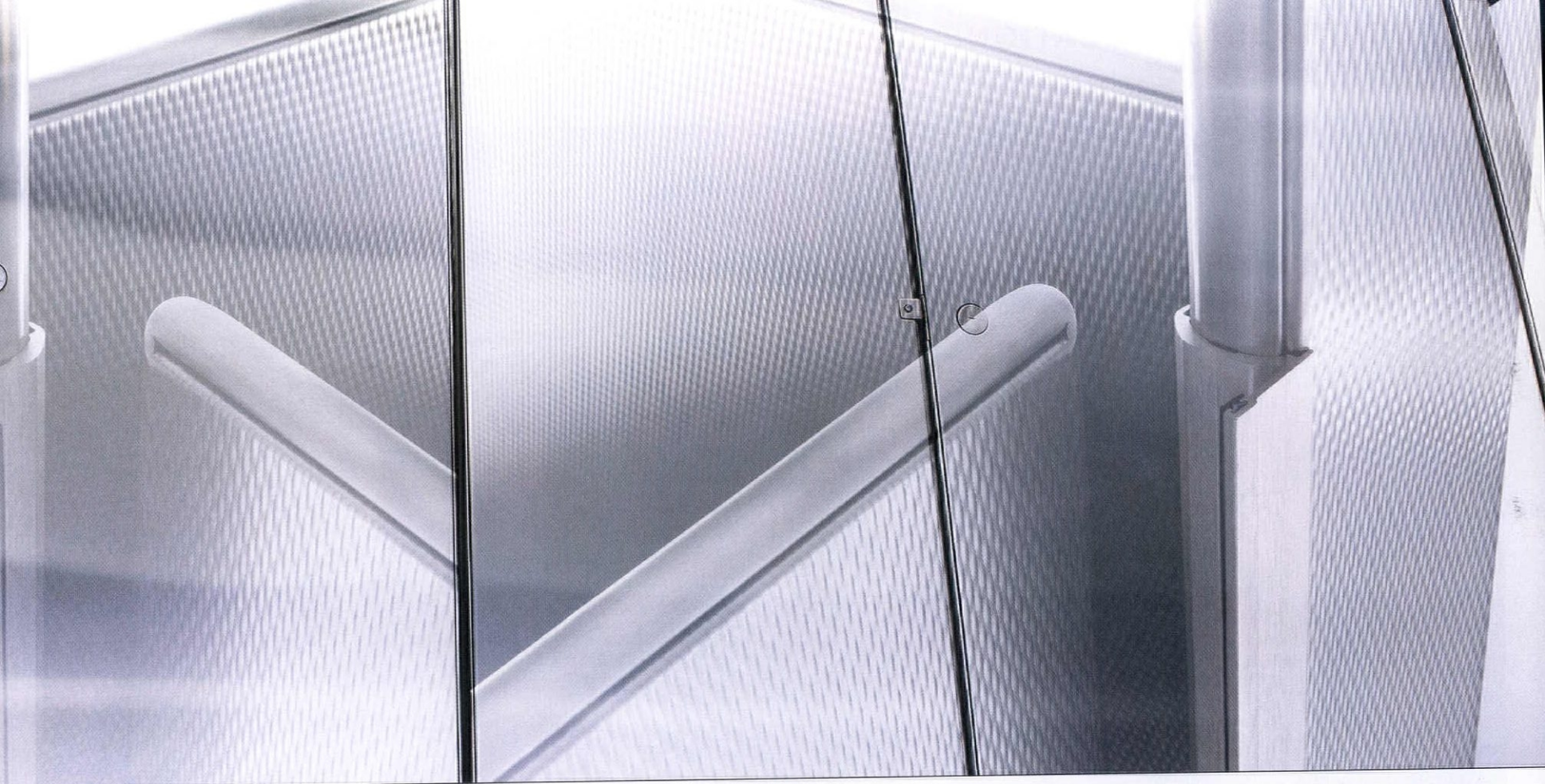
An ultra-energy-efficient building defines a new paradigm for New York schools.

BY JOANN GONCHAR, AIA

THE AMBITIOUS environmental agenda of a new elementary school designed by Skidmore, Owings & Merrill (SOM) on Staten Island, New York, is obvious from the first encounter. Almost 1,600 photovoltaic (PV) panels cloak the 68,000-square-foot, two-story structure, covering the south facade, extending over its roof, and cantilevering out to float above a playing field. These PVs, along with about 400 more sheltering a parking area, are expected to generate 662 megawatt-hours of electricity per year. This energy should make the building—named P.S. 62, the Kathleen Grimm School for Leadership and Sustainability at Sandy Ground, after a longtime deputy chancellor for education—the first net zero energy school in the Northeast.

What constitutes a net zero energy building? The industry is still debating this, with the U.S. Department of Energy proposing a standard definition and measurement guidelines just last fall. But at the most basic level, a net zero energy building (often called a zero net energy building or simply a zero energy building) is one that over the course of a year produces at least as much energy from renewable sources as it consumes. So far, only 39 nonresidential projects have documented their performance in the U.S., verifying that they are zero energy, according to a tally released in early 2015 by the nonprofit New Buildings Institute. Eight of those are K–12 school buildings.

If these figures make net zero seem like a high bar, a school in New York presents an



Stainless Steel Toilet Partitions



CORROSION RESISTANT

Hadrian's stainless steel is resistant to chemical cleaners, spray washing, and sanitizing agents.

INDUSTRY-BEST FIRE RESISTANCE

Stainless steel is the most fire resistant toilet partition material available.

HIGH RECYCLED CONTENT

With 91% (76% post-consumer and 15% pre-consumer) recycled content, Hadrian's stainless steel toilet partitions are an outstanding choice for environmentally sensitive projects.

ENHANCED PRIVACY OPTIONS

Achieve maximum privacy with optional extended panels and doors as well as full height channels to completely eliminate all sightline gaps.

COST EFFECTIVE

Less expensive than composite and phenolic type toilet partitions, stainless steel achieves an upscale appearance at an affordable price point.

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WWW.HADRIAN-INC.COM

SNAP 137



SPINY COVERINGS

Ribbed precast-concrete panels 30 feet tall clad the north, east, and west elevations (above).

especially tough challenge. The city's density makes it difficult to find a site that allows sufficient roof space or unshaded and correctly oriented facade area to mount PV panels—the most viable renewable-energy source for net zero aspiring projects, explains E. Bruce Barrett, vice president for architecture and engineering at the city's School Construction Authority (SCA). But in 2010, when the SCA's capital planning and real-estate group presented Barrett with a 3½-acre site in a residential neighborhood in the city's most low-rise borough, she immediately thought that “if there was ever an opportunity for us to do a net zero school, this is it.” Later that year, the SCA won approval from the New York City Department of Education and city officials to move forward with the building and selected SOM's Education Lab as its architects in early 2011.

From the get-go, P.S. 62 was considered a pilot project—one that would help improve and inform SCA design guidelines, explains Chris McCready, a SOM managing director. The potential for positive impact is considerable, since the city's 1,600 public schools represent 37 percent of municipal greenhouse gas emissions, points out Roger Duffy, a design partner.

But Duffy, McCready, and the team had their work cut out for them. They knew that even in its quasi-suburban setting, the school would need a vastly reduced energy appetite in order to meet all

its needs with the 34,000 square feet of PV panels that would fit on the school structure and over the parking area. So they aimed for a facility that would use only half the energy of a typical New York City school—a particularly ambitious goal since the city's school buildings must comply with the stringent Local Law 87, which is already 30 percent more efficient than the energy standard ASHRAE 90.1.

The design team tackled this target with extensive energy modeling, developing a set of tightly integrated tactics, both passive and active. One of the most consequential is the daylighting strategy, which in no small part influenced the building's configuration: the roughly square plan is organized around a long and narrow courtyard and a series of skylights that admit sunlight into the school's spacious double-height corridors. The classrooms, which face either north or south, so that the sun coming in through their windows and the associated heat gain are easy to control, also have corridor-facing windows for daylight sharing and ceilings contoured to reflect light. The approach yields classrooms that have as much as 90 percent daylight autonomy—a metric that defines the portion of normal school hours when electric illumination is unnecessary. Building-wide, the average daylight autonomy is 60 to 70 percent.

The architects and their consultants were particularly careful to avoid glare, since they were worried that teachers would pull down

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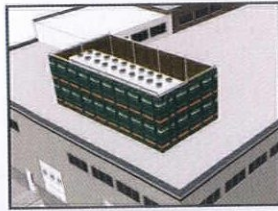
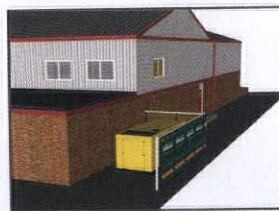
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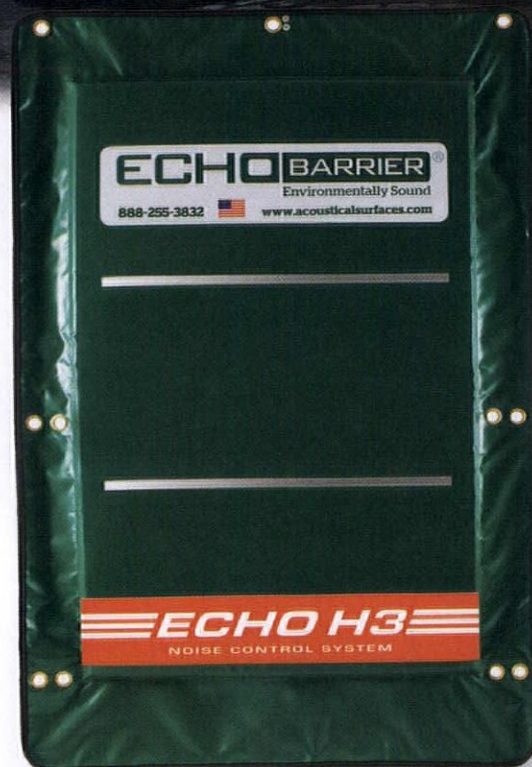


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COOL CONNECTIONS

The skylights above the double-story corridors (left) help give the school its lively and fresh atmosphere; the building has no enclosed stairs. Instead, its two floors are connected by four open staircases, amplifying the facility's capacious feel.

the window shades, neglect to raise them, and then rely on electric illumination, even during daylight hours. To lessen the chances of this happening, in the south-facing classrooms, they split the exterior windows into clerestories and low-level lites set at the right height for children to look out. The lower windows contain vision glass, but the higher ones include an aerogel that helps diffuse the sunlight.

The daylighting isn't all about saving energy, however. In combination with practical materials like vinyl tile flooring, ceramic wall tile, and suspended ceilings, almost all in white or shades of subdued gray, the natural illumination creates a lively and fresh atmosphere. "It changes the whole mood of the building," says Lisa Sarnicola, P.S. 62's principal. "It makes the children happy."

Another critical strategy is the school's super-insulated and tight envelope, with triple-glazed windows, R-20 walls, and an R-30 roof. To avoid compromising their performance, SOM detailed the handsome, 30-foot-tall precast-concrete panels that clad the east, north, and west facades so that they are anchored only at the top and bottom—an approach that avoids unnecessary penetrations of the air and vapor barrier. "Once you've taken care of everything else, infiltration becomes really important," explains McCready. Although these panels are tall, to simplify their attachment to the underlying structure, they are also pleated, giving them a scale and texture that appeals to children and adults alike.

For indoor climate control, the team opted for a dedicated outdoor air system with energy recovery and demand control ventilation. In the classrooms, perimeter displacement induction units supply conditioned air at a low velocity, which makes the devices both efficient and quiet. The building's heat pumps are tied to a geothermal system consisting of 80 wells drilled under the school's athletic field.

Designers considered combining these active technologies with natural ventilation. However, due to security concerns associated with opening the windows and the added layer of operational complexity, they ultimately decided not to pursue a mixed-mode system, says Robert Diemer, a partner with the project's sustainability consultant,



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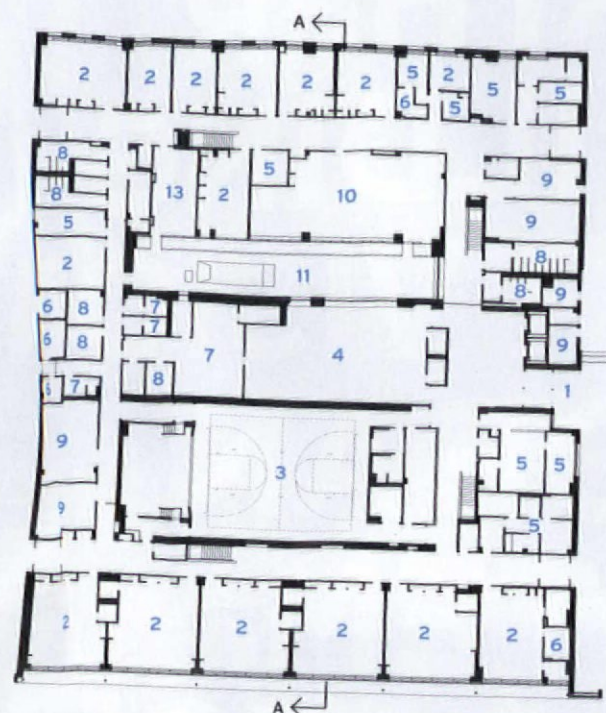
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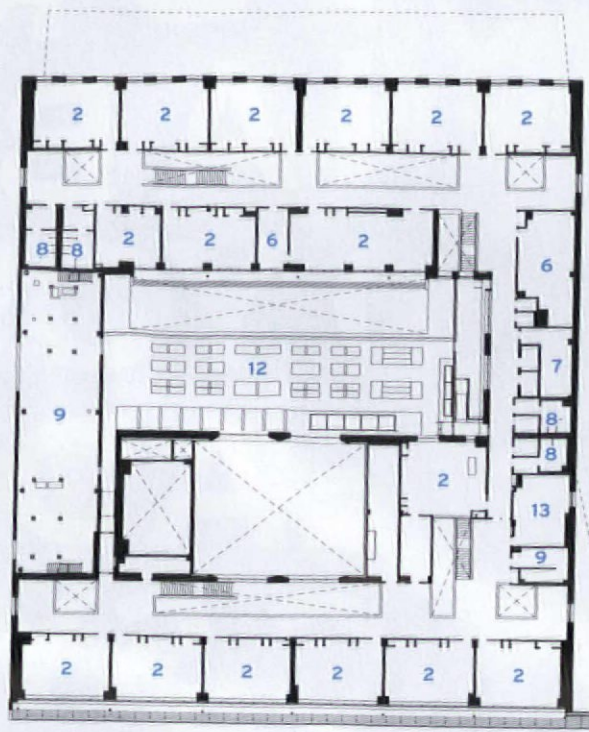
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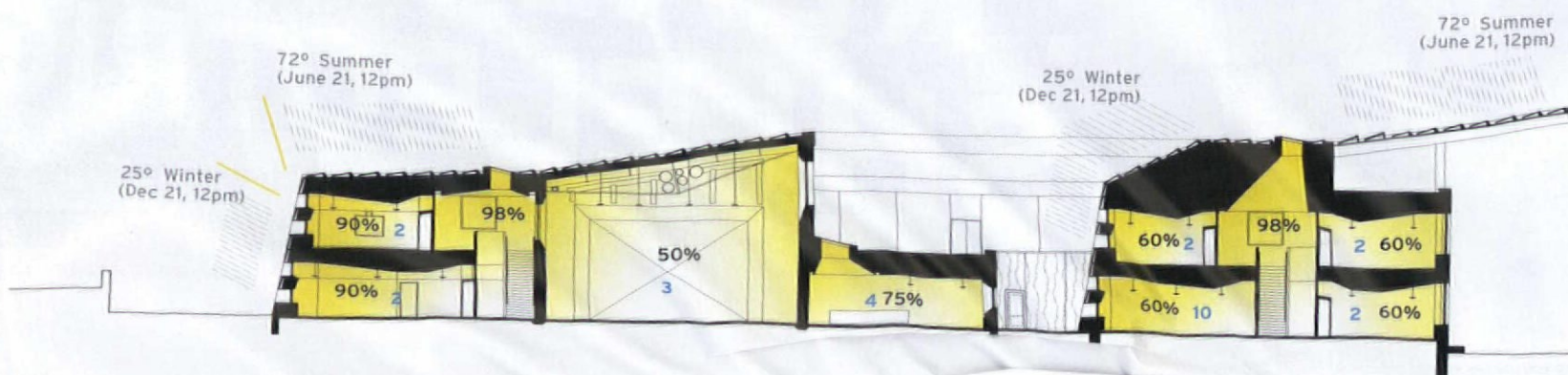


FIRST-FLOOR PLAN



SECOND-FLOOR PLAN

- 1 ENTRY
- 2 CLASSROOM
- 3 GYMNASIUM
- 4 CAFETERIA
- 5 OFFICE
- 6 STORAGE
- 7 SERVICE
- 8 RESTROOM
- 9 MECHANICAL
- 10 LIBRARY
- 11 COURTYARD
- 12 GARDEN
- 13 FACULTY WORKROOM



SECTION A - A: DAYLIGHT AUTONOMY TARGETS

In Posse, which is a subsidiary of the engineering firm AKF.

To develop the system for wrapping the building in PVs, SOM worked with the Center for Architecture Science and Ecology (CASE), a research effort the firm runs collaboratively with Rensselaer Polytechnic Institute. CASE studied how best to mount the panels, angling them to produce the maximum amount of electricity while ensuring they wouldn't shade each other.

To make certain that the school would use less energy than is produced by these PVs, the project team also took a close look at so-called plug and process loads (PPLs)—those loads not related to general lighting, heating, or cooling, or other systems that provide occupant comfort. These PPLs are

created by printers, computers, and other devices powered by AC outlets and by equipment that supports activities such as cooking. The team deployed several strategies for keeping PPLs in check. In the kitchen, for example, the design and consultant team worked with both the SCA and the Department of Education's food service supplier to swap out the typical gas-fired equipment for much more efficient induction appliances. They even reviewed the menu, suggesting that cold lunches occasionally be substituted for hot meals to further cut back on the energy associated with food preparation. While the kitchen accounts for a third of the energy use in a typical SCA school, it represents only 9 percent of P.S. 62's much lower energy consumption.

Other strategies for reducing the school's PPLs include the addition of staff workrooms—one per floor—each equipped with a coffeemaker, a microwave, and a refrigerator, among other amenities. The hope is that these rooms will provide a place for teachers to work collaboratively and, at the same time, deter them from bringing their own power-hungry appliances into the classrooms. Additional features of P.S. 62 that should reduce PPLs are printer stations with energy-efficient machines shared among several teachers. This should eliminate the use of individual printers found in most of the city's classrooms.

Students will also have a part in helping the school reach its net zero goal. Interactive

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SUNNY DISPOSITION

To avoid glare, the south-facing classrooms have two levels of windows: lower-level lites containing vision glass and clerestories with glazing that includes an aerogel for diffusing sunlight. The sloped suspended ceilings help with even distribution.

dashboards mounted throughout the building offer one opportunity for engagement. Although the screens aren't fully functional yet, kid-friendly graphics designed by Pentagram will eventually display information such as weather conditions, the amount of electricity generated by the PVs, and the amount of energy used in each space. Sarnicola, the principal, plans to hold weekly energy-conservation competitions between classrooms as a "fun and hands-on way" to motivate children and help them gain environmental literacy.

One unusually tricky aspect of the project was the SCA's strict procurement rules, which sometimes made it difficult to take advantage of the latest technology. For instance, the perimeter displacement induction units, considered integral to the design, were a proprietary product and therefore required special approval by the agency's board of trustees. Other elements, such as the PVs, were rapidly evolving, making it a real possibility that the specified panels would be superseded between completion of the bid set and the time that the order was actually placed.

credits

ARCHITECT: Skidmore, Owings & Merrill — Roger Duffy, design partner; Anthony Vacchione, Christopher McCready, managing partners; Austin Harris, project manager; Jon Cicconi, senior design architect; Carrie Moore, senior technical coordinator

ENGINEERS: AKF Group (m/e/p); Desimone Consulting Engineers (structure); Langan Engineering and Environmental (geotechnical)

CONSULTANTS: Mark K. Morrison Landscape Architecture (landscape); Brandston Partnership (lighting); In Posse (sustainability)

GENERAL CONTRACTOR: Leon D. DeMatteis Construction

CLIENT: New York City School Construction Authority

SIZE: 68,000 square feet

COST: \$70 million

COMPLETION DATE: September 2015

sources

PRECAST CONCRETE: BPD

GLAZING: Viracon, Solera, Oldcastle BuildingEnvelope

SKYLIGHTS: Acurlite

ACOUSTICAL CEILINGS: Armstrong, Chicago Metallic

CUSTOM WOODWORK: Elli

RESILIENT FLOORING: Armstrong, Pawling

CERAMIC TILE: Daltile

CARPET: Mohawk

INTERIOR LIGHTING: Peerless, Neo-Ray, Fail-Safe, Edison Price, Metalux

EXTERIOR LIGHTING: McGraw Edison

LIGHTING CONTROLS: Cooper

DISPLACEMENT INDUCTION UNIT: Trox

PV SYSTEM: SunPower, Panasonic, Advanced Energy Industries, Power-One, Ecolibrium Solar, Unirac

ENERGY MANAGEMENT SYSTEM: Schneider, Square D

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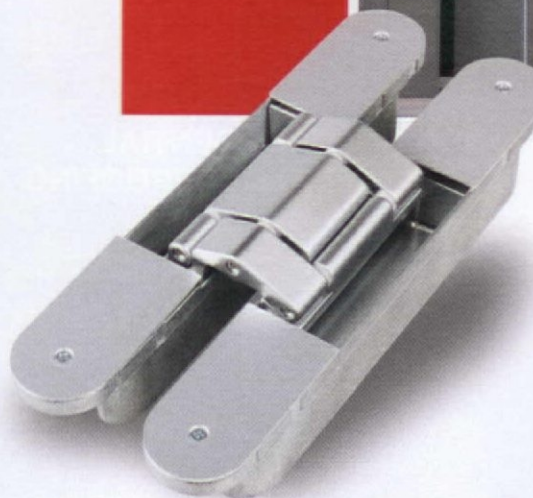
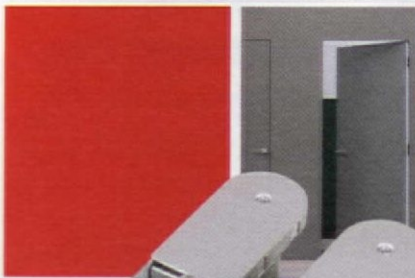
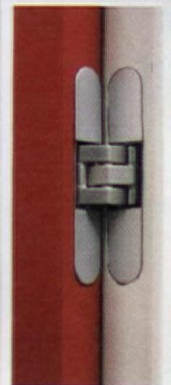
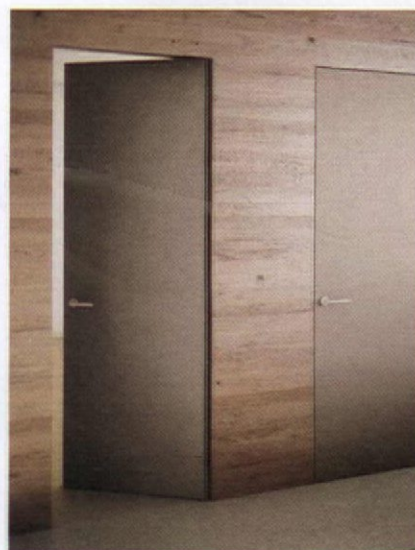
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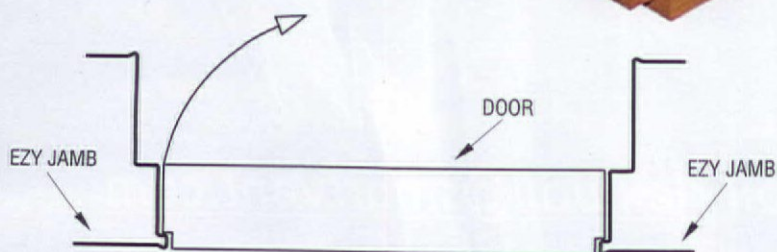
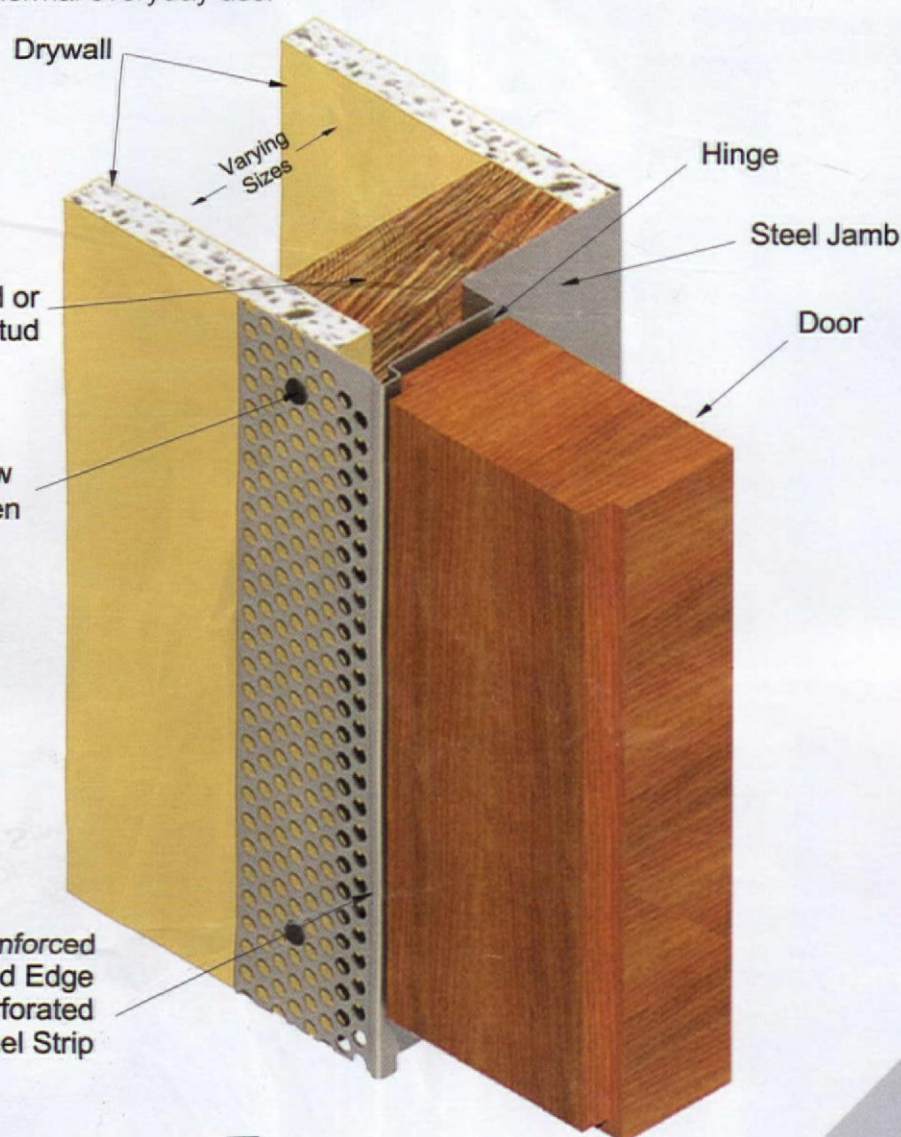
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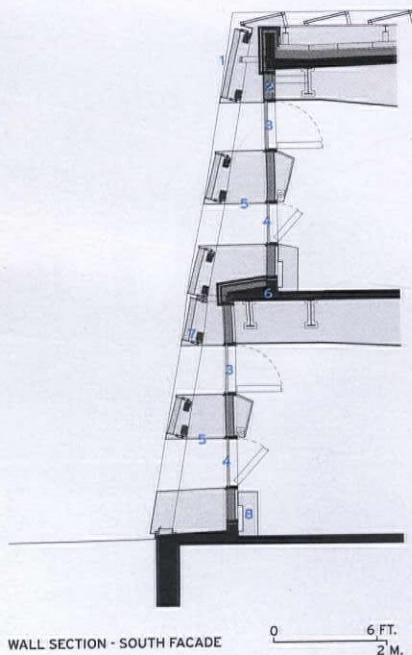
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- 8 DISPLACEMENT INDUCTION UNIT



THE RIGHT ANGLE

The project team carefully studied the angles of the PVs that clad the south facade (above) and the building's roof to find the optimum orientation for electricity generation without allowing the panels to shade each other.



To help deal with this problem, the construction contract stated that the owner would provide final direction regarding the PVs before the shop-drawing phase.

As the school neared completion, new and improved panels did become available. But, in an ironic turn of events, the entire manufacturing run was snapped up before they could be purchased for P.S. 62. In the end, the earlier generation of panels clad the building. Nevertheless, the project team says that the installed PVs should be more than sufficient to meet the net zero goal since the energy model includes a comfortable cushion.

Even though the architects are confident that the building will operate at net zero, they say it could take as long as three years to fully commission and fine-tune its system so that it performs as designed. But the project is already having a positive influence—in both large and small ways—on the city's school design and construction program. Just a few examples of this impact: Printer stations instead of individual classroom machines are now standard for new schools, as are teacher workrooms that include pantries. The induction units that required special approval have been made an option for all design teams. But one of the more profound shifts for which P.S. 62 may be responsible is a new emphasis on natural illumination in SCA projects. Barrett says that her team is now on the lookout for opportunities to insert sidelights and transoms in their projects. Echoing the sentiments of the school principal, Barrett says, "We were just totally awestruck by the daylighting." ■

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Learning Objectives

- 1 Define net zero energy.
- 2 Define terms relevant to net zero buildings such as "daylight autonomy" and "plug and process loads."
- 3 Discuss some of the strategies that SOM used to make P.S. 62 ultra-energy-efficient.
- 4 Describe some of the challenges the P.S. 62 project team faced in procuring the latest energy-efficient technology for the building.

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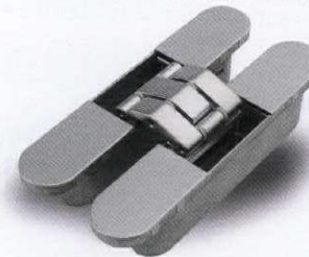
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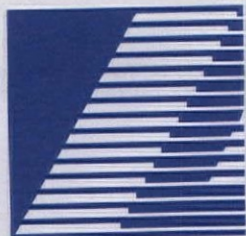
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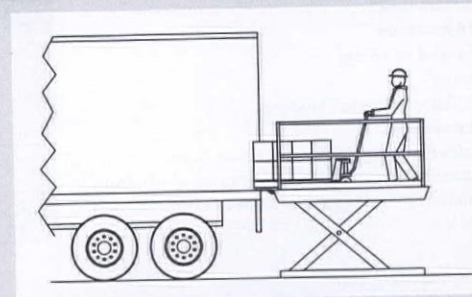
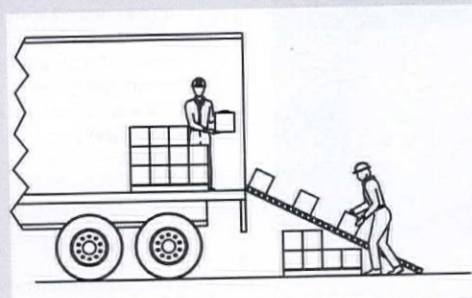
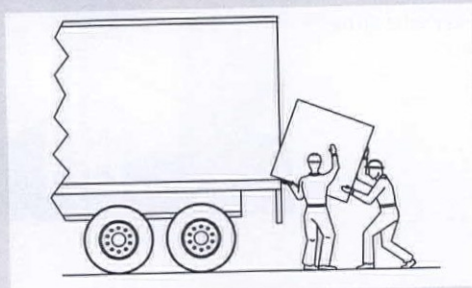


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- **INCREASE EFFICIENCY**



**INSTALL
AN ADVANCE
DOCK LIFT**



**ISO 9001:2008
Certified**



SNAP 30

1-800-THE DOCK (800-843-3625) www.advancelifts.com

AUTOMATICALLY SEALING DOOR

DOORS, WINDOWS

Walz & Krenzer, Inc.

The AutoSeal door is the first automatically deploying roller curtain door!

Product Application

- Commercial Buildings
- Factories
- Any Building Prone to Flooding

Performance Data

- Operates like a regular Roller Curtain Door
- Door becomes watertight with the press of a button
- Automatically deploys at pre-set water levels



www.floodbarriers.com
203.267.5712 | Tom Themel

SNAP 242

ELECTRIC VEHICLE CHARGING STATIONS

ELECTRICAL, LIGHTING

WR | GREEN

SemaConnect, Inc.

The ChargePro Electric Vehicle Charging Station comes bundled with free station management software, giving owners a full turn-key solution for deploying a program at your property.

Product Application

- Commercial real estate
- Multifamily
- Retail



www.semaconnect.com
301.352.3730

SNAP 243

NEW 24-VOLT LED POST ACCENT LIGHT

GREEN | \$\$ | NEW

ELECTRICAL, LIGHTING

Feeney Inc

All-weather, energy efficient LED post accent light with decorative powder-coated aluminum scone, special light-diffusing polycarbonate lens, remote dimming capability and a variety of color options

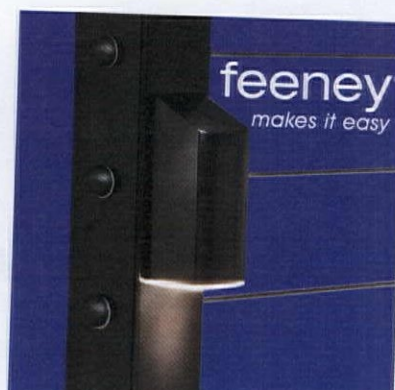
Product Application

- Use on DesignRail® and other railing systems
- Residential, commercial, institutional settings

Performance Data

- High CRI (85) LEDs for excellent color rendering, 1,36 watts, 118 lumens, rated 50,000 hrs
- 24 volt DC, fully weatherproof plug-&-go components, 13 color options

www.feeney6.com, ph:1-800-888-2418
| Trang S., tsoriano@feeneyinc.com



AIA Expo

SNAP 244

NEW IDEAS

EQUIPMENT

Da-Lite

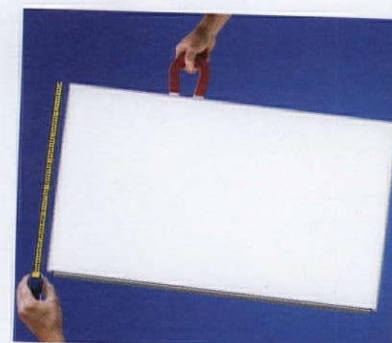
The new IDEA™ line provides optimal touch performance, and is the best screen on the market for interactivity. New standard features include a magnetic surface and thin frame.

Product Application

- Erasable
- Compatible with any dry erase marker

Performance Data

- Hotspot free



www.da-lite.com/NewIDEAs
800.622.3737 | info@da-lite.com

SNAP 245

SERIES 3000 DOCK LIFT- UPDATED & EXPANDED

EQUIPMENT

Advance Lifts, Inc

Advance Lifts Inc. The nations #1 dock lift builder has recently updated and expanded their 3000 series of pit mounted dock lifts.

Product Application

- This newly expanded line brings lower lowered heights and a significant cost reduction to dock lifts with capacities between 8,000 and 20,000 pounds.

Performance Data

- With the industry's leading warranty and most complete lines of surface and pit mounted dock lifts, every dock needs and Advance Lift.

www.advancelifts.com
1.800.843.3525 | michaelr@advancelifts.com



SNAP 246

TOTAL ACOUSTICS™ CEILINGS

WR | GREEN | NEW

INTERIOR FINISHES, FURNISHINGS

Armstrong Ceiling Systems

Total Acoustics™ panels combine sound absorption (NRC) and sound blocking (CAC) in one product. So you can create buzz-free spaces for concentration, collaboration, and confidentiality.

Product Application

- Concentration or focus spaces
- Collaborative environments
- Spaces for confidentiality

Performance Data

- BEST = NRC 0.80+ and CAC 35+
- BETTER = NRC 0.70-0.75 and CAC 35+
- GOOD = NRC 0.60-0.65 and CAC 35+

armstrongceilings.com/totalacoustics
1.877.276.7876



SNAP 247

CUSTOM INVERTED GABLES PROVIDE DESERT SHADE

LANDSCAPING, SITEWORK

ICON Shelter Systems Inc.

These inverted gable shelters at McCullough Vista Park in Henderson, Nevada measure 12' x 12'. Tubular steel frame is Ash Gray. Roof panels are Slate Gray.

Product Application

- McCullough Vista Park, Henderson, NV
- Old Settler's Park, Round Rock, TX
- Barton Park, El Paso, TX

Performance Data

- E-coated, powder coated frame to 8-12 Mils.
- Pre-Cut Galvalume roof panels with Kynar 500 finish
- Engineering services and footing design provided

www.iconshelters.com
800.748.0985 | Skip Stern



SNAP 248

OUTDOOR TILE FOR OUTDOOR LIVING

LANDSCAPING, SITEWORK

\$\$ | GREEN

Down to Earth®

Down to Earth is "thick" paving tile. Down to Earth is low absorption and slip resisting. Use indoors and outdoors in any climate.

Product Application

- Patios
- Walkways
- Pool Surrounds

Performance Data

- 1/2" Thick, Textured Unglazed Paving Tile
- Low Absorption/Slip Resisting



DOWN-TO-EARTH
A PRODUCT OF METROPOLITAN CERAMICS

www.downtoearthtile.com
1.800.325.3945 | info@ironrock.com

SNAP 249

Since 1932, American Sanitary Partition Corporation has been the accepted standard among many architects and contractors across the nation. Our toilet partitions provide the comfort and convenience, important with today's fast paced lifestyle.

SNAP 32

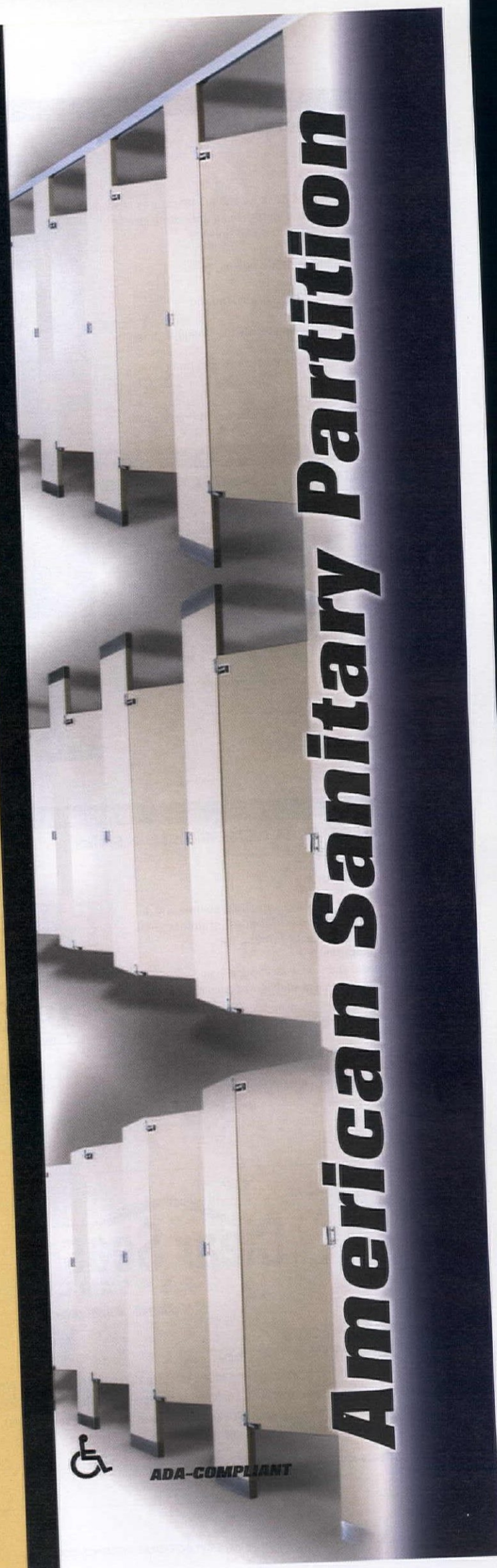
P:(407)656-0611 F:(407)656-8189

amersan@aol.com

www.am-sanitary-partition.com



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Stainless Steel
Plastic Laminate
Phenolic Core
HDPE Solid Plastic
Manufacturing Toilet Partitions
Since 1932



ADA-COMPLIANT

American Sanitary Partition

CUSTOM PLANTERS

WR

Planters Unlimited

Planters Unlimited designs and manufactures custom commercial-grade planters in an unlimited variety of materials, styles, colors and finishes.

Product Application

- Hilton Miami Downtown, Miami, FL
- Hyatt Regency, Tulsa, OK
- Niagara Parks, Niagara Falls, Ontario

Performance Data

- Commercial-grade materials to withstand outdoor elements
- Manufactured to meet your specifications

www.plantersunlimited.com
888.320.0626 | sales@plantersunlimited.com



SNAP 250

LANDSCAPING, SITEWORK

STONPATH TPS FOR OUTDOOR APPLICATIONS

Stonhard

A polymer-modified, UV-resistant, highly durable surface used to resurface outdoor areas that require an aesthetically appealing finish.

Product Application

- Entrances and walkways.
- Outdoor dining areas.
- Paths for walking, running and biking.
- Quick installation.
- Long-term performance.
- Slip-resistant surface that holds up to heat, freezing temperatures and high traffic.

stonhard.com
800.257.7953



SNAP 251

LANDSCAPING, SITEWORK

NATURALLY-MADE, VERSATILE THIN STONE VENEER

WR | GREEN

Arriscraft

Comprehensive line of naturally-made thin-clad stone products with the aesthetic and durability benefits of quarried stone. Choose ledgerstone ARRIS. stack or sleek ARRIS.tile (thin adhered veneers).

Product Application

- Commercial and residential
- Interior and exterior applications

Performance Data

- Exceed requirements for severe-weathering classification (ASTM C73-10)
- Thin-adhered veneers

www.arriscraft.com
1.800.265.8123



SNAP 252

MATERIALS

MECHANICAL SYSTEMS, HVAC, PLUMBING

HIGHEST RESOLUTION TOUCHSCREEN

NEW

Price Critical Controls

The Touchscreen Pressure Monitor (PMT) provides pressure monitoring of critical spaces using the latest in microcontroller and sensor technologies.

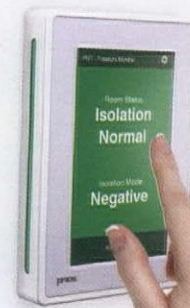
Product Application

- Isolation Rooms
- Operating Rooms
- Compounding Pharmacies

Performance Data

- Industry first maintenance free pressure sensor
- BTL certified BACnet room pressure monitor

www.pricecriticalcontrols.com



SNAP 253

MECHANICAL SYSTEMS, HVAC, PLUMBING

STAINLESS STEEL 16-GAUGE INDUSTRIAL SINKS

\$\$ | GREEN | NEW

Just Manufacturing

ARMOR Series: 16-gauge type 304, seamlessly die drawn, true gauge industrial-grade stainless steel drop-in and under-mount sinks.

Product Application

- Commercial and industrial applications
- Full range of sizes; available in ADA-compliant and standard depths
- Max capacity straight sided bowl configuration

Performance Data

- 25% thicker compared to standard 18 gauge
- Just Sinks are made in the USA from domestic stainless steel of 90% recycled content

www.justmfg.com
847.678.5150 | Customer Service



SNAP 254

MECHANICAL SYSTEMS, HVAC, PLUMBING

SATIN BRONZE DECORATIVE SHOWER DRAINS

WR | NEW

Infinity Drain

New Satin Bronze finish available on Tile Insert Frame, Wedge Wire, and select decorative grate patterns. Offered in both linear shower drains and traditional center drains.

Performance Data

- Clear tinted Powder Coat finish on Stainless Steel provides supreme durability in the shower
- Create ADA, barrier free showers
- Transform the drain into a design element

www.InfinityDrain.com
516.767.6786 | Info@InfinityDrain.com



Booth: 10120 HD Expo

SNAP 255

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

DRI-DESIGN TAPERED SERIES WALL PANEL SYSTEM

WR

Dri-Design

Dri-Design Tapered Series panels have the ability to create a unique effect of rich texture, giving buildings their own individual identity.

Product Application

- Millwood Library - Edmonton, Canada
- Tapered Series Panels - painted aluminum
- Fast, easy application

Performance Data

- Tapered Series panels maintains Dri-Design's true dry joint rain-screen technology, sustainability and ease of installation.

- Exceeds performance specs of AAMA 508-07

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



Booth: 3929 AIA Expo

SNAP 257

Clear Seas
RESEARCH
Making the complex clear

MAKING THE COMPLEX CLEAR

Clear Seas Research is an industry-focused market research company dedicated to providing clear insights to complex business questions. Capturing feedback via quantitative surveys (online, phone, mail or in-person) OR qualitative experiences (one-on-ones, focus groups or bulletin boards), we present results that are easily understood, insightful and actionable.

www.clearseasresearch.com

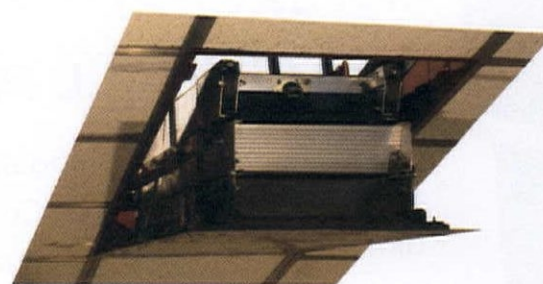
**Open and unfold
at the touch
of a button!**

Automatic Super Simplex Folding Stairway

**Automatic
Super Simplex
Folding Stairway**

Precision Ladders' **NEW** patent-pending folding stairway can be configured for ceiling heights up to 16'. This new generation of stairway shares the following characteristics with the original Super Simplex Disappearing Stairway:

- 500 lbs load rating
- Actual shear of rivets tested to 1175 lbs
- Steel frame
- Extruded aluminum treads and siderails
- 5 3/16" x 16 1/2" clear tread area
- Can be used for either attic or roof access (limited)



Features unique to the Automatic Super Simplex:

- Can be operated from above or below
- Operated via wireless wall-mounted keypad
- Powerful 24v DC motor provides ultra-quiet operation, along with variable speed smooth start and smooth stop
- Motor has an enclosed gear case which provides continuous lubrication and protection for longer life and smoother operation
- No special wiring required, runs on 120 volt, 30 amp circuit
- Evercharge stand-by power system will allow stair to be operated for up to 10 full cycles within a 24 hour period in the event of a power outage.



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USA SINCE 1942**



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Phone: (800) 225-7814 or (423) 586-2265 • Fax: (423) 586-2091
email: autosimplex@precisionladders.com www.precisionladders.com

Precision Ladders, LLC
www.PrecisionLadders.com



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@easet.com

SLENDERWALL

A COMPLETE BUILDING PANEL
INSIDE AND OUT

- Fewer on-site trades
- Faster installation
- Lower structural cost
- Class "A" finishes

SNAP 258

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

ALUMINUM COMPOSITE MATERIAL - ACM

WR

Alucoil North America

Manufactures aluminum & metal composite materials used for exterior wall cladding, corporate ID programs, column covers, interior wall panels & signage in South Carolina.

Product Application

- Rental car center at Boston Logan International Airport

Performance Data

- ICC-ES AC-25 product listing
- USA & Canadian Fire Testing
- 30-year warranty on Kynar finishes

www.alucoilnorthamerica.com

803.505.6543 | Susan Rogers



SNAP 259

INTERCEPT™ MODULAR
METAL WALL PANELS

CENTRIA's Intercept Modular Metal Panel System combines superior performance and unlimited creativity. Custom fabricated based on the specific shapes and dimensions of the project, panels are offered in an extensive palette of colors and can be installed vertically, horizontally or in a variable running bond pattern.

To learn more visit CENTRIPerformance.com/intercept or call 1.800.250.8675

SNAP 260

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

WALL PANELS

\$\$ | GREEN | NEW

Petersen Aluminum Corporation

PAC offers several wall and soffit profiles for perforation in a nearly endless combination of hole sizes and patterns to complement virtually any architectural design need.

Product Application

- I-Drive 360 Parking Deck, Orlando, FL

Performance Data

- 20-year non-prorated finish warranty
- 70% full PVDF-finished metal
- Available in 38 colors

PAC-CLAD.com

800.722.2523 | Rob Heselbarth



SNAP 261

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

FROET CHAMELEON DOWNSPOUT NOZZLE

\$ | NEW

Froet Industries LLC

Industry first color coordinated downspout nozzle. Fifteen standard colors and many custom colors. Available optional color coordinated flapper cover.

Product Application

- Labor savings
- Fits all commonly used pipe materials
- Unique Attachment design
- Low profile to wall surface
- Architecturally pleasing

Performance Data

- Powder coated finish-Zero VOC's

www.froetindustries.com

815.626.7922 | info@froetindustries.com



SNAP 262

TOILET PARTITIONS

\$\$ | GREEN | NEW

Special-Lite, Inc.

Special-Lite® Toilet Partitions, fabricated from FRP for strength & corrosion resistance, are ideal for restrooms expected to endure heavy use & willful abuse.

Product Application

- Schools, stadiums
- Parks, rest areas
- Retail facilities

Performance Data

- Sealed FRP panels are lightweight yet durable
- Anodized aluminum edges and pilaster shoes resist corrosion

www.special-lite.com

800.821.6531 | info@special-lite.com



SNAP 263

SPECIALTY PRODUCTS

DECK SYSTEM FOR BLEACHERS AND GRANDSTANDS

WR | NEW

Sturdisteel

Tongue & Groove "no through-bolt" decking systems feature a closed deck that provides increased rigidity, a reduction in deflection, and allows the aluminum boards to act as one, solid deck.

Product Application

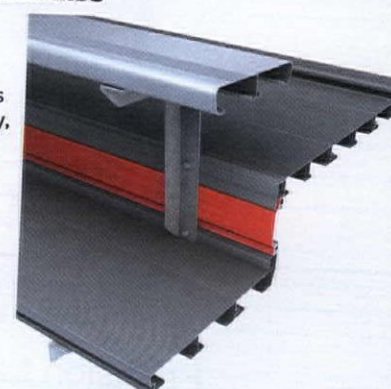
- I-Beam permanent grandstands
- Leg truss permanent grandstands
- Angle frame bleachers

Performance Data

- Containment of trash & debris
- Accommodates various rise & tread spacing
- Accommodates stadium chair seating

www.sturdisteel.com

800.433.3116 | info@sturdisteel.com



SNAP 264

Unitized Panel System

Internal Structure

Purlin Clip

Element LA Architect: Gensler Los Angeles, CA ©RMA Photography Inc.

What's Your Next Bright Idea?

UniQuad®

UniQuad® - a unitized translucent panel system developed for high-performance building envelopes. This comprehensive system offers superior thermal performance and exceptional design versatility. UniQuad enables you to redefine daylighting and highlight your creativity, without sacrificing performance. Explore what's possible when imagination meets innovation.

UniClip™

SNAP 113

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Anti-Slip Stair Treads & Nosings

Wooster Products, Inc.

Anti-Slip Safety Stair and Walkway Products for new construction and renovation. Brand names include Supergrit, Spectra, Alumogrit, Stairmaster and NITEGLOW.

Product Application

- Commercial and residential buildings
- Transit systems
- Stadiums and ballparks

Performance Data

- Indoor and outdoor use
- ADA, New York MEA, IBC and IFC compliant
- Available in a variety of profiles and colors

www.wooster-products.com • 800.321.4936

SNAP 265

SENSEON SECURE ACCESS CONTROL SYSTEM

NEW | \$\$

Accuride

Experience cabinet-level access control. Senseon is a commercial-grade access-control system lets users tap an RFID card over an invisible reader to secure cabinets.

Product Application

- Retail
- Government
- Healthcare
- Financial
- Any project needing security as well as access control.

accuride.com/senseon
800.688.8242 | senseoninfo@accuride.com



Booth: 2311 AIA Expo **SNAP 266**

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



SPECIALTY PRODUCTS

SNAP 267

The Best Pavements Are Invisible

Grasspave²

grass porous paving



Invisible Structures, Inc.

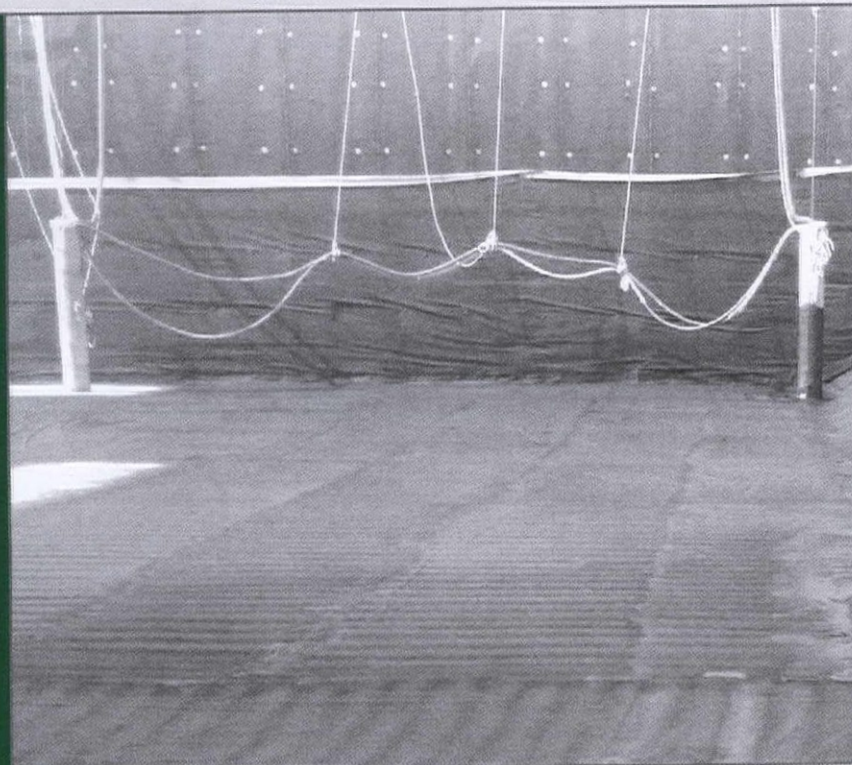
invisiblestructures.com • 800-233-1510

Gravelpave²

gravel porous paving



Epro's Fully Integrated Field Installed Composite Waterproofing System Provides the Most Protection, Fastest Installation, Lowest Cost and Best Warranty in the Industry Today!



Four New Field Installed Systems Available ...

- System III CWB Concrete / CMU Wall Waterproofing
- System III RDB Roof / Deck Waterproofing
- System III MBB Waterproofing / Gas Barrier
- System III LWB Blindside Waterproofing / Gas Barrier

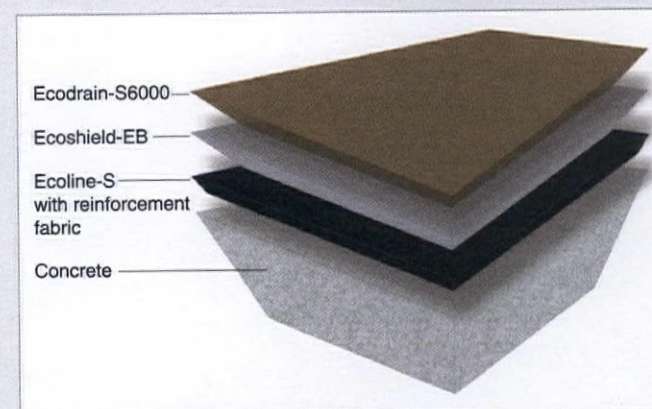
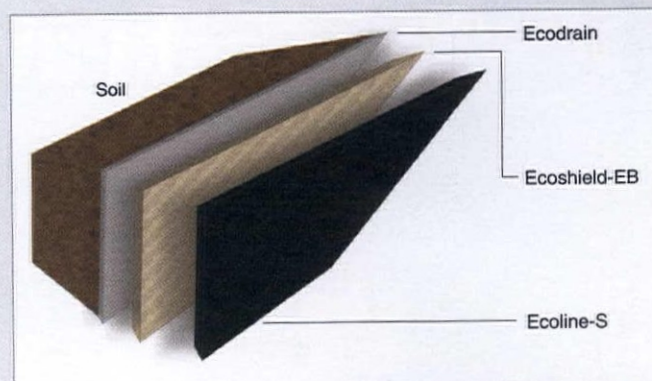
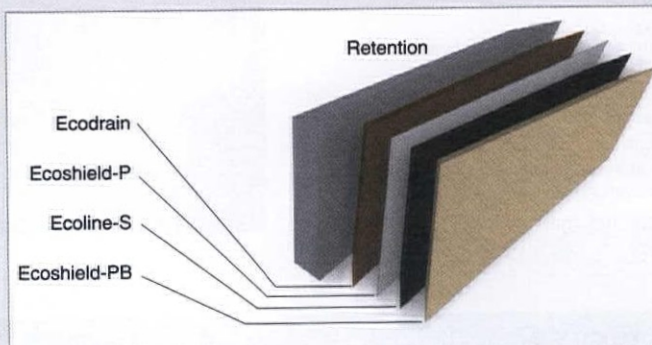
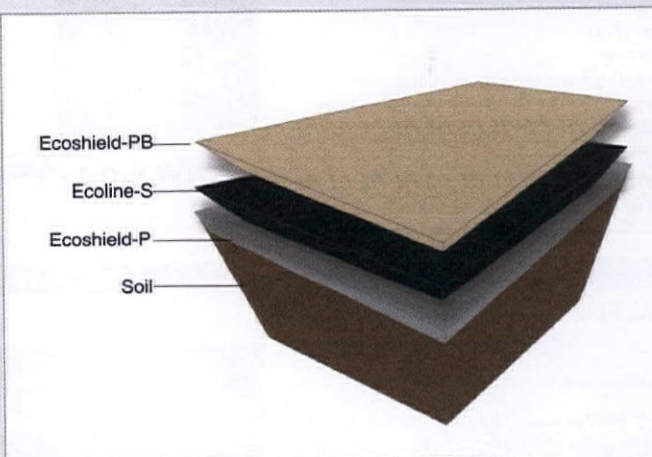
Excellent Strength and Chemical Resistance - the result of the unique field installed composite system design utilizing HDPE.

Seamless - The highly flexible spray or fluid applied membrane forms a monolithic barrier.

Exceptional Adhesion - The sprayed or fluid applied membrane bonds tenaciously to almost any substrate in almost any condition including green concrete or a damp substrate.

Self Sealing - The bentonite layers seal at any penetration of the system.

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MAXIMIZE YOUR IDEA-SHARING SPACE

SPECIALTY PRODUCTS

K-Pro Specialty Products

Horizontal sliding writing spaces enhance any space with layered panels and tracks. The porcelain enamel steel surfaces combine functionality with a modern aesthetic and lasting durability.

Product Application

- Educational institutions
- Business offices

Performance Data

- Multiple sliding track and panel options
- With or without housing (can fill existing spaces)
- Custom sizes and options available

www.k-prosteel.com
330.668.1515 | info@k-prosteel.com



SNAP 268

MAKING BRILLIANT IDEAS CONCRETE

MATERIALS

Holcim (US)

Holcim helps your vision come to life with reliable performance materials and a history of sustainable manufacturing practices.

Product Application

- Blended cements
- Supplementary cementitious materials
- Masonry/mortar cements

www.holcim.us
888.646.5246



SNAP 269

DIAGONAL PUNCHED PLANK

\$\$

Ohio Gratings, Inc.

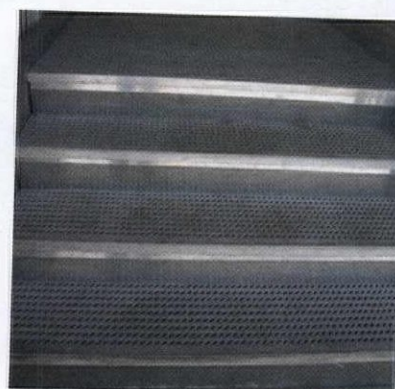
Products are aesthetically pleasing, yet functional by allowing air, light and water to pass through. Slip resistant surfaces are available to enhance safety. Made in the USA.

- Denver International Airport - Denver, CO
- Pedestrian Bridge - Munroe Falls, OH
- Bowling Green State University - Bowling Green, OH

Performance Data

- Manufactured from 6000 series aluminum alloy
- Multiple variations of open area available
- Meets/Exceeds ADA Requirements

www.ohiogratings.com
800.321.9800 | Carl Griffin



SNAP 270

DRY AND WET FLOODPROOFING

NEW | WR | GREEN

Smart Vent® Products, Inc.
Flex-Wall™

Smart Vent has expanded from its line of ICC-ES Certified Foundation Flood Vents to bring you the most advanced dry floodproofing on the market.

Product Application

- Commercial buildings in flood zones benefit from eliminating the need for off-site storage and fees.

Performance Data

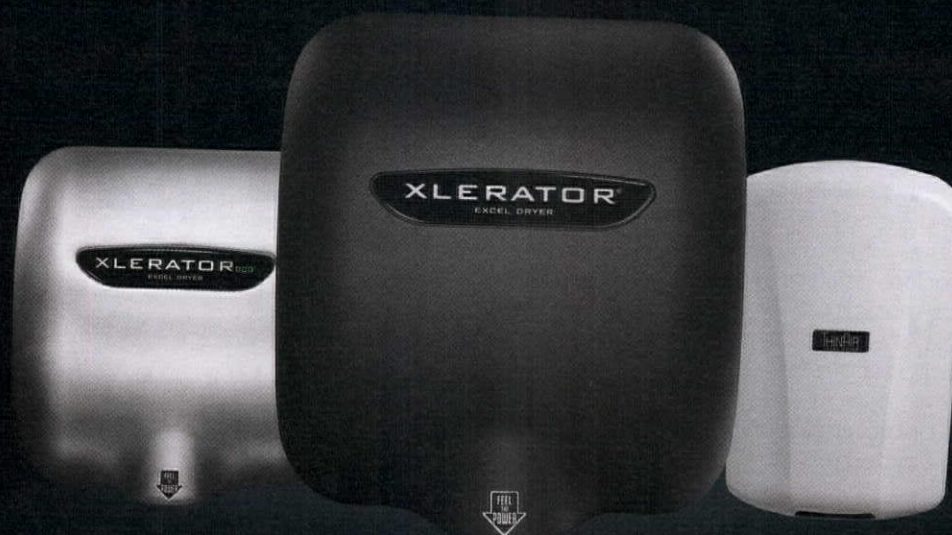
- Rapid deployment in minutes
- Can be sized to fit any opening
- Layered Kevlar® structural webbing with coated fabric water retention

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877.441.8368 | info@smartvent.com



SNAP 271

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500 Watts. High Speed. No Heat.

XLERATOR®

Original. Patented. Still The Best.


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sales@exceldryer.com





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Our team has been trusted for over 40 years to provide technical expertise and project support in the exploration of segmental paving product options.

Optimizing color, finish, texture and size, we have what it takes to bring your vision to life.



PROMENADE™ PLANK PAVER

Contemporary, linear pavement system.
Multiple sizes.
Custom finish and color options available.
Variety of ready-to-ship colors.

PROJECT: Hudson Valley Office Complex, Tarrytown, NY

DESIGN: W Architecture and Landscape Architecture
Perkins + Will

PRODUCT: Promenade™ Plank Paver

SNAP 169

Contact your Unilock Representative for samples, product information and to arrange a Lunch & Learn for your team.

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DESIGNED TO CONNECT.

UNILOCK.COM 1-800-UNILOCK



NEW AND UPCOMING EXHIBITION

NYCxDESIGN

NEW YORK CITY

May 3–17, 2016

New York's official citywide celebration of design, NYCxDESIGN spans all disciplines, placing emerging design practices alongside established ones. The show's program includes exhibitions, installations, trade shows, talks, launches, and open studios. Events are staged across all five boroughs, in facilities from convention facilities to public parks. For more information, visit nycxdesign.com.

ONGOING EXHIBITIONS

Bauhaus Twenty-21:

An Ongoing Legacy

PALM SPRINGS, CALIFORNIA

Through May 1, 2016

This exhibition at the Palm Springs Art Museum showcases 12 of the most iconic achievements of pre-1933 Bauhaus architecture, bringing the structures into conversation with contemporary architectural visions. Each work, photographed by Gordon Watkinson, appears alongside a project built in this century. For more information, visit psmuseum.org.

The New American Garden: The Landscape Architecture of Oehme, van Sweden

WASHINGTON, D.C.

Through May 1, 2016

Wolfgang Oehme (1930–2011) and James van Sweden (1935–2013) revolutionized American landscape architecture. Rejecting the well-manicured but perpetually thirsty lawns that had become icons of 20th-century suburbia and corporate campuses, the duo used ornamental grasses and perennials to create living tapestries that required relatively little maintenance. These self-sustaining landscapes, on view at the National Building Museum, exemplified what came to be known as the New American Garden. For more information, visit nbm.org.

HACLab Pittsburgh: Imagining the Modern

PITTSBURGH

Through May 2, 2016

The City of Pittsburgh underwent an ambitious program of urban revitalization during the 1950s and '60s. This exhibit untangles the city's complicated relationship with modern architecture and urban planning at that time. In this experimental presentation at Carnegie Museum of Art's Heinz Architectural Center, the architects in residence, Boston-based studio over, under, unearth layers of history and a range of perspectives through archival materials, an on-site architecture studio, and a salon-style discussion space. For more information, visit cmoa.org.

Pedagogy and Place

NEW HAVEN

Through May 7, 2016

Aiming to pinpoint the relationship between physical settings and the pedagogy of architectural education, *Pedagogy and Place* traces the last century of the Yale program through

alumni work and the buildings designed to house the university's School of Architecture. An auxiliary installation presenting more than 20 architecture schools from around the world further illuminates how spatial relationships and various modes of training have evolved over 200 years. For more information, visit architecture.yale.edu.

Architecture of Life

BERKELEY

Through May 29, 2016

The inaugural exhibition at BAMPFA's new Diller Scofidio + Renfro–designed building explores how architecture—as concept, metaphor, and practice—illustrates various aspects of life, including the nature of the self and the power of the imagination to reshape our world. The comprehensive show spans 2,000 years and features more than 200 works of art in a wide range of media. For more information, visit bampfa.org.

Close Up

LOS ANGELES

Through May 29, 2016

An oft-overlooked condition of digital design technologies is the ability to design objects through continuous degrees of magnification. This exhibition at the SCI-Arc Gallery, curated by architects Hernan Diaz Alonso and David Ruy, proposes that technological advancements have transformed architectural thought and process. For more information, visit sciarc.edu.

A Japanese Constellation: Toyo Ito, SANAA, and Beyond

NEW YORK CITY

Through July 4, 2016

This exhibition at the Museum of Modern Art highlights the interconnected web of architects and designers around Pritzker Prize winners Toyo Ito and SANAA. The curators provide an overview of Ito's career and his influence as a mentor to a new generation of Japanese architects while also offering a retrospective of three generations of acclaimed Japanese designers, Kazuyo Sejima, Ryue Nishizawa, Sou Fujimoto, Akihisa Hirata, and Junya Ishigami among them. For more information, visit moma.org.

Beauty

NEW YORK CITY

Through August 21, 2016

The fifth installment of the Cooper Hewitt's contemporary design exhibition series, *Beauty* celebrates design as a creative endeavor engaging the mind, body, and senses alike. The exhibition, which features more than 250 works by 62 designers, is organized around seven themes: extravagant, intricate, ethereal, transgressive, emergent, elemental, and transformative. For more information, visit cooperhewitt.org.

Materials Inside and Out

CHICAGO

Through Summer 2016

Inspired by the working process of architect David Adjaye, this installation at the Art Institute of Chicago invites visitors of all ages to discover how architects use building materials like wood, fabric, ceramic tiles, laminates, paint, stone, and plastics to create form and atmosphere. Visitors can arrange material samples and sketches to create a mood board, considering how color,

texture, and cultural context can contribute to a specific feel. For more information, visit artic.edu.

Design for Eternity: Architectural Models from the Ancient Americas

NEW YORK CITY

Through September 18, 2016

From the first millennium B.C. to the arrival of Europeans, artists of the ancient Americas created small-scale architectural models for placement in the tombs of important individuals. This exhibit at the Metropolitan Museum of Art sheds light on the role these objects played in mediating relationships between the living, the dead, and the divine. It also provides a rare look at ancient American architecture—much of which did not survive to the present day. For more information, visit metmuseum.org.

LECTURES, CONFERENCES, AND SYMPOSIA

LIGHTFAIR International 2016

SAN DIEGO

April 26–28, 2016

This year's edition of the architectural- and commercial-lighting trade show and conference, to be held at the San Diego Convention Center, will include six pavilions of products and offers more than 200 hours of accredited education. For more information, visit lightfair.com.

International Contemporary Furniture Fair (ICFF)

NEW YORK CITY

May 14–17, 2016

North America's platform for global design, the 28th annual ICFF will feature 750-plus exhibitors of furnishings, textiles, and accessories for residential and commercial interiors. The event, taking place at the Jacob K. Javits Convention Center, will also host a slate of panels with industry experts. For more information, visit icff.com.

AIA Convention 2016

PHILADELPHIA

May 19–21, 2016

Kevin Spacey and Rem Koolhaas are among the keynote speakers lined up for this year's gathering at the Pennsylvania Convention Center. More than 500 sessions—including some for CEU credit—will be offered to participating architects and designers. For more information, visit convention.aia.org.

ARCHITECTURAL RECORD Innovation Conference

SAN FRANCISCO

June 8, 2016

Innovative architecture requires expanding the discipline's boundaries through design and technology. The spring edition of ARCHITECTURAL RECORD's conference—taking place at the Mission Bay Conference Center—brings together key figures who have generated a range of imaginative solutions for the built world. From materials experts to architects practicing outside the field to principals of large firms, the event's speakers will represent a variety of approaches to problem solving in a rapidly changing world. For more information, visit arinnovationconference.com.

NeoCon 2016

CHICAGO

June 13–15, 2016

NeoCon, the largest commercial interiors show in North America, launches thousands of new products from a spectrum of markets: workplace, healthcare, hospitality, retail, education, public spaces, and government. For more information about the exhibitors and show, which takes place annually at the city's historic Merchandise Mart, visit neocon.com.

COMPETITIONS

Call for Proposals:

The Deborah J. Norden Fund

Submission deadline: April 22, 2016

The Deborah J. Norden Fund awards up to \$5,000 annually in travel grants to students and recent graduates in the fields of architecture, architectural history, and urban studies. Established in 1995 to honor the memory of the titular architect and arts administrator, the fund supports an array of independent projects that require travel. For more information, visit archleague.org.

RIBA Norman Foster Travelling Scholarship

Submission deadline: April 22, 2016

The 2016 Royal Institute of British Architects (RIBA) Norman Foster Travelling Scholarship is accepting applications from architecture students around the globe for research projects related to the survival of British cities and towns. For more information, visit architecture.com/riba.

Syria: Postwar Housing Competition

Registration deadline: April 23, 2016

The Syrian civil war, which began in 2011, has created an enormous refugee crisis. As more and more cities of the war-torn country are freed and refugees start to return, the housing scarcity will escalate. This competition invites students of architecture and young practitioners to research new housing concepts for a postwar Syria. For more information, visit matterbetter.com.

London Internet Museum

Registration deadline: May 4, 2016

This competition asks architects and designers to submit ideas for the London Internet Museum, a space that will connect visitors to the history and future of the Internet. The chosen site is the former North Woolwich Old Station in East London, an Italianate structure original opened in 1847 as a terminus station building. From 1984 to 2008, it served as a museum dedicated to the Great Eastern Railway. For more information, visit londoninternetmuseum.beebreeders.com.

perFORM 2016

Submission deadline: June 17, 2016

Now in its third year, this competition challenges architectural students and interns to design a mixed-use, multifamily, net-zero-energy building in Seattle's Rainier Beach community. Group and individual entries will be judged based on resourcefulness, beauty, community response, and the feasibility of replication. For more information, visit hammerandhand.com.

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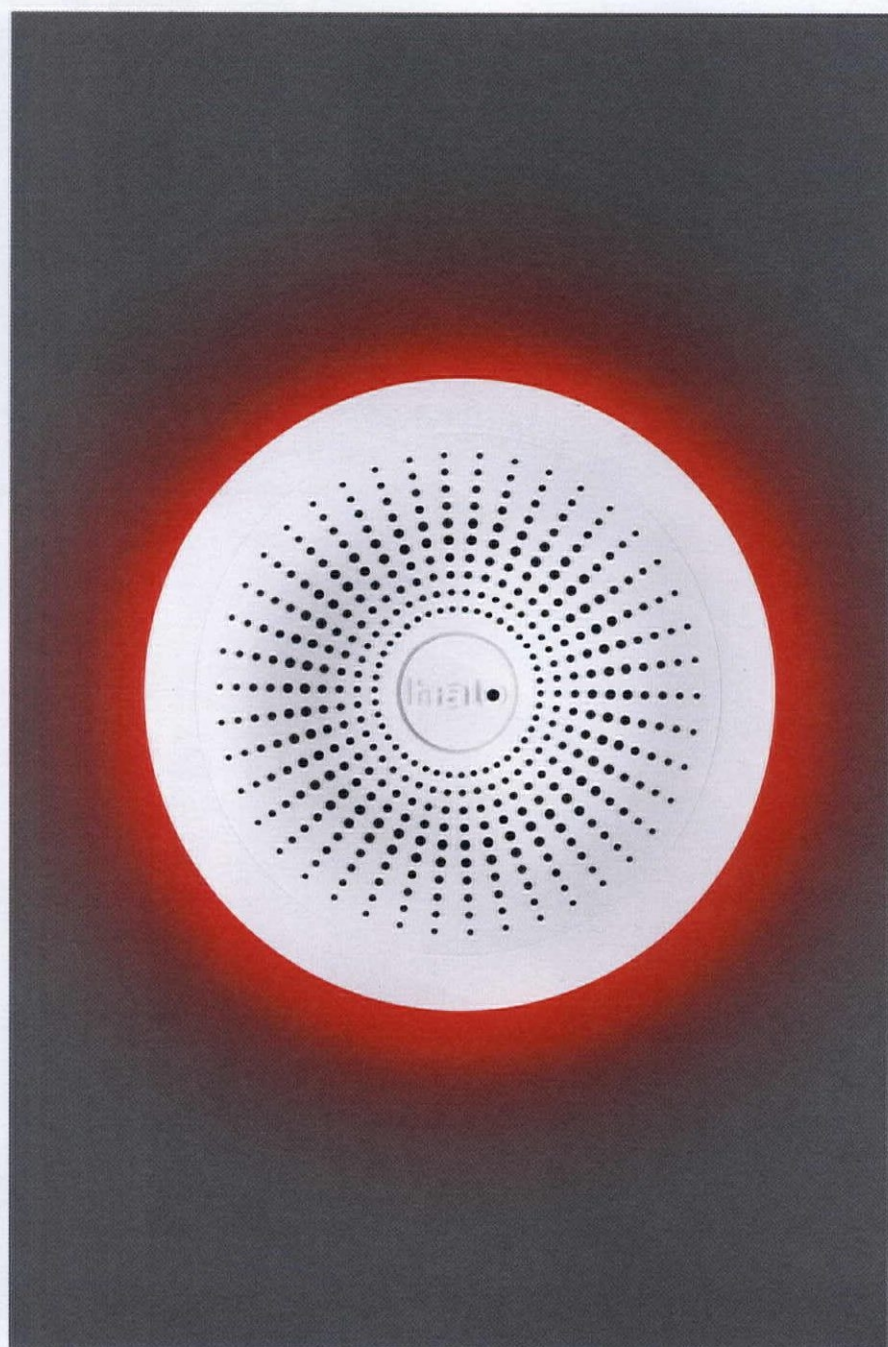
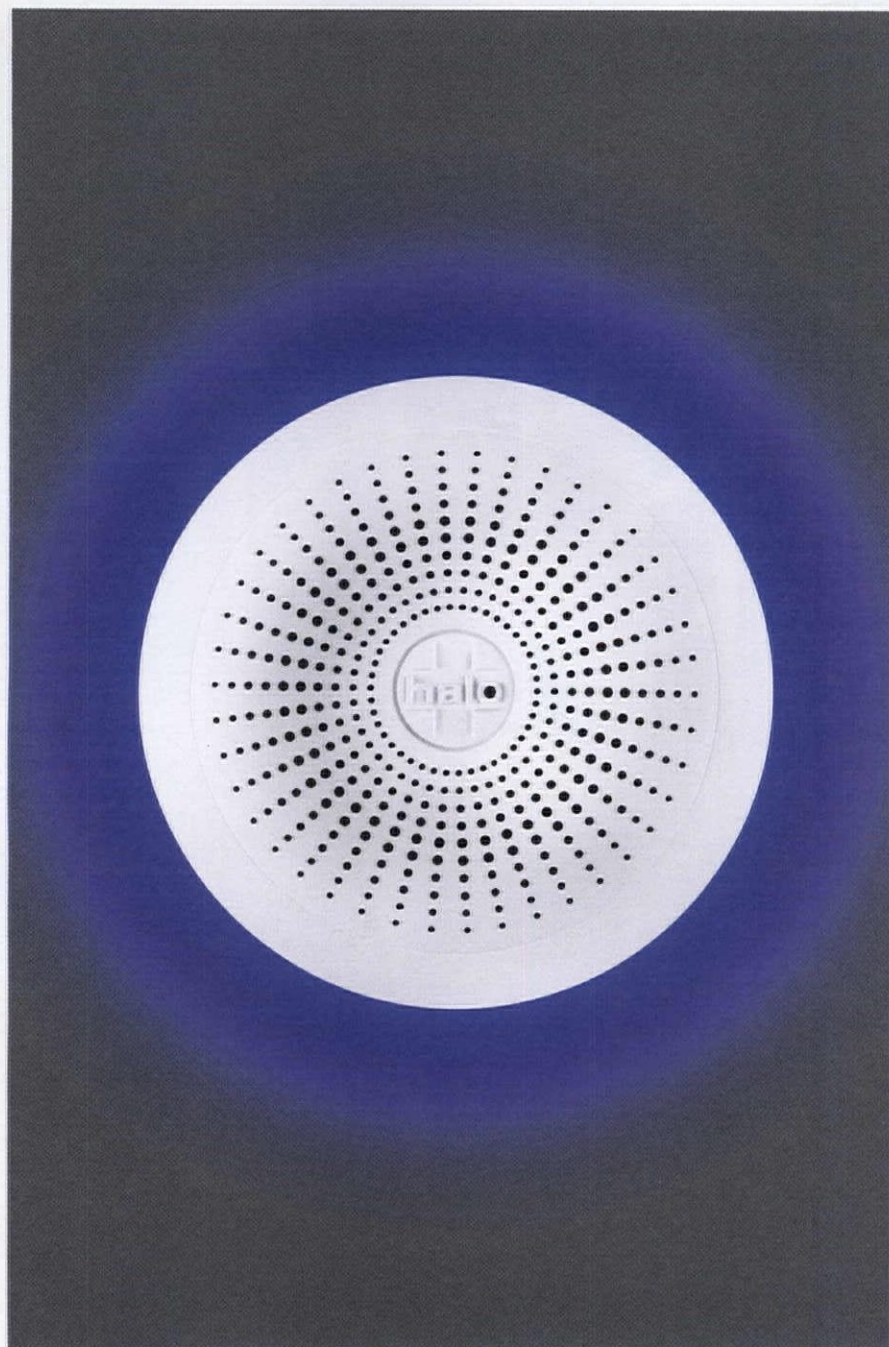
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Get Yourself Connected

At the 2016 editions of IBS and KBIS, smart monitoring devices took center stage.

THE BELLWETHERS OF the residential design market, the annual International Builders' Show (IBS) and Kitchen and Bath Industry Show (KBIS), reflect aesthetic trends and the health of the economy. Nearly 2,000 exhibitors participated at this year's joint event, held January 19 to 21 at the Las Vegas Convention Center, with introductions pointing to a continued appetite for connected home technology and outdoor living spaces.

Products with new and more intelligent uses of sensors pervaded the shows. **Halo Smart Labs'** Halo and Halo+ smoke and carbon monoxide detectors, for example, employ five sensors—including ones for heat and humidity—which distinguish between a real fire and a false alarm; the sensors also

determine the fire's speed and size. When a unit is linked through the Internet and/or a home automation system such as iControl and Iris, it can alert users to the presence of smoke or carbon monoxide via voice commands, LED lights, and even smartphone messages. Halo+ includes a radio chip to rebroadcast National Weather Service bulletins, a potential lifesaver for those in earthquake- or tornado-prone areas.

Smart home technology can also help conserve energy and water. **Haiku Home's** Designer Series LED light fixtures not only power off when a person leaves a room but also automatically dim in bright sunlight. The disc-shaped Delta Leak Detection device sits on the floor near common leak points.

If the unit, created by **Delta Faucets** in conjunction with **iDevices**, senses water underneath or over it, it will send an automatic alert to the homeowner or building manager's smartphone or tablet.

Tapping into the demand for well-appointed outdoor living spaces, **Progress Lighting** and **Kichler** expanded their exterior options, adding LED lanterns, chandeliers, and sconces. The fiberglass-and-concrete Artisan fire bowls by **Eldorado Outdoor** resemble stone and are larger (up to 48 inches in diameter) and cleaner (thanks to the 12-inch gas- or propane-powered fire ring) to use than the prior options. **NuTone's** Haven Backyard Lighting & Mosquito Repellent System is a nature lovers' dream: Its LED landscape fixtures fitted with cartridges

LIGHT BRIGHT Halo+ (above left) and Halo (above) have two types of smoke detection as well as sensors that monitor carbon monoxide, humidity, and heat levels. Halo+ also can provide weather and disaster alerts for a separate monthly fee.

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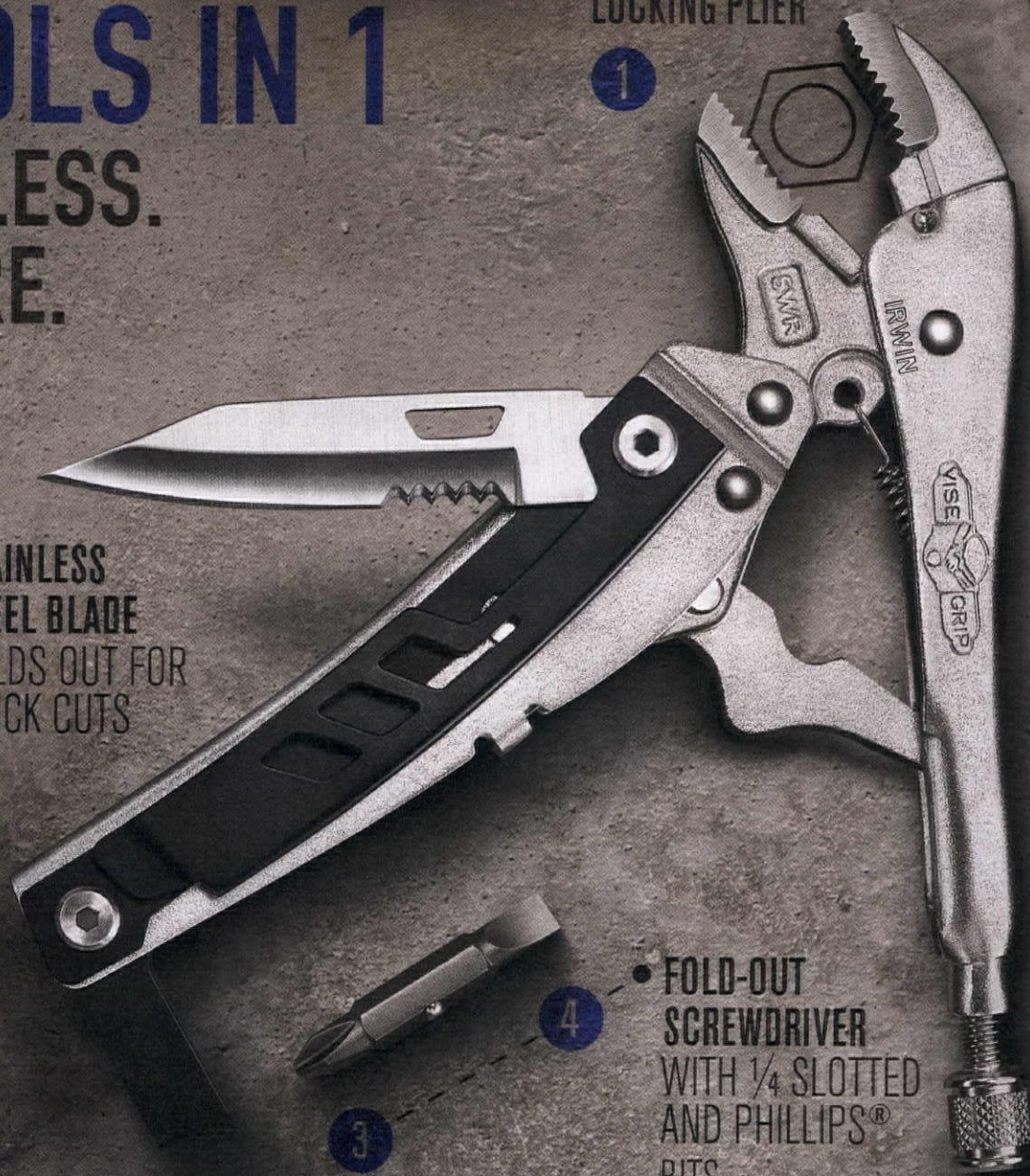
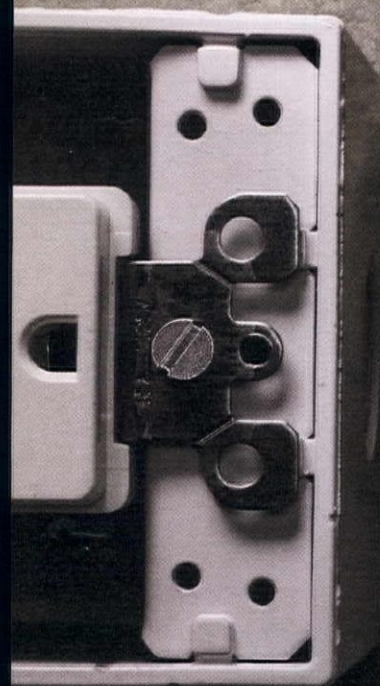
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Although off-whites and warm neutrals remained popular for surfacing materials, textures and linear patterns popped up in a handful of booths. **Cambria USA** developed the boldly striated Oakmoor and Roxwell natural-quartz surfaces in response to architects' requests, while the Maven tile collection—one of three that interior designer **Kelly Wearstler** created for **Ann Sacks**—features lively hand-drawn squiggles and dots. **Walker Zanger's** 3-D Kaza Concrete tiles add sculptural interest to interior and exterior walls.

In plumbing, industrial- and pro-style kitchen faucets with pull-down wands trended. Several companies, including **Brizo**, showed matte-black finishes; brass was another popular option, as seen at **Kohler** and **Rohl Faucets**. **Niagara** also reached a new best in water efficiency with its Stealth ultra-high-efficiency dual-flush toilet, which uses 0.5/0.95 gallons per flush—nearly half the industry standard.



WATER AND LIGHT Niagara's ultra-high-efficiency Stealth toilet (left) nearly halves the standard amount of water per flush, while the Delta Leak Detection device (above) sends alerts about leaks to a homeowner's smartphone or tablet. Kichler introduced two-dozen outdoor lights, including the Magnolia LED lantern (below). Eldorado Outdoor's Artisan fire bowl (below left) resembles stone but is composed of fiberglass and concrete.



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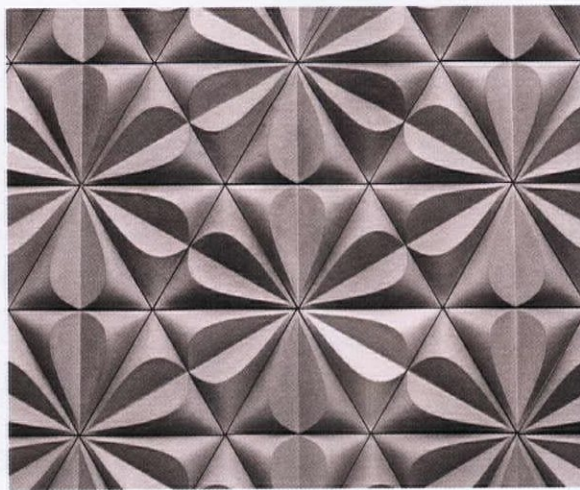
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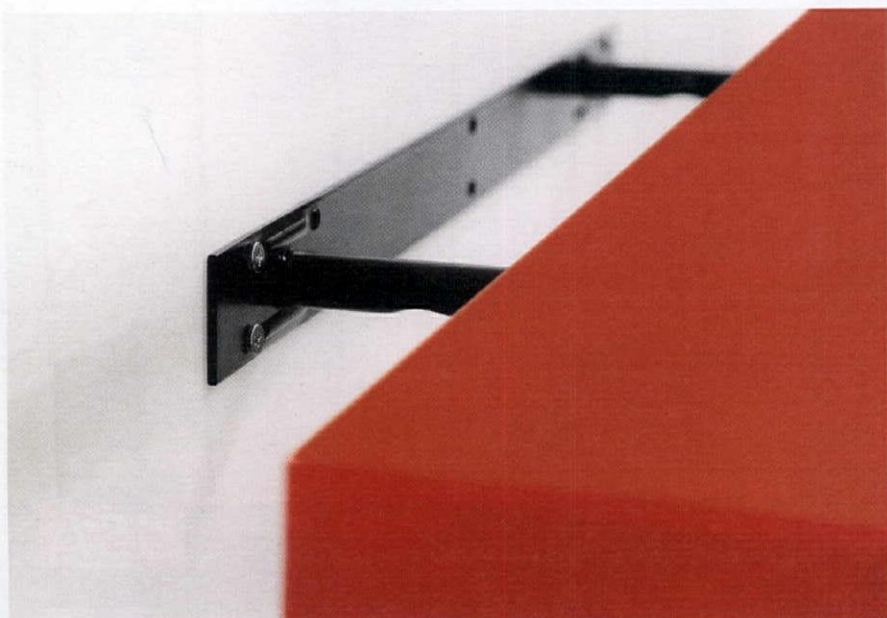
TOUGH STUFF

Patterns and textures abounded at both shows, including Cambria USA's Oakmoor quartz surface (left) and Walker Zanger's 3-D Kaza Concrete tiles (center row). Habito drywall panels by CertainTeed Gypsum can support up to 33 pounds per screw (bottom left) and 30 pounds per nail (bottom right).



Finally, there was **CertainTeed Gypsum's** Habito, a potential game changer in drywall. Eliminating the need to use anchors or nail into studs when hanging objects, the ½-inch-thick panels can support 33 pounds per screw (or 30 pounds per nail), allowing the user to mount over 120 pounds of cabinetry or electronics with a traditional four-screw bracket system. To demonstrate Habito's strength, the company even invited show attendees to scale a wall of the material studded with footholds secured by single nails.

And that, in short, was the beauty of this year's IBS and KBIS. Just when you thought there was nothing left to see or reinvent, both shows proved you wrong. —*Alice Liao*



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SNAP 27



PARTNERS IN DESIGN

BY JULIE TARASKA



DAVID ROCKWELL

The founder of New York's Rockwell Group explores the intersection of architecture, theater, and play via hospitality projects such as W Hotels, Nobu restaurants, and Broadway stage sets. rockwellgroup.com



RICH BRILLIANT WILLING

Alex Williams, Charles Brill, and Theo Richardson founded RBW (a play on their surnames) in 2007. The firm designs and manufactures sculptural LED fixtures for contract and residential use. richbrilliantwilling.com

DAVID ROCKWELL got his start in lighting, working as an assistant in a theater; he later spent time as a lighting consultant. But while the interplay of illumination and shadow has always occupied a central role in his interiors, stage sets, and hospitality projects, Rockwell Group tried only once to make a collection of commercial fixtures—back in 2007, for Italian manufacturer Leucos.

Last year, while specifying lights for upcoming jobs, Rockwell and his team had a flash of inspiration. Since the product development cycle for lighting wasn't syncing with their projects' timing, why not devise their own series of lights that they could have on hand to customize as needed, and perhaps also sell to a larger market?

Enter Rich Brilliant Willing, a trio of designers who manufacture and assemble contract fixtures in their Brooklyn, New York, workshop. RBW had approached Rockwell Group with the idea of collaborating on lighting "that would be closer to real-life use... something an architect would specify," says RBW cofounder Theo Richardson. Rockwell took the designers up on their offer, creating a modular metal and glass "kit of parts that could be put together in different geometries," explains Rockwell Group principal and studio leader Barry Richards, who oversaw the research. Architectural necklaces served as template for the designs, which RBW rapid-prototyped, making suggestions on ways to reduce the pieces' tooling and assembly costs.

The resulting David Rockwell with Rich Brilliant Willing collection features two sconces and four variants of a chandelier/pendant that can hang individually or together in various patterns. RBW will manufacture the fixtures, which will launch in mid-May and ship in late summer, merchandising them through its website and network of showrooms. The arrangement is ideal for Rockwell Group, according to Richards. "We'll showcase and promote the pieces," he says, "but we're designers, not sellers." (SNAP #273)

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