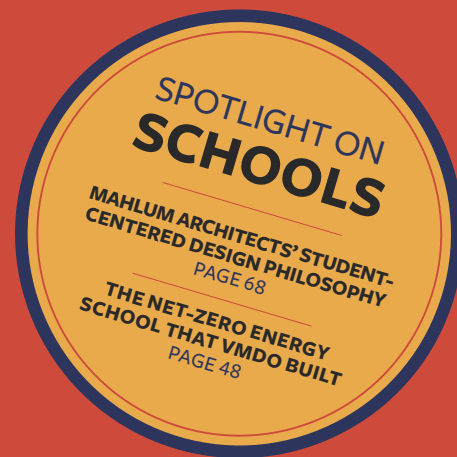


SNAP

ARCHITECTURAL NEWS + PRODUCTS

VOLUME 9, ISSUE 5



COZY UP AND STUDY!

POPPIN'S QT PRIVACY LOUNGE CHAIR

PAGE 12

FUN AND FUNCTION

School and university furnishings are more versatile than ever.

PAGE 12

WINNING OUT WEST

Manufacturers report five years of solid growth.

PAGE 44



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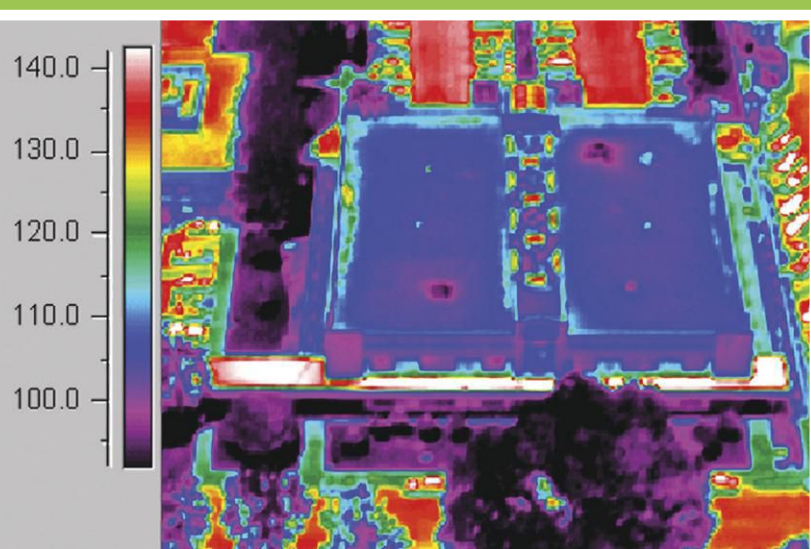
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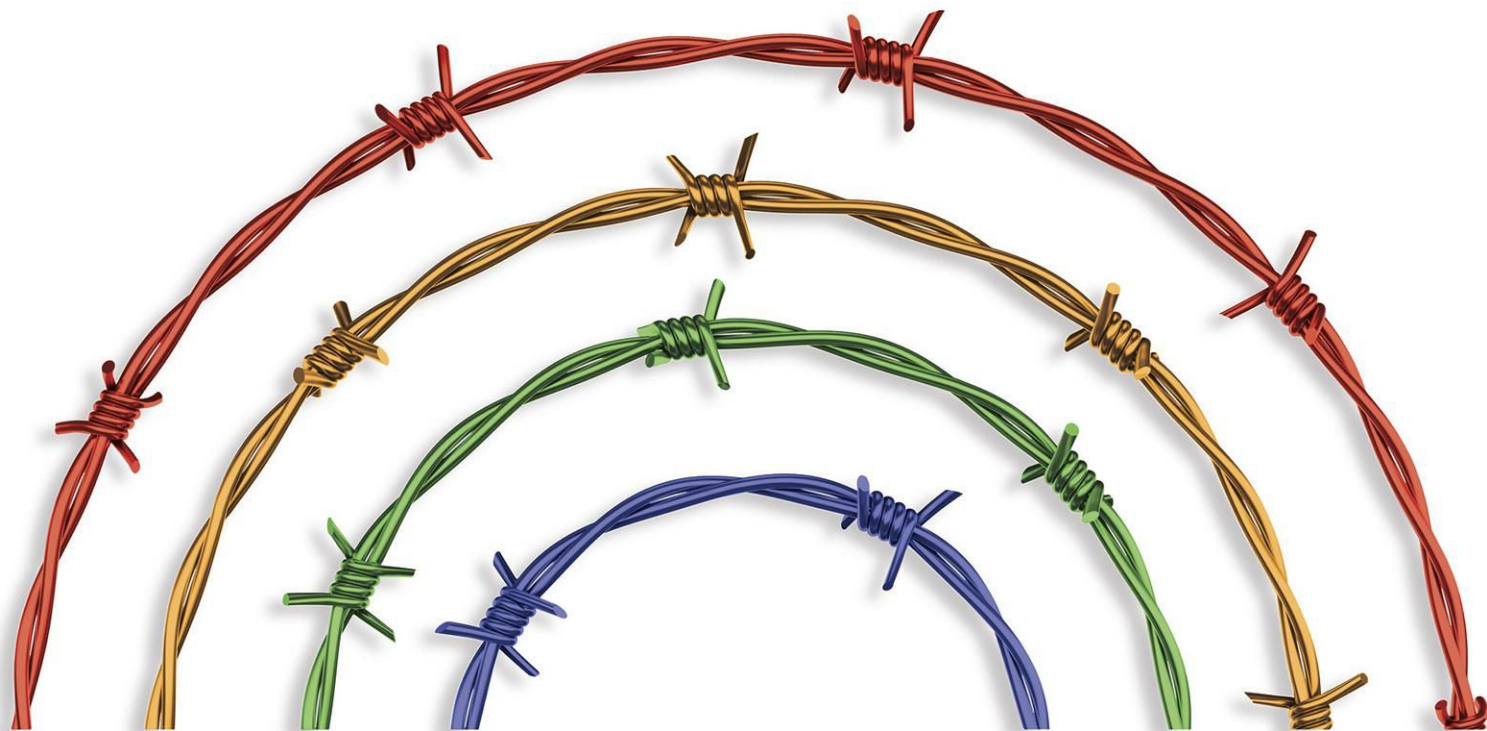
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- Install & seal the cover cap securely over the compression plate to complete standard installation.
- Complete installation by installing perimeter covers and flashings.
- Can anchor to 3/4 plywood and a minimum 18GA metal substrate.

TEST DATA

- UL-580 Class 90 (Uplift Resistance)
- ASTM E 330 (Structural Performance)
- ASTM E 283 (Air Infiltration)
- ASTM E 331 (Water Penetration)

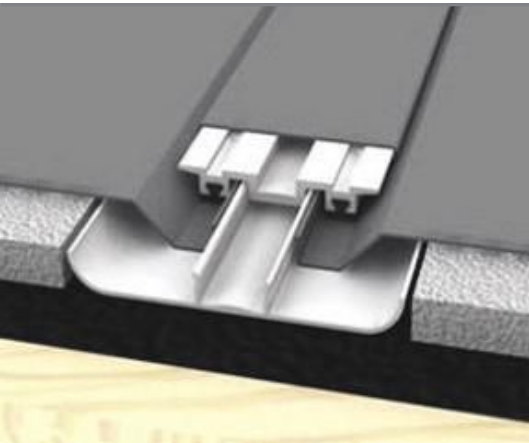
Testing is not applicable to all substrates, materials, and dimensions. Additional testing and analysis is available upon request.

COVER CAP The width of the cover cap is 2 ¾ inches.

PANEL SIZE Width: Maximum extrusion center is 4 feet in select materials and gauges
Length: Maximum panel length is 30 feet in select materials and gauges

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The Learning Channel



THE BEST K-12 SCHOOLS are energy-efficient, healthy, and connected to their communities. That's understandable, given that classrooms are where our most precious and vulnerable citizens spend the bulk of their days. Even for preschool environments, architects specializing in education are being asked for buildings which don't just use non-toxic materials and reduce energy costs, but also serve to teach students about sustainability.

In this issue, for example, we chronicle a net-zero energy school in Arlington, Virginia, designed by the firm **VMDO**, where the rooftop performs double duty as a science lab, giving students hands-on access to real solar panels (page 48). Meanwhile, a private pre-k in Brooklyn, places such a high value on social development for its two-, three-, and four-year-old students that the parent-run cooperative asked **BFDO Architects** and **4Mativ Design** for a floor plan to help with that critical task (page 20).

To deepen our understanding of ways that building materials are being integrated into curriculums, we turned to expert JoAnn Hindmarsh Wilcox of **Mahlum Architects**, an honoree of the AIA's Committee on Architecture for Education every year from 2014 through 2017 (page 68). Her insights span trends from the growing use of glass partitions to the increase in outdoor learning spaces.

Lastly, a glimpse of our education-themed New Products (pages 12 and 13) offers a lesson in the multipurpose furnishings needed for these agile learning spaces. Now, there's something we'd like to share with the rest of the class.

Kelly L. Beamon

KELLY L. BEAMON *Editor*

snAP

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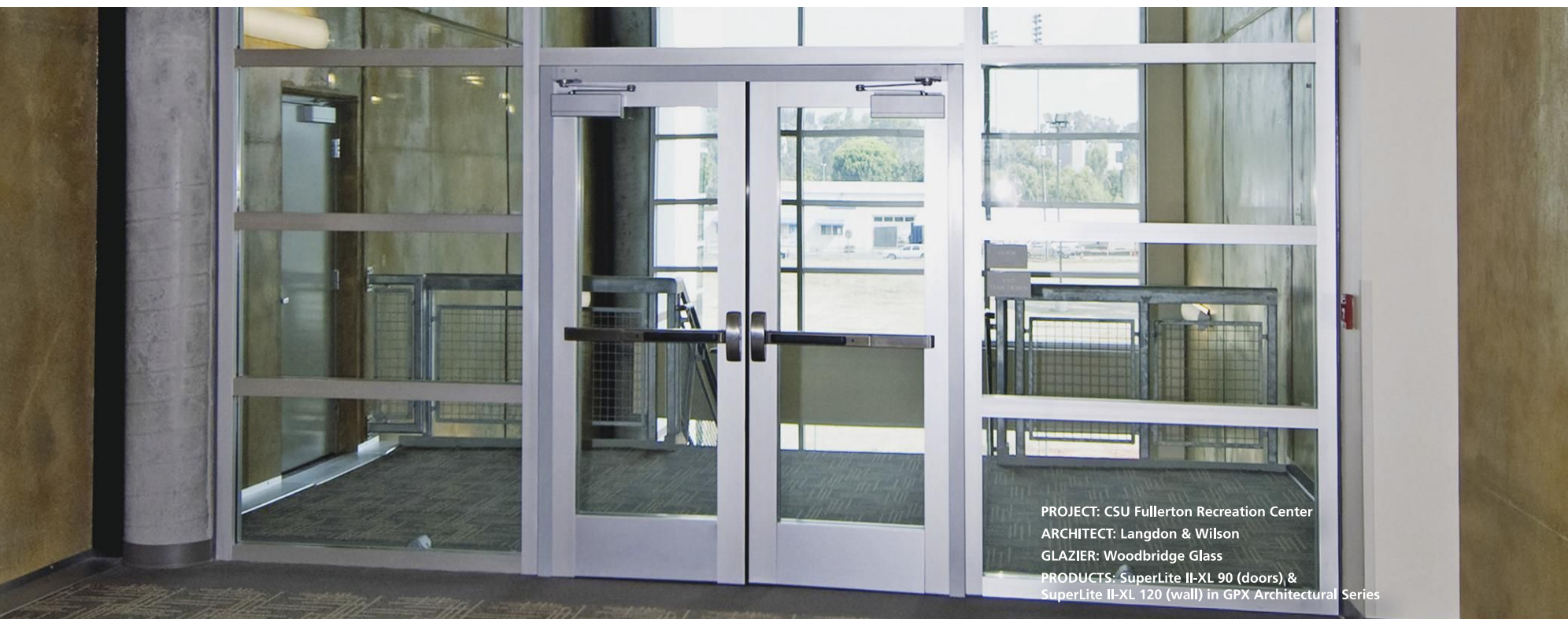




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Designing with Daylight

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Photo courtesy of VT Industries



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Photo courtesy of Walker Zanger



Large-Size Porcelain Slabs for Building Surfaces

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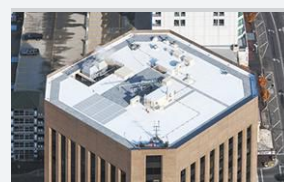
Photo courtesy of Benjamin Moore



Scuff-Resistant Paint

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Photo courtesy of GAF



Cool Roofing for Cool Climates

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Using Vector Graphics in Laminated Architectural Glass

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State-of-the-Art Design in Higher Education

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Meeting New Water Quality Mandates in Health-Care Settings

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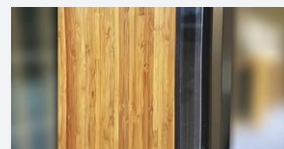
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The Benefits of Art-Grade Bronze for Residential, Commercial, and Hospitality Applications

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Photo courtesy of Lamboo Technologies



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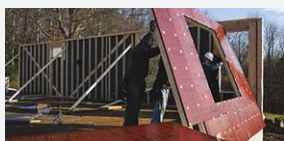
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A Case for Continuous Insulation: Building Science, Market Demand, and Common Sense

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Successful Strategies for Profitable, Carbon-Neutral Designs Using Passive House and Mass Timber

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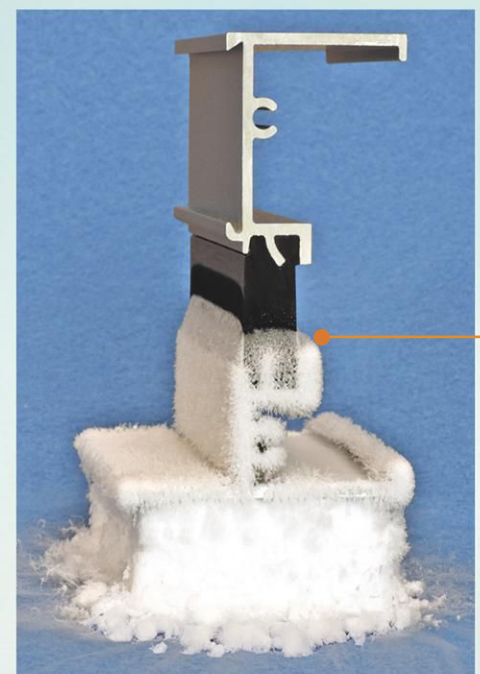


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in brief



BOWLED OVER

Italian-Brazilian architect Lina Bo Bardi (left) made her mark on furniture with her 1951 Bardi's Bowl Chair (shown above) as well as buildings and houses she designed. The latter are being celebrated along with those of Albert Frey in a new show in Palm Springs, California.

A Palm Springs Show Explores Lina Bo Bardi's Crossover Appeal

IN THE WAKE of a limited reissue of her 1951 Bardi's Bowl Chair two years ago by Italian furniture company Arper and a recent traveling exhibit about her, the late Italian-Brazilian architect Lina Bo Bardi is again in the spotlight in the show *Albert Frey and Lina Bo Bardi: A Search for Living Architecture* at the Palm Springs Art Museum.

As part of a broader Getty-led initiative to examine artistic exchanges between Latin America and Los Angeles, the show displays houses, 3D models, and objects by the two architects to highlight a cross-pollination of ideas in their work. They never met but were loosely connected when Bo Bardi translated Frey's article for *Domus*. Curators adopted that magazine article's title for the show, which runs through January 7, 2018. —E.K. Hudson



GIRL POWER

One concept nominated for this year's Beazley Designs award and on display with others in London's Design Museum is public space for dancing with huge site-specific Bluetooth speakers by a trio of women architects called Dansbana!

Beazley Designs Award Nominees Are On Display

THE PUBLIC CAN NOW weigh in on this year's Beazley Designs award winner. Works by finalists are on display at London's Design Museum, and visitors can cast votes for the winning entry online. Nominated works span everything from objects to fashion to architecture and graphics. The nominees range from big firms such as Adjaye Associates to upstarts such as Dansbana!, a trio of women architects whose plan to build free public dance spaces for girls (they feature the firm's site-specific wireless speakers, which users can activate with smartphones) is shortlisted. The exhibition runs until January 18th when the overall winner will be announced. —EKH



The Headquarters That LEGO Built

LEGO HOUSE, the toymaker's Billund, Denmark, "experience center" has opened. The 129,000-square-foot building, which looks like 21 giant stacked LEGO bricks, houses a store; three restaurants; four playground spaces; conference facilities, and exhibit space. For LEGO fans, the structure designed by Bjarke Ingels Group (BIG Architects) also bears a satisfying resemblance to a 774-piece model kit the company brought to market when the building opened. "For me, the LEGO brick embodies the notion of systematic creativity," said architect Bjarke Ingels, BIG's founding partner. —EKH

BRICK HOUSE

Volumes in BIG Architects' new headquarters for LEGO echo the toymaker's hallmark brick shapes.

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"It's a fun material because it's very flexible to design with and doesn't drive costs up."

Joe Buehler, AIA, LEED AP BD+C, TEAM A

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Charcoal - Energy Star - Cool Color

Moving Everest Charter School, Chicago, IL

Owner: By The Hand

Architect: Team A

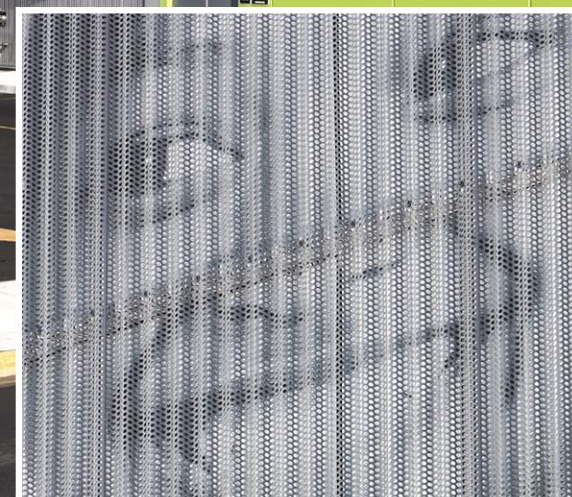
General contractor: Novak

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Profiles: 7/8-in. corrugated,

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Color: Charcoal



7/8-in. perforated corrugated panels overlay the graphic

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These furnishings add versatility in educational settings.

1. CASCADE TWO-SIDED WHITEBOARD

MANUFACTURER: Smith System
PERFORMANCE: This cart holds two columns of back-to-back tray storage and two erasable, magnetic whiteboards. The 70" tall, mobile unit is welded together from durable 18-gauge steel, available in 18 finishes.

PRICE RANGE: \$\$
APPLICATIONS: Ideal for classrooms where storage and wall space are limited.

SMITHSYSTEM.COM
 (SNAP #200)

2. RECHARGE

MANUFACTURER: Allsteel
PERFORMANCE: Multiple benches (each 58" long with space for two) can be positioned end-to-end or linked via seat-height connector tables in this seating by designer Chris Adamick.

PRICE RANGE: \$\$
APPLICATIONS: The furniture line features integrated three-prong USB ports, making them well-suited to educational environments from universities to libraries.

ALLSTEELOFFICE.COM
 (SNAP #201)

3. RICE GRASS + RADIUS PANELS

MANUFACTURER: Community Playthings
PERFORMANCE: These 36 3/4" x 24" PETG partitions, framed in solid maple with a clear nontoxic finish, attach to the company's shelves, arches, and gates to define spaces.

PRICE RANGE: \$\$
APPLICATIONS: The rounded-edge panels offer a dividing system that allows for supervision, while also affording separation of space for specific uses, such as naptime.

COMMUNITYPLAYTHINGS.COM
 (SNAP #202)

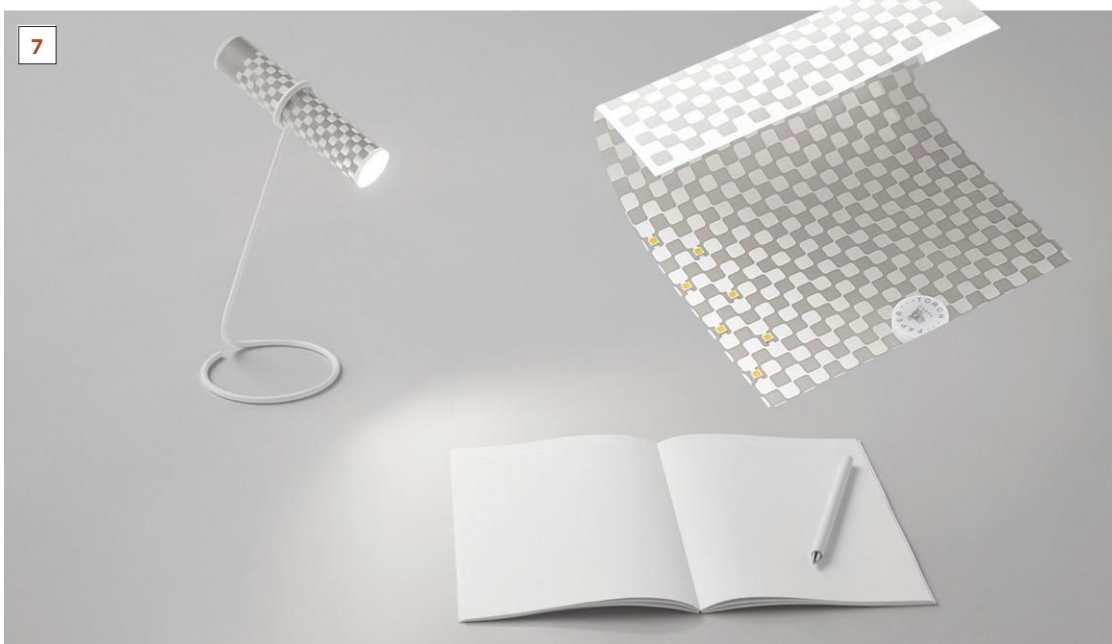
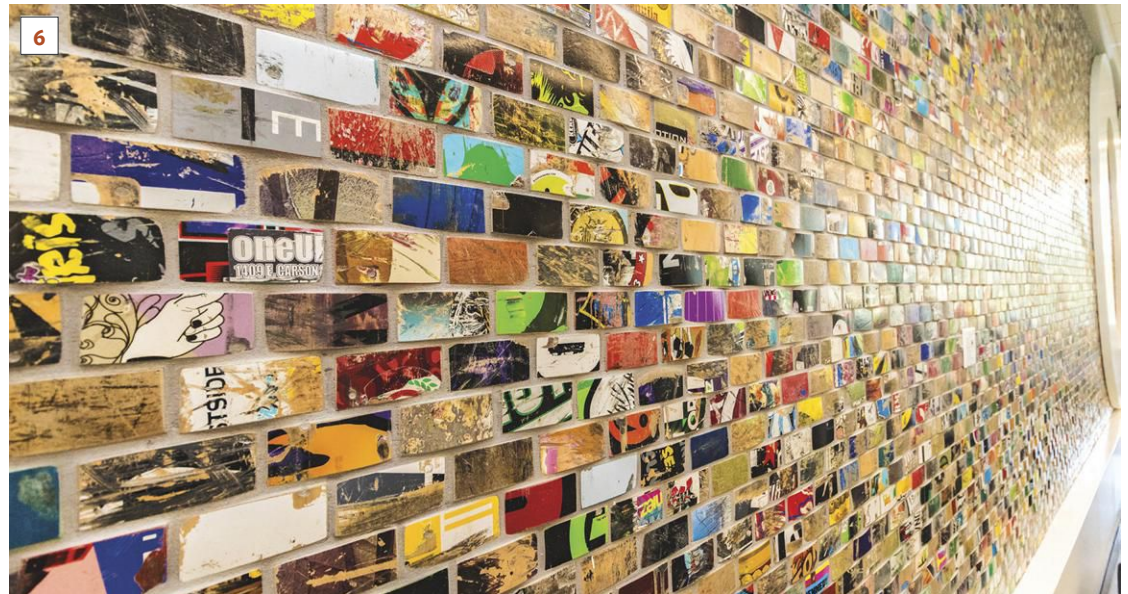
4. QT PRIVACY LOUNGE SEAT

MANUFACTURER: Poppin
PERFORMANCE: Upholstered in 100% contract-grade woven polyester fabric, this 21" w x 34" h seat can serve as a privacy booth, available in seven colors.

PRICE RANGE: \$\$
APPLICATIONS: Sturdy commercial-grade fabric and fiber-fill upholstery are designed to deflect sound waves and encourage focus. A convenient electrical charging port at its base makes it practical for a student lounge or any public space.

POPPIN.COM
 (SNAP #203)

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



5. PROSPECT SOLO SPACE

MANUFACTURER:

Herman Miller

PERFORMANCE:

This aluminum enclosure is offered in three configurations (two, three and four panels) measuring 54" tall and 5' 6" in diameter, and is lined in sound-absorbing acoustic pads that can be used as tack boards.

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

APPLICATIONS: For schools and work spaces, this unit offers semi-private space.

HERMANMILLER.COM

(SNAP #204)

6. RECLAIMED SKATEBOARD WOOD TILE

MANUFACTURER:

Art of Board

PERFORMANCE: Recycled skateboards are used to make these 7-ply maplewood tiles. They can be solid-mesh-mounted by the square foot and installed with standard mastic and sanded grout.

PRICE RANGE: \$-\$

APPLICATIONS: This colorful tile wallcovering is ideal for learning centers or a library (shown)—a visual lesson in sustainability.

ARTOFBOARD.COM

(SNAP #205)

7. NENDO PAPER-TORCH

MANUFACTURER:

Takeo (paper manufacturer) and AgIC (electronic printing)

PERFORMANCE: This interactive flashlight is made using AgIC technology that prints electronic circuit boards onto paper by Takeo. It works with two lithium coin batteries.

PRICE RANGE: \$-\$-\$

APPLICATIONS: Sold in batches of 50, this light is perfect for maker environments and schools where lessons are hands-on.

PLUSSTYLE.JP/DOT/PROJECT/PAPERTOUCH

(SNAP #206)

8. BROOKLYN AC LED TASK LAMP

MANUFACTURER:

LUX LED

Lighting

PERFORMANCE: This touch-activated elongated desk lamp has a color temp of 3000K, two integrated universal sockets, two USB ports, three brightness levels, and weight-based stability.

PRICE RANGE: \$

APPLICATIONS: Developed for contract and residential use, the lamp comes in black slate and brushed aluminum.

LUXLEDLIGHTS.COM

(SNAP #207)

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ASPEN COMMUNITY SCHOOL WOODY CREEK, COLORADO

Head of the Class

CHALLENGE: Transform a '70s-era charter school into a state-of-the-art learning center.

SOLUTION: Build an energy-efficient replacement with a profile and materials that reference the school's folks-y roots and land stewardship.

THE ASPEN COMMUNITY SCHOOL'S

sprawling 25-acre campus occupies a spectacular piece of property with 360-degree views of Roaring Fork Valley, one of the most affluent regions in Colorado nestled among rolling hills.

In 2014, Scott Lindenau, FAIA, design principal for **Studio B Architecture + Interiors** in Aspen and Boulder was tasked with giving the K-8 charter school a complete overhaul. The firm won an \$11.5-million contract to build a site that included classrooms, a community building, and a gymnasium.

BLENDING IN

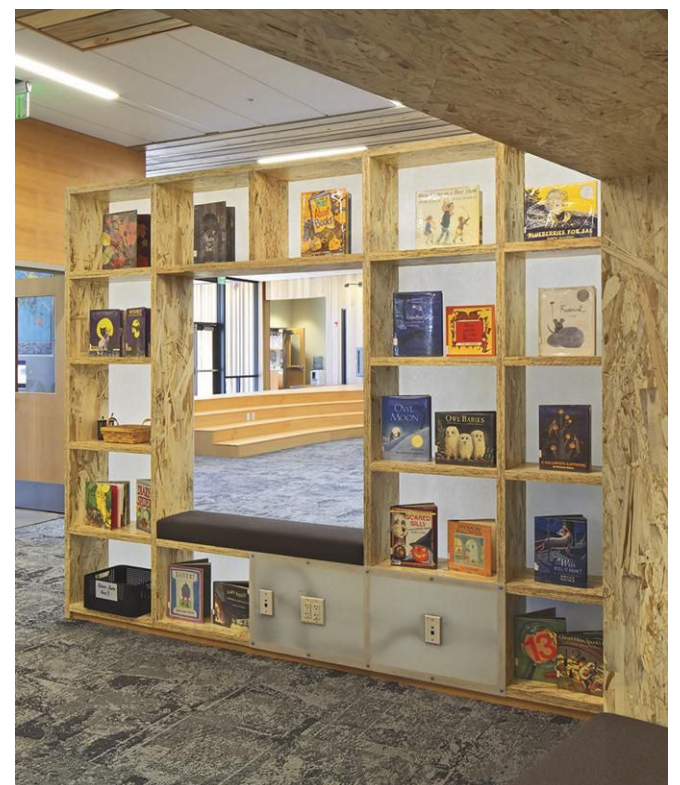
Studio B Architecture designed the one-story structure (above) to be partly buried to minimize its profile against the landscape. A material palette of wood and natural finishes indoors echoes the surrounding countryside (right).

"One of the biggest challenges was the existing campus built in the 1970s by hippie parents who loved the community," says Lindenau. "As the school evolved, it became more important to have a new facility because nothing was up to code."

The students, teachers, and administrators wanted the new design to reflect the heart of the original school, which was very rooted in the landscape and in the arts.

"The solution was to design a school that uses environmentally friendly materials like cedar and Douglas fir on the walls and ceilings," he says. "Wood has a certain warmth to it and we didn't want to lose that."

The site itself evoked feelings of nostalgia. For that reason, the architects came up with a building profile that would leave views



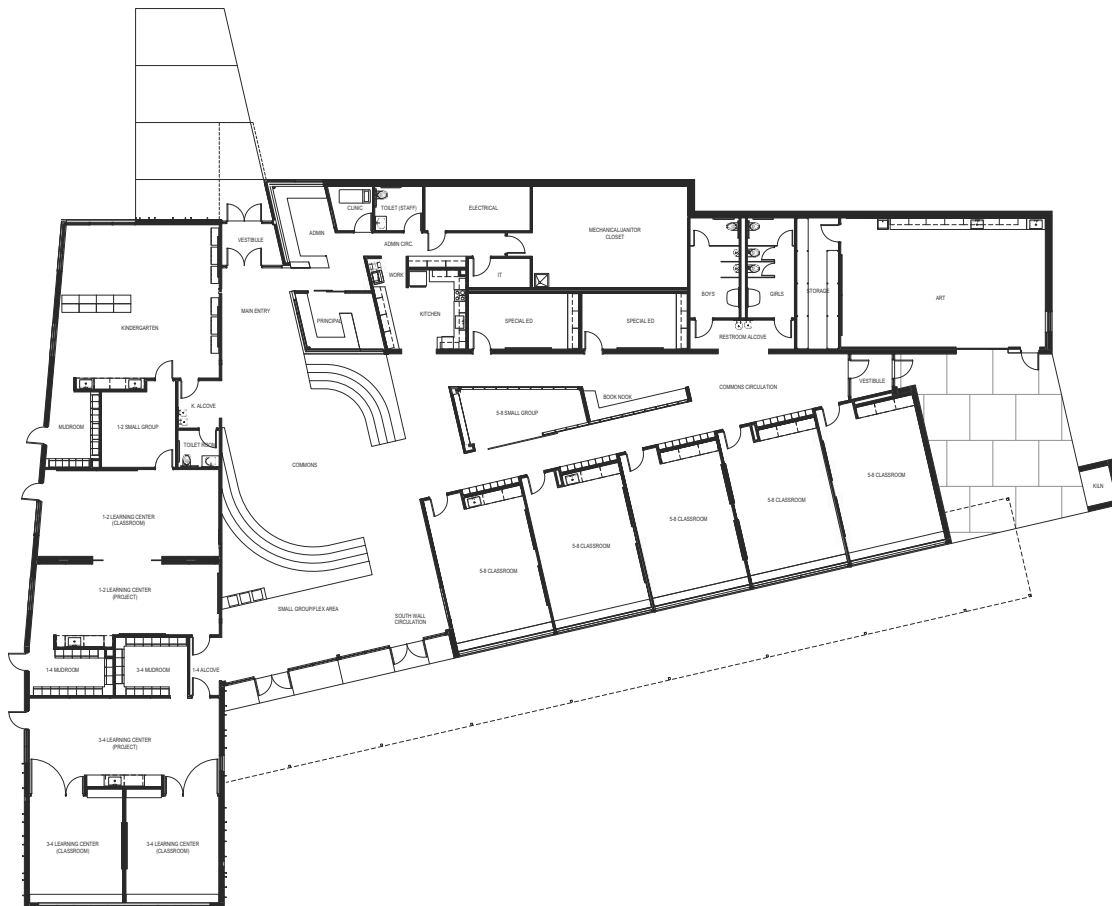


CASE STUDY: SCHOOL DESIGN



CHILD'S PLAY

A community room-cum-amphitheater (above) occupies space at the center of the floorplan. Bleachers built from cement board conceal storage and offer a place to socialize and practice the school's stage productions.



of the landscape unobstructed—a one-story structure that's partially buried to make it very low profile. "The school almost becomes a land form so that it doesn't interrupt the skyline and the stunning views from the valley," Lindenau says.

Meanwhile, whereas the old building was dark with small windows, the new one enjoys natural light and improved ventilation as a result of generous glazing.

"We used Kalwall in the classrooms and [in the clerestory windows] of the roof lines to build light into the interiors," he says. The team also installed higher ceilings and taller windows in classrooms to circulate fresh air.

To make up for the fact that there are very few trees on site, Studio B wrapped the west elevation with a 12-foot-long trellised walkway that filters natural light at sunset.

To add energy efficiency where the '70s-era building previously had none (and lower the school's building maintenance costs), the architects employed lots of LEDs and low-E glass that lets in light, but limits UV rays, among other solutions. Meanwhile, generous glazing on the west and south elevations is a highly efficient way to let light into the interior. In everything, the team aimed for LEED-certified performance, using less energy and water, and reducing greenhouse gas emissions.

The materials palette inside satisfied a simple equation: durable, eco-friendly, and fun. One example: wall panels of Homasote, a 98-percent-recycled fiberboard that is soft enough to serve as a bulletin board where kids can pin up drawings. In some cases, the panels also clad the ceiling (as in the music room) because they're dense enough to absorb sound. The 8,000-square-foot gym is built from glued laminated timber, which Lindenau describes as stronger than steel and offers more stiffness than traditional lumber. Studio B also chose reclaimed carpet tiles to cover most of the floors.

At the heart of the school is a community room where students and faculty meet, architects specified seating with storage inside, "so it can be moved around," says Lindenau, "for a small poetry reading or recital."

The firm also wanted a no-maintenance exterior, so they selected weathered cedar siding outside the K-4 classrooms. "We're just going to let that go natural," Lindenau says. On the exterior of the administration wing, his team installed cement board panels that are mold- and moisture-resistant, and throughout the building they used an aluminum-clad window system, which doesn't need frequent painting or staining.

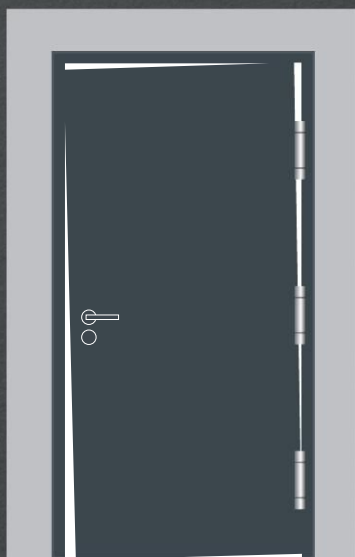
"We preserved the school's history, while bringing it into the 21st century," he says. ■

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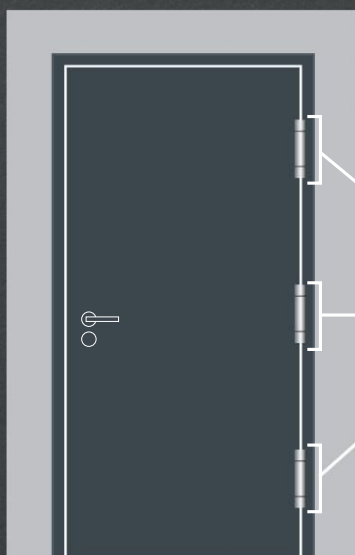
the adjustable hinge system for commercial doors.

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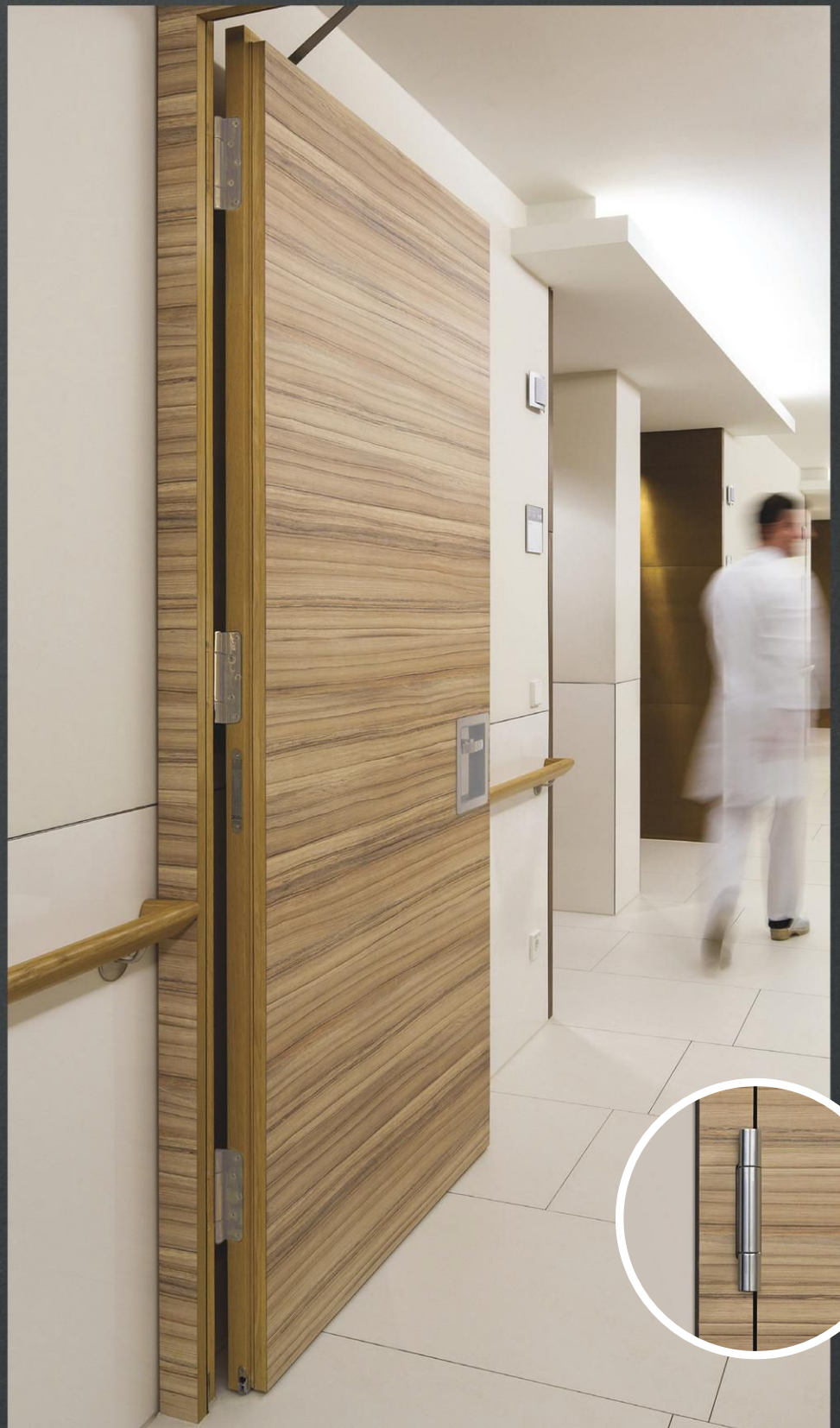
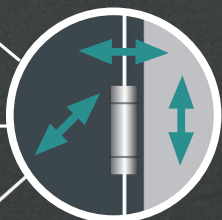
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SNAP 27



CASE STUDY: SCHOOL DESIGN

BY CHRISTINE GORDON



MAPLE STREET SCHOOL BROOKLYN, NEW YORK

Social Scene

PROBLEM: Turn blank space into a lively, social hub for Brooklyn preschoolers.

SOLUTION: Direct the flow of traffic from adjacent classrooms and the entry to a central area with an open kitchen modeled after New York food trucks.

THE TWO-, THREE- AND four-year-olds enrolled at Maple Street School in Brooklyn are expected to develop more than cognitive and fine motor skills. Parents at the cooperatively owned preschool also want their children to learn positive ways to socialize.

Before the chance to expand in a second location one block away, the school drove home these social lessons entirely with meal routines. But a new second-floor location in a LEED-certified, mixed-use building by Marvel Architects offered the chance to also enlist design as a teaching tool. Maple Street asked **Barker Freeman Design Office** (BFDO) and **4Mativ Design Studio** how the space could promote their social program. Specifically, it needed to support frequent “café time”—social gatherings centered on snacks.

“We had all these conversations about this café activity and started brainstorming

about how the kitchen could be configured to add an element of fun,” says BFDO principal Alexandra Barker.

Barker’s team responded with an agile plan for the 3,300-square-foot space: three interconnected classrooms arranged around a central open area containing cubbies, play space, and a kitchen with a twist. “All the children pass through this communal gathering space to store their belongings before entering classrooms. So, a kitchen in the center is a natural gathering point,” Barker says. To make it fun, the team brainstormed a few social settings Brooklyn kids could identify with and came up with one: “Food trucks are familiar places for informal gathering in Brooklyn,” Barker says.

Having made that connection, the architects built the classroom equivalent—complete with a galley kitchen, service window, Plexiglass menu boards, and a drop-down counter that sits two feet high, the perfect height for tiny customers to pull up to (diner-style) for snacks. The compact kitchen is enclosed on either side by locking doors for the children’s safety, but remains open via the service window overlooking the comings and goings in the shared common space.

With café time handled, BFDO turned to the rest of the school’s wishlist of natural



BUSY BEES

With its doors open, one of three classrooms (top, left) feels joined to the central room where children enjoy café time. In the common space (above) also used for drop-off and pickup, architects created a playful peg wall to occupy students while parents sign in.

PHOTOGRAPHY: © LESLEY UNRUH



light, views, and outdoor play space.

Compared with the first street-level location, the new second-floor site could accommodate a row of glass window doors with transoms to take advantage of treelined views and ample light along the northeast wall where two of the three classrooms sit. Oval apertures at child and adult heights punctuate sliding pocket doors that can partition the classrooms from each other—and from the shared space—or roll back to combine the rooms. The material palette inside is simple, spare, and appropriate—maple flooring, doors, and furnishings.

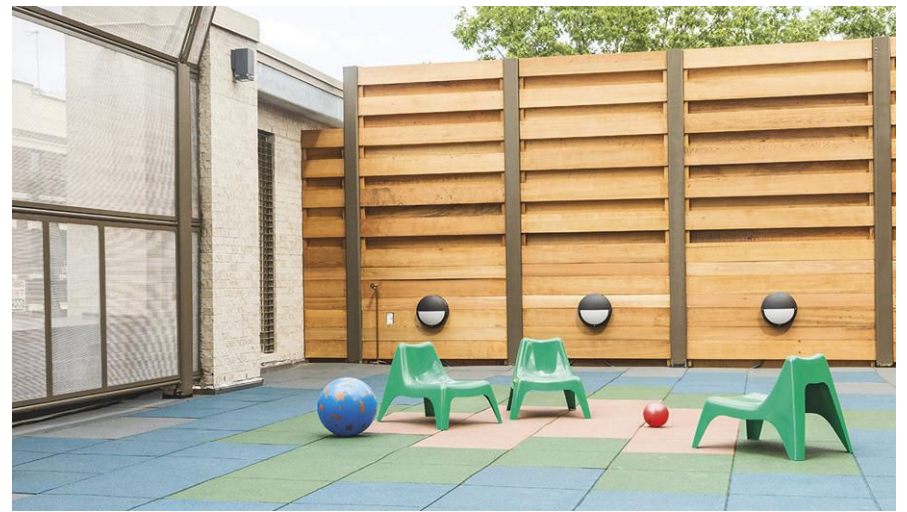
Roof access allowed for an outdoor classroom and play area with rubber tiles under-

foot and a combination of cedar and perforated aluminum safety fencing.

Since pre-k bathrooms are public spaces where teachers passively supervise potty-training, architects envisioned another way design could help: They enclosed them in blue-tiled walls that stop well below the ceiling and have a pass-through cut out over the lav, allowing a partial view inside and use of the sinks from the classroom-facing side of the wall. ■

SEE AND BE SEEN

Passive supervision is a key feature of the potty-training bathrooms with cutouts over sinks (above) and the kitchen's service window (top right). The rooftop play area's rubber tiles make up a pixelated graphic of islands in water (right).



= ECO-FRIENDLY ATTRIBUTES

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

IN THIS PROJECT



EUROPEAN MAPLE SALZBURG



MANUFACTURER: Kährs

PERFORMANCE: Flooring features the company's proprietary Woodloc joint, which promotes stability.

PRICE RANGE: \$\$

APPLICATIONS: This three-strip flooring is made from sustainable timber and has a durable pre-finish, which is suitable for high traffic settings such as schools.

KAHRS.COM
(SNAP #210)



WOODCREST CHAIRS



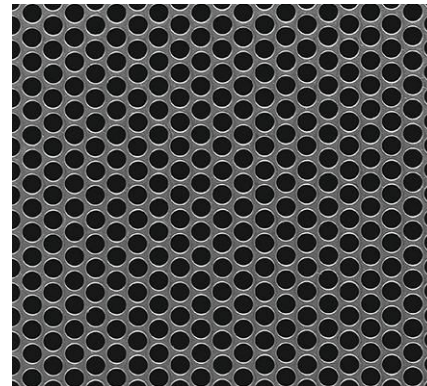
MANUFACTURER: Community Playthings

PERFORMANCE: Laminated with durable maple veneers, these chairs have a clear nontoxic finish. Also, tabletops are laminated high-density particleboard core.

PRICE RANGE: \$

APPLICATIONS: Built without sharp corners or pinch points for heavy use, the furniture is an ideal choice for schools.

COMMUNITYPLAYTHINGS.COM
(SNAP #211)



PERFORATED ALUMINUM FENCING

MANUFACTURER: McNichols Co.

PERFORMANCE: This 16-gauge aluminum panel comes in a mill-finished .063 thickness, with patterns of either 1/4" or 3/4" holes.

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

APPLICATIONS: The perforated metal can be specified as fencing and infill for staircase panels anywhere safety is required.

MCNICHOLS.COM
(SNAP #212)



WOODGRILLE I

MANUFACTURER: Architectural Surfaces

PERFORMANCE: Applied to ceilings and walls, these acoustical backing panels come in a variety of slat spacings that diffuse sound as it passes through them.

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

APPLICATIONS: The easy-to-install panels complement the style of softer child-friendly interiors. The grillwork is available in 10 wood options.

ARCHITECTURALSURFACES.NET
(SNAP #213)

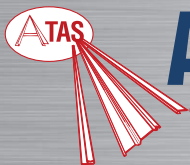
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SNAP 3

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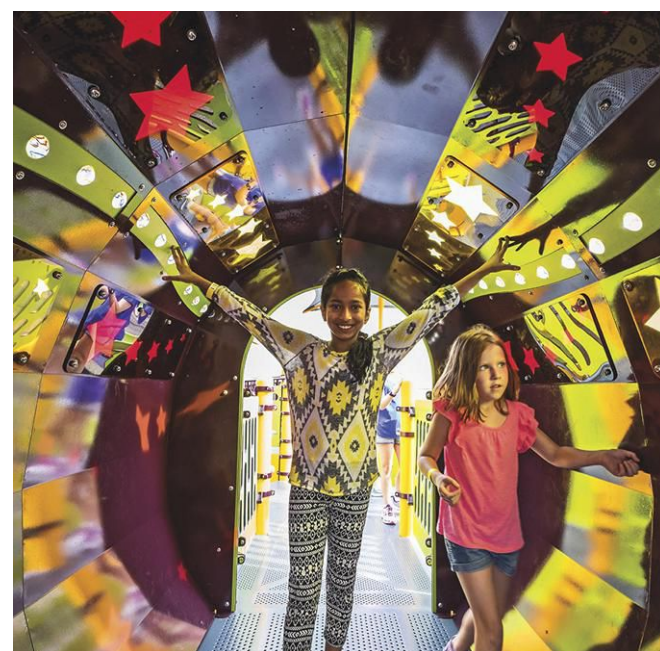
Access Granted

SUNSHADES, ZIP LINES, and roller massages are words one might associate with resorts or cruise ships, but these actually describe an inclusive playground in Woodbury, Minnesota. Madison's Place, named for a child lost to spinal atrophy, was a passion project for her mother, Dana Millington, who raised \$830,000 over 12 years to build it.

Noticing that the local playgrounds were inaccessible to disabled children—and that she couldn't even push Madison's wheelchair onto one due to sandy ground—Millington consulted with play specialists and with manufacturer **Landscape Structures** to plan a sensory-play experience suited to children ages five to 12, of every ability.

The manufacturer's bucket seat zip line, called the ZipKrooz, offers a 50-foot thrill ride

while the Xylofun Panel beckons budding musicians to play its bars. Sight- and hearing-impaired children were considered, too: There's a learning wall with braille and slides that don't generate static (which can interfere with cochlear implants and hearing aids). Oodle swings accommodate four to six children at once and are specially designed for transfer from a wheelchair or walker. And Roller Tables feature the manufacturer's TenderTuff-coated steel rollers and arched overhead handrails to help kids slide across its surface, affording them sensory stimulation via deep-muscle pressure. Finally, 4-inch-thick rubber flooring and a series of ramps and connecting decks ensure safety and easy access for children—whether on feet or on wheels.—*Sheila Kim*



LEARNING FOR ALL

Madison's Place in Minnesota features inclusive-play elements from Landscape Structures to ensure that children of every ability can enjoy it (top). A custom light tunnel punched with stars (above) offers a multi-sensory experience.



OODLE

MANUFACTURER: Smith System

PERFORMANCE: Aiming to promote “active” sitting, this stool comprises three stacking and locking components that make the seat stationary or a balance ball of sorts with 10 degrees of multidirectional wiggle. Molded from high-density polypropylene, the 17”-dia units are offered in five colors.

PRICE RANGE: \$\$

APPLICATIONS: Ideal for K–12 learning and recreational environments.

SMITHSYSTEM.COM

(SNAP #213)



ELI

MANUFACTURER: Izzy+

PERFORMANCE: The button-activated sit-to-stand desk comes in five standard and custom base colors, with eight top shapes ranging from rectangular and trapezoidal to arced and six-sided. Surfaces are laminate, whiteboard, or veneer. Mounted dry-erase screen options are also available.

PRICE RANGE: \$\$

APPLICATIONS: Not just for workplaces, this height-adjustable modular desk is ideal for classrooms and other learning centers where activities and programming can change on a dime.

IZZYPLUS.COM

(SNAP #214)



VELOSTIRRUPS

MANUFACTURER: Quartertwenty

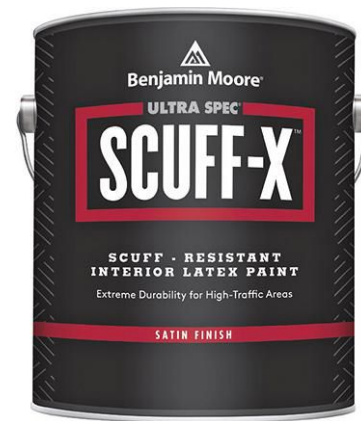
PERFORMANCE: Providing more than 10 inches of clearance from a wall, this shelf doubles as a bike rack or, with an added dowel rod, a clothing rail. Mounting hardware is available for masonry, drywall, and stud installation. Shelf material choices include maple plywood, walnut, and white oak.

PRICE RANGE: \$\$\$

APPLICATIONS: This minimalist, multi-purpose bracket system is well suited to residential settings, workplaces, and dormitory rooms.

QTR20.COM

(SNAP #215)



ULTRA SPEC SCUFF-X

MANUFACTURER: Benjamin Moore

PERFORMANCE: Offering excellent scuff resistance, this latex paint is a one-component product. In other words, it doesn’t require premixing with a second specialty product, as do other scuff coatings, ultimately saving time and money. It’s low-VOC and can withstand repeated cleaning without fading.

PRICE RANGE: \$\$\$

APPLICATIONS: The paint is ideal for high-traffic areas in schools such as hallways, stairwells, gymnasiums, locker rooms, and bathrooms, but also for many other types of commercial settings.

BENJAMINMOORE.COM

(SNAP #216)

Divide and Conquer

WHEN TRINITY EPISCOPAL SCHOOL, a private institution in New Orleans for pre-K through eighth grade, looked for a solution to accommodate different subjects, activities, and class sizes within two of its classrooms, it turned to **Tudelü**. Founded three years ago, Tudelü developed motorized retractable walls to help create space division and visual or acoustical privacy within larger, open areas—but with a more aesthetically pleasing, minimalist appearance radically different from those old beige accordion walls of yesteryear.

Working with the school heads, Tudelü fabricated a custom 20-foot-wide wall that separates English and social studies classes when lowered. Faculty can easily operate a key switch to retract the wall into housing that’s concealed within the ceiling for times when the space hosts larger lectures. Both sides of the wall sport graphics of full world maps that are at once both educational and attractive.

All of Tudelü product lines are custom built to fit individual spaces and meet unique needs. Its single and double mass-loaded vinyl walls (which have an STC rating of 31 and 46, respectively) are available in almost any solid color, more than 30 patterns, or a personalized graphic such as artwork, a photo, or logo. Providing even more sound absorption is a felt option in a choice of 31 solid colors. Regardless of the material finish, all Tudelü walls are zippered into the frame, which enables easy removal and replacement should the client get tired of the graphic or color, or if any unrepairable damage occurs. So, if Trinity decides to use these spaces to house chemistry and geometry classes instead, it will be simple to commission and install a new wall that functions as a periodic chart on one side and a polygon guide on the other.—SK

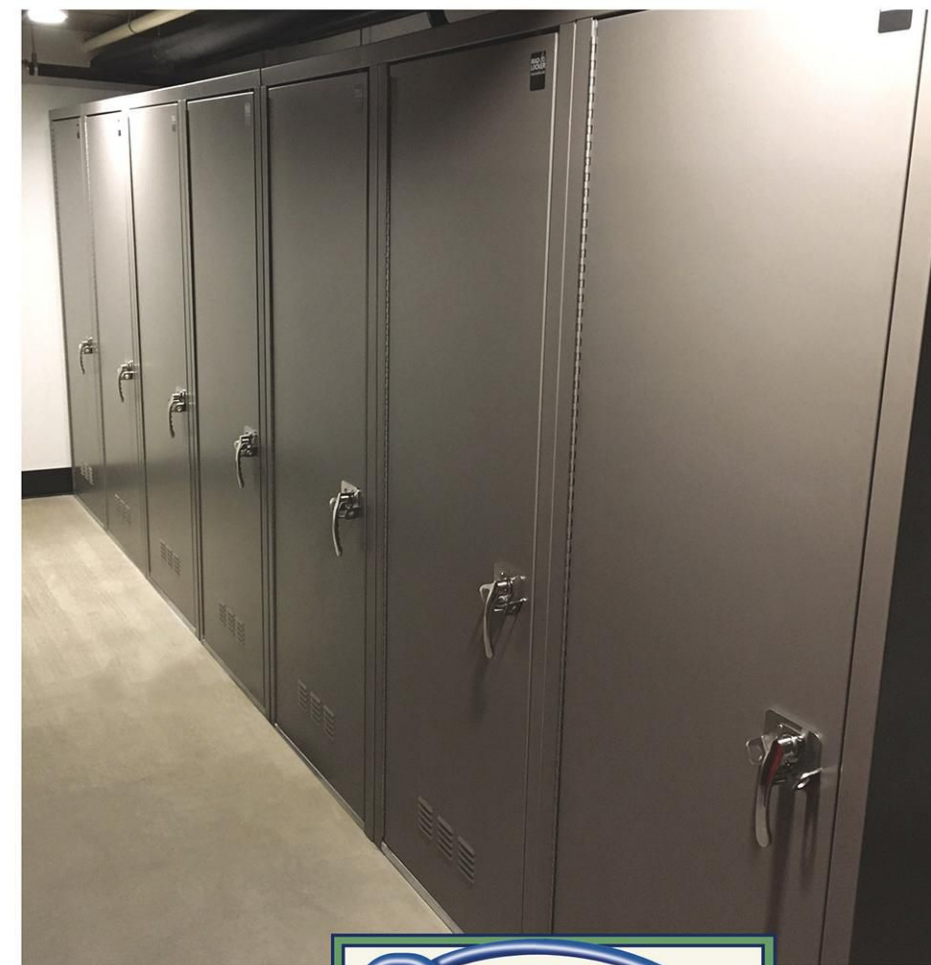
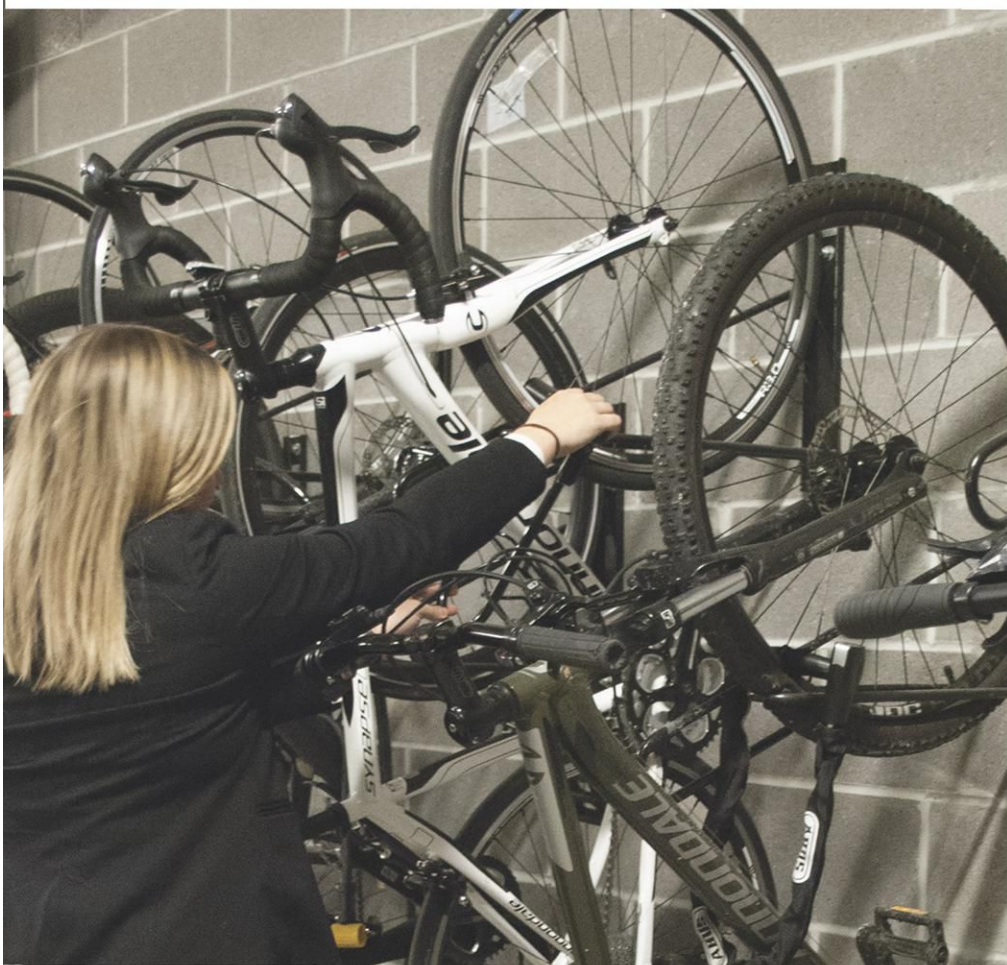


INNOVATIVE WALLS

From top: A New Orleans school incorporated an acoustical wall that retracts into the ceiling to divide classroom space as needed. When closed, the wall features a custom map mural used for social studies classes.



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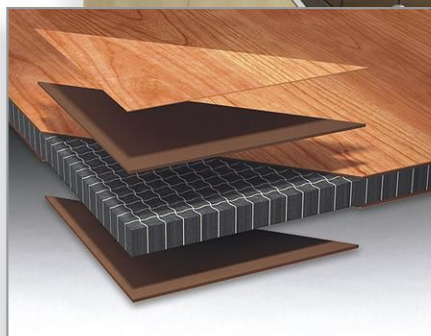
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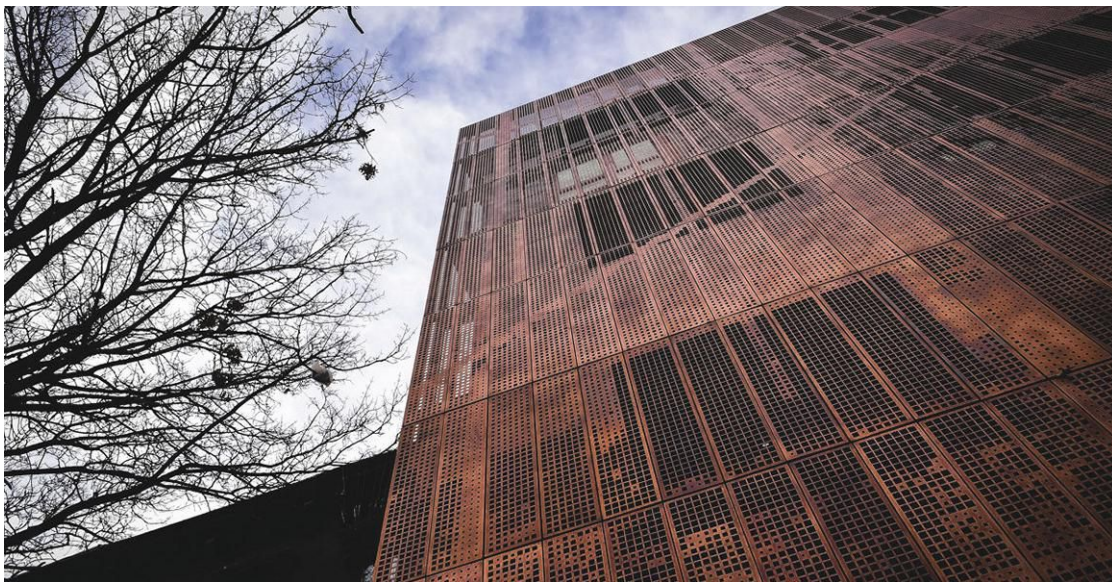


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Siding Show

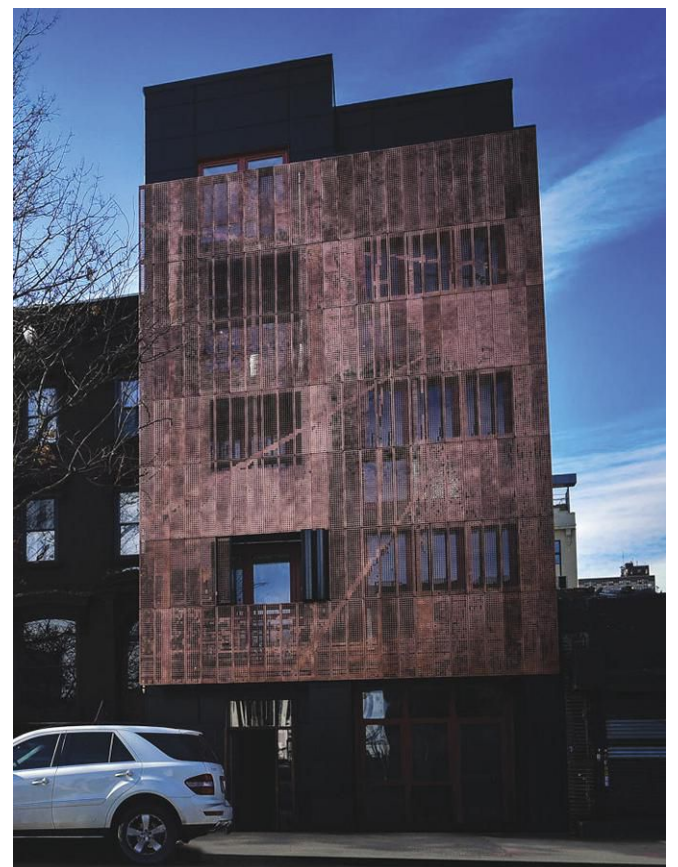
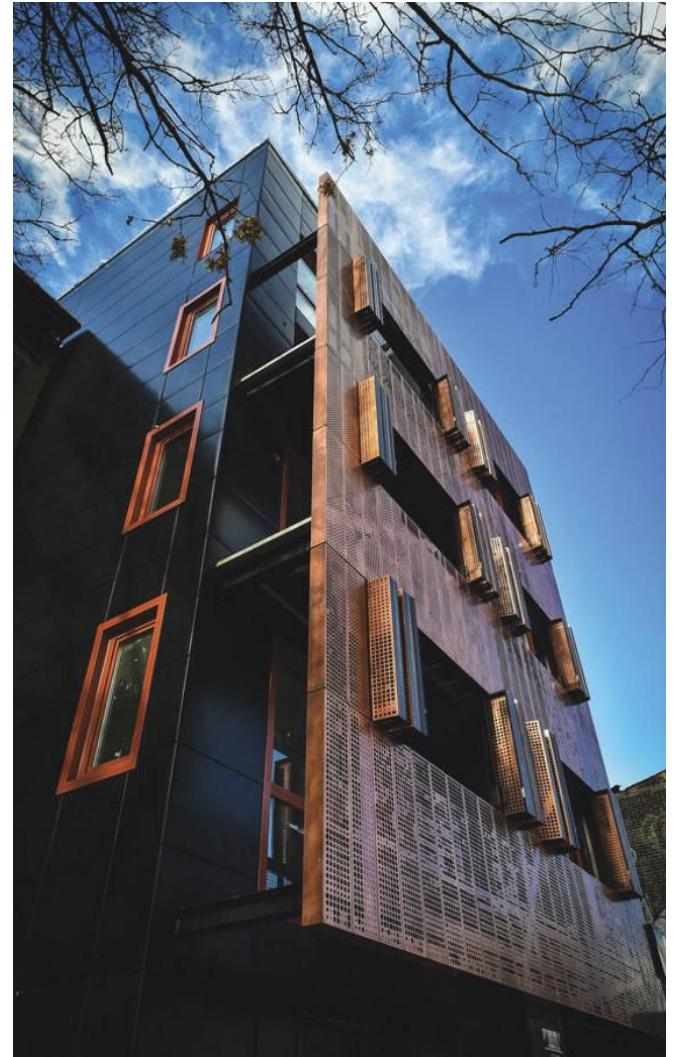
DESIGNED BY Manhattan-based **Luca Andrisani Architects**, this 10-unit residential building in Brooklyn is clad in black insulated Galvalume panels by **Kingspan**, and wrapped in a dynamic screen of copper panels by **Hi-Tech Metals**.

Set in a clean stack bond pattern, the Galvalume panels vary in size; their height measures either 24 inches or 30 inches and lengths range from 2 to 13 feet. Showing through the square hole punches that perforate screens, their dark color contrasts the subtle gleam of the weathering copper.

“Our primary design move was to clean up the facade by presenting a single plane to the street, like the neighboring brownstone,” says Andrisani. While copper was a logical aesthetic choice, as it effectively mimics the

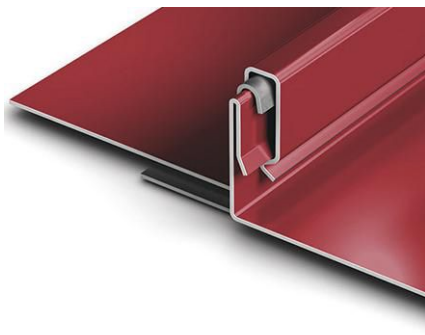
warm coloring of the adjacent masonry building, it also proved to be the best selection in terms of material performance: It is durable, compatible with other building components, and produces minimal run-off.

The screen is composed of 1/8-inch-thick panels of metal, pierced to create an interplay of shadow and light. The facade mixes fixed and operable panels. Located in front of the windows, bi-fold shutters that pivot and slide along trolley rails allow residents to control the view, as well as the amount of light and air entering an apartment. Andrisani says, “The facade is almost alive—it’s always dynamic and changing.” It’s with this quality in mind that the building was given its name: Aperture 538. —*Leslie Clagett*



WEATHERPROOFING

Architects chose a facade of metal panels built to weather well for long-lasting performance.



HIGHLINE WALL PANEL

MANUFACTURER: Petersen Aluminum

PERFORMANCE: LEED eligible; some of the 45 available colors are rated by the Cool Roof Rating Council and meet Energy Star requirements. Compliant with AAMA, ASTM, and Florida codes. 30-year finish warranty.

PRICE RANGE: \$\$

APPLICATIONS: Rib patterns in the 1½"-deep panels give a striking appearance to commercial and residential structures. Available in .032, .040, and .050 aluminum and 22 and 24 gauge steel, the panels can be installed vertically or horizontally.

PAC-CLAD.COM
(SNAP #217)



CORRUGATED TRUTEN A606

MANUFACTURER: Bridger Steel

PERFORMANCE: 40-year warranty against chalking and fading.

PRICE RANGE: \$\$

APPLICATIONS: With a rustic, Corten-like finish and a true radius corrugated profile, these panels add character to walls and roofs. 2½' wide, rib height ½" at 2½" centers; available in lengths from 3' to 30'. Custom colors available.

BRIDGERSTEEL.COM
(SNAP #218)



CUMARU RAINSCREEN SIDING

MANUFACTURER: Advantage Lumber

PERFORMANCE: Termite-, mold-, and mildew-resistant. Class A rated for flame spread. Janka hardness rating 3,540. Bending strength 14,793 psi.

PRICE RANGE: \$\$

APPLICATIONS: Installed with concealed fasteners, this siding offers a clean, contemporary look to exterior walls. Available in five species: cumaru, garapa, ipe, massaranduba, and tigerwood.

ADVANTAGELUMBER.COM
(SNAP #219)



CENTURA SHINGLE

MANUFACTURER: Isaiah Industries

PERFORMANCE: Florida Building Code approved; UL-rated for hail, wind, and fire. 35% minimum recycled steel content; fully recyclable. Lifetime limited warranty, 40-year transferable warranty.

PRICE RANGE: \$\$

APPLICATIONS: Suitable for wall and roof applications, this 29-gauge, G90 galvanized steel shingle has an integrated nail flange to speed and simplify installation. The interlocking shingle is offered in three textures and 15 colors.

ISAIAHINDUSTRIES.COM
(SNAP #220)

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

Mass Appeal

WITH THIS RESIDENTIAL INFILL PROJECT, architects **Rossetti + Wyss** confronted the issue of whether to contrast or conform to the site of this residence. It was flanked by a pair of very rustic farm buildings. The architects addressed the dilemma with a design somewhere between modern and the vernacular by wrapping the new gable-roofed home in dark gray Carat R fiber-cement panels by **Swisspearl**. Its roof and walls almost appear to be a single element.

The panels are suitable for use on roofs with a minimum pitch of about 11 percent (six degrees), and are coated to resist UV light and weathering. In this project, snow guards are installed on the roof, and contribute a small linear dimensional accent to the plane. Window and door openings were proportioned with regard to the two standard sizes of the panels, 10 feet x 4 feet and 8 feet x 4 feet. And a slight reveal between wall panels is primarily an orthogonal pattern; in places where it angles upwards, it is a reflection of the house's interior spaces.

To create a subtle variety in the facade, Rossetti + Wyss opted to manually grind the surface of each unit, adding a custom texture to the cladding. As the material is integrally colored, this treatment did not alter the hue of the walls or roof; the structure's elemental form remains the focus of the design. — LC



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SNAP 24



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Score for Safety

FOR QUEBEC'S Stade de Soccer de Montréal, an indoor sports facility, Montreal-based architecture firm **Saucier + Perrotte** focused on keeping the design minimal and the light natural—a simple plan that won't interfere with play. The same can be said of their solution for a partition built to separate the playing field from fans in the bleachers and from a high-traffic corridor to the locker room. The barrier is a sturdy but unobtrusive mesh wall that filters natural light into the hallway, stops balls, and allows players entering the field to see the space and the fans ahead of them, says **Trevor Davies**, project architect. The transparent divider is comprised of four sliding wire mesh doors and a guardrail, all from material frequently specified as railing

infill. In this case, the 4,650 square feet of **Banker Wire M12Z-17** mesh provided safety, daylighting, and a clear view of the playing field. Angling the barrier also made it feel more like safety netting than a wall. “Instead of being perpendicular to the floor, they’re tilted slightly at five degrees,” says **Leslie Lok**, a Saucier + Perrotte associate. Despite the softer look, the mesh is robust, thanks to individual wires, which are crimped prior to being woven on a loom. In addition to the security that comes from physically separating the field from areas around it, the fencing’s edges make it a friendly choice for the type of audience-to-player interaction which occurs at games, says Harrison Horan, Banker Wire vice president. —*Ashleigh VanHouten*



SPORTS SEEN

Clockwise from top: The indoor field of Québec's Stade de Soccer de Montréal. The tilted partition seen from the corridor. The building's exterior.



LIGHT TAPE STEPGUARD EGRESS SYSTEM



MANUFACTURER: Light Tape

PERFORMANCE: Ideal for cinemas and theaters, the luminaires use 40% less power than traditional LEDs, stay cool, and are moisture-, vibration-, and impact-resistant.

PRICE RANGE: \$\$

APPLICATIONS: A dimmable, easy-to-install wayfinding tape for illumination with a bend radius that can wrap around a finger. Available in standard widths of 39 inches and 47 inches.

LIGHTTAPE.COM

(SNAP #221)



DESIGNRAIL SINGLE CORNER POST



MANUFACTURER: Feeney

PERFORMANCE: The post is made with more than 70% recycled content and offered in standard and custom heights for base mount, fascia, and fascia bracket applications.

PRICE RANGE: \$\$

APPLICATIONS: A durable and lightweight aluminum post designed to replace two posts at corners with one. It's engineered to withstand cable tension in both directions.

FEENEYINC.COM

(SNAP #222)



OTTO LOCK



MANUFACTURER: Otto

PERFORMANCE: The lock features an adjustable bolt and is available in three finishes—Stainless Steel, Mineral Black, and Natural Gold—with a protective PVD finish.

PRICE RANGE: \$\$\$

APPLICATIONS: The Otto digital lock removes the most vulnerable elements of a traditional lock—keys and keypads—while offering four operating options: manual, remote, entry code, or press to unlock with a Bluetooth-enabled smartphone.

MEETOTTO.COM

(SNAP #223)



GPX FIREFLOOR SYSTEM

MANUFACTURER: Safti First

PERFORMANCE: Ideal for fully-supported and butt-glazed floor applications and available for load spans up to 40', it is offered in a range of architectural finishes.

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

APPLICATIONS: This three-component flooring system made up of a walkable surface, fire-resistive glass, and structural steel framing grid, blocks smoke, flames, and radiant heat for up to two hours to give building occupants safe egress as well as contain fire spread.

SAFTI.COM

(SNAP #224)

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

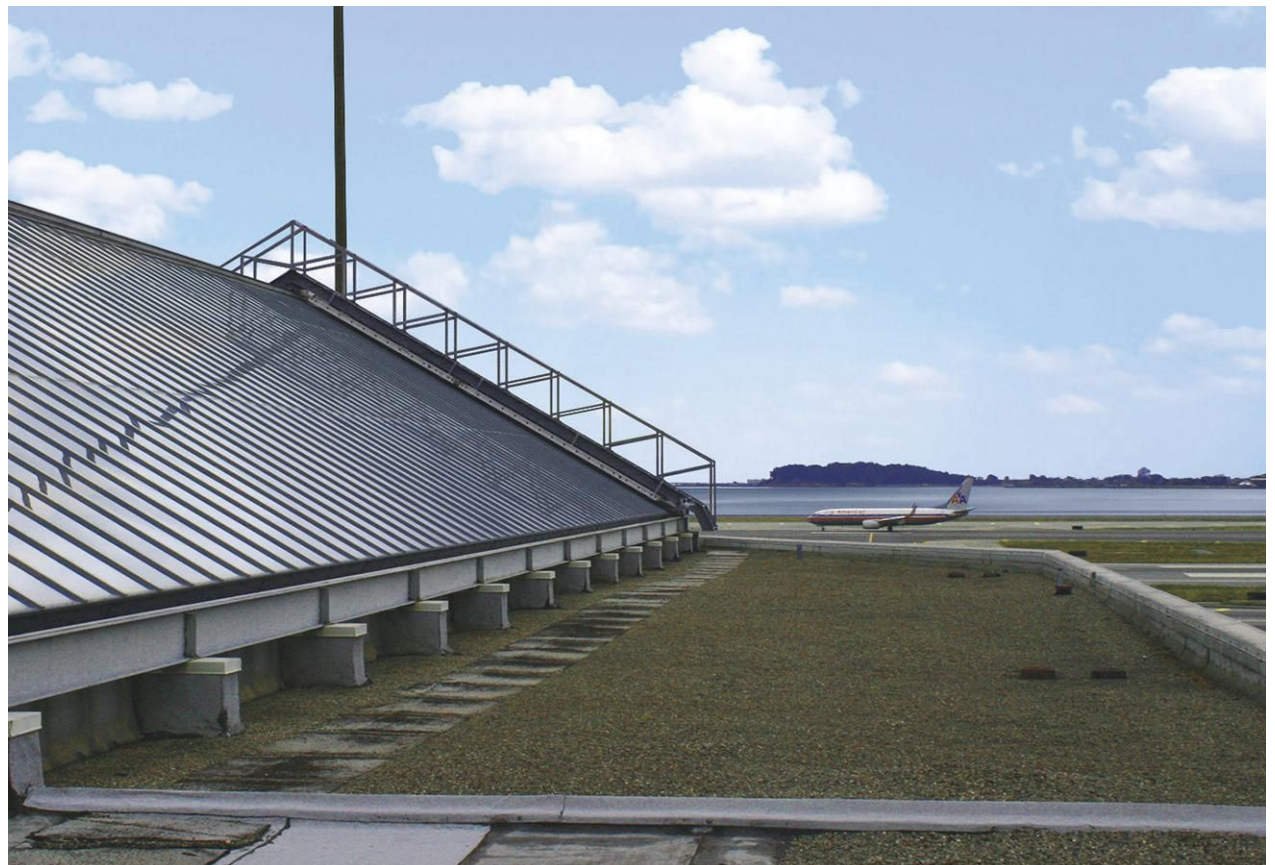


= ECO-FRIENDLY ATTRIBUTES

Up and Away

ALONGSIDE THE SKYLIGHT on the roof of the **San Francisco International Airport** is a 40-foot mounted retractable rolling aluminum stair. Unseen by most, its design is nevertheless important to the airport's safety. To maintain and clean the skylight, staff need safe, easy access. The solution was a custom-built ladder, which can slide along the length of the skylight and enable uniform (and reliable) access for cleaners.

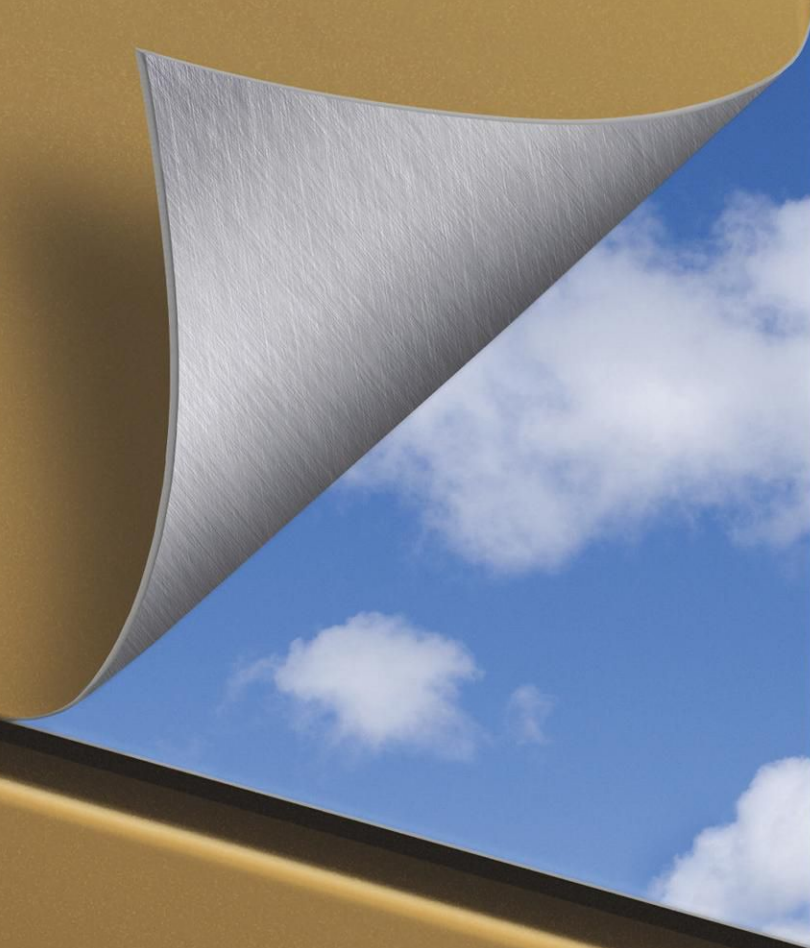
Harsh weather made a durable finish critical. The ladder's manufacturer, **O'Keeffe's**, has developed such site-specific custom designs for more than 75 years. (They were among the first to make a deeply serrated square rung for improved foot traction, for instance.) The fact that their ladders are also made from non-spark, high-strength aluminum for a lighter structure with a better strength-to-weight ratio above the skylight was a plus for specifiers. So was the fact that it requires less maintenance than steel. "The airport is near the bay and exposed to wind, water, and salt," says O'Keeffe's spokesperson **Diana San Diego**. "Our product is rust-proof and resists corrosion."—AVH



LADDER UP

A retractable rolling ladder gives cleaners access to the San Francisco International Airport's skylight.

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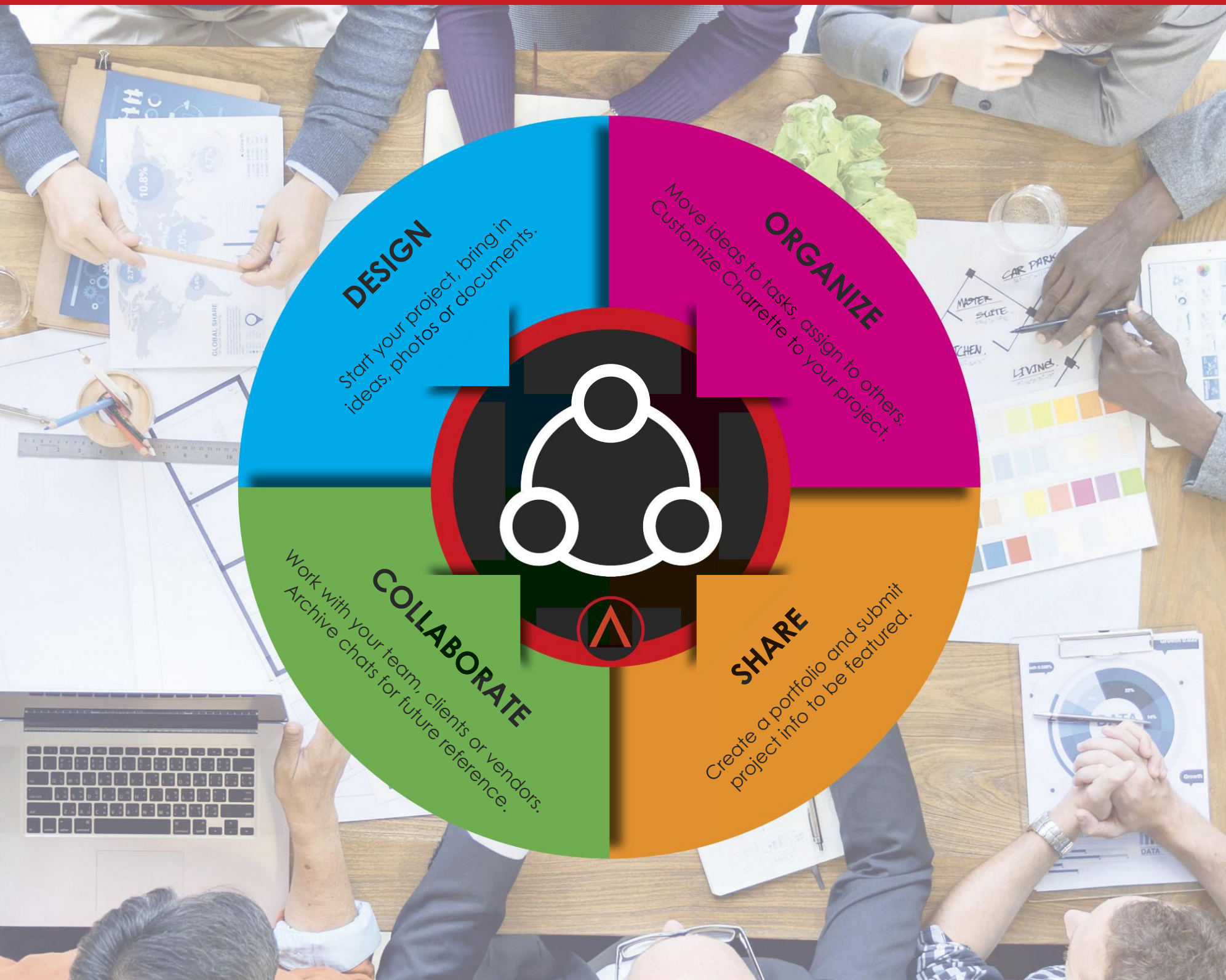
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SNAP 35

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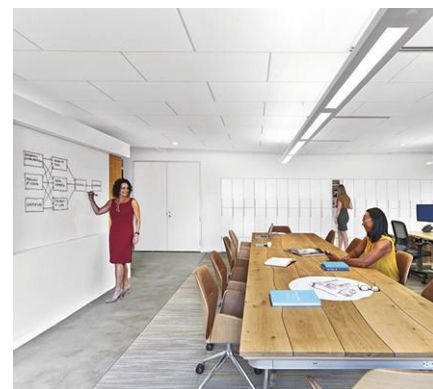
Sound Decisions

WHEN THE AMERICAN SOCIETY of Interior Designers (ASID) set out to develop its new 8,500-square-foot headquarters in Washington, D.C., controlling noise was as important to the new office as the layout. ASID called on a leading workplace expert, **Perkins+Will**, to help it craft an efficient and forward-looking office. “ASID knew, as an organization whose mission is to promote the importance of the interior design profession, that its space should operate as a living laboratory where innovative approaches to wellness, sustainability, and workplace could be tested,” says David Cordell, a Perkins+Will associate principal on the project team.

Noise-control strategies were among the attributes put to the test as acoustics can impact occupant comfort and productivity—a key factor in the WELL Building Standard, which ASID was striving for certification in. The team devised a plan that progresses from more public and group-oriented spaces at the front to a series of work zones toward the back, and the latter transitions from communal

tables and open-plan workstations to quieter focus and private-huddle rooms deeper within the space. Treatments to aid in sound control differ in various zones depending on the level of privacy required. For instance, the most acoustically isolated spaces, the huddle rooms, incorporate Eggers Industries solid-core wood doors with Zero International gaskets and drop seals. Furthermore, Perkins+Will boosted speech privacy by eliminating ducts, which can carry sound, between these rooms, and using sound masking in the corridor just outside. Throughout the rest of the spaces, sound is absorbed by upholstered wall panels, Shaw Contract and Interface carpet-tile flooring, and Armstrong ceiling tiles with NRC ratings from .80 to .95.

One need only look at the project’s LEED and WELL certifications to see that these strategies, along with the many others implemented, are effective: The rating systems are evidence- and performance-based, and ASID’s new headquarters is, it was announced in June, the first project in the world to achieve Platinum-level certifications for both. —*Sheila Kim*



PUBLIC-PRIVATE PARTNERSHIPS

ASID huddle rooms (top) are soundproofed thanks to floor and ceiling treatments. A central materials gallery (middle) had to be more open. They also needed communal work areas (above).



ACOUSTIC TILE PLANK



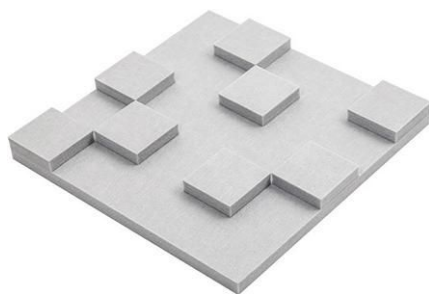
MANUFACTURER: BAUX

PERFORMANCE: Composed of the brand's special blend of wood wool, cement, and water, the product is environmentally friendly, moisture-regulating, fireproof, and low-emitting. Depending on installation, it provides an NRC of .40 to .60.

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

APPLICATIONS: These modular planks are available in 19 different colors, two dimensions, and can be cut to size as needed in the field, enabling them to be installed on most walls and ceilings.

BAUX.SE
(SNAP #225)



TOPO TILES



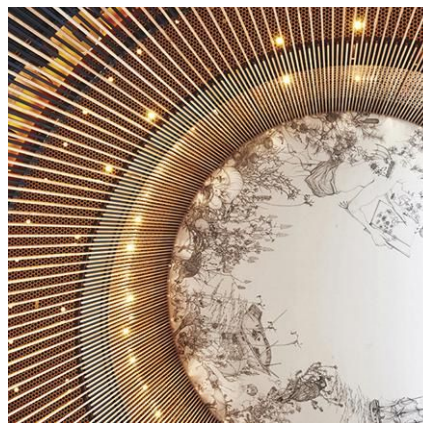
MANUFACTURER: Kirei

PERFORMANCE: Part of Kirei's EchoPanel series, Topo Tiles are made of felt that contains at least 60% recycled PET plastic and boasts an NRC rating of up to .85.

PRICE RANGE: \$\$

APPLICATIONS: Topo Tiles are modular and come in two different designs—Barcode and Pixel—that create depth on the walls.

KIREIUSA.COM
(SNAP #226)



ECOUSTIC TIMBER BLADES



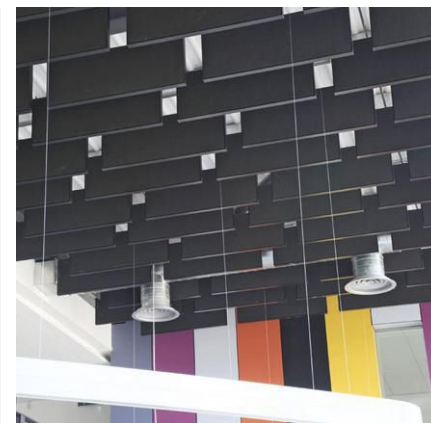
MANUFACTURER: Unika Vaev

PERFORMANCE: These solid-wood blades are PEFC and low-VOC certified and offer an NRC rating of .70 to 1.00. They can be cut in the field to accommodate sprinkler and other ceiling elements.

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

APPLICATIONS: Timber ceiling blades are available in five different profiles and in 24"-square or 24-x-48" formats. The wall series is available in a choice of four blade profiles mounted onto a 1-x-9' panel backed with black acoustic scrim.

UNIKAVAEV.COM
(SNAP #227)



MULTIFLEX FIBRAL Baffles BLACK



MANUFACTURER: Rockfon

PERFORMANCE: The baffles are Class A fire rated and composed of Rockfon stone wool, which is Greenguard Gold-certified for low VOCs and cleanable. Each baffle delivers anywhere from 1.9 to 9.5 Sabins.

PRICE RANGE: \$\$

APPLICATIONS: With a smooth black surface and three available widths—12, 18, or 24 inches—these baffles are well suited to most light industrial, workplace, museum, and other commercial settings with soaring ceilings.

ROCKFON.COM
(SNAP #228)

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



= ECO-FRIENDLY ATTRIBUTES

Hush Modes

USING TEXTILES TO DAMPEN SOUND is nothing new, but up until the last several years, acoustical fabrics were traditionally opaque and heavy in appearance, relegating them mostly to wall, ceiling, and divider applications. Then in 2011, textile extraordinaire **Annette Douglas** changed the game by inventing the first translucent fabric with acoustical properties, thus opening the floodgates for designers to experiment with noise-controlling, light-transmitting drapery. Now in 2017, a handful of major contract fabric mills have built on Douglas's breakthrough research to offer acoustical sheers in a wider range of colors, patterns, and openness.

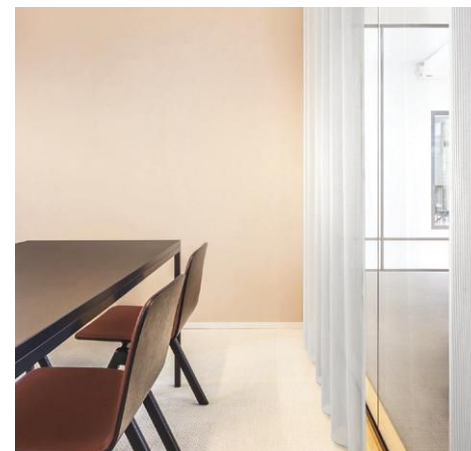
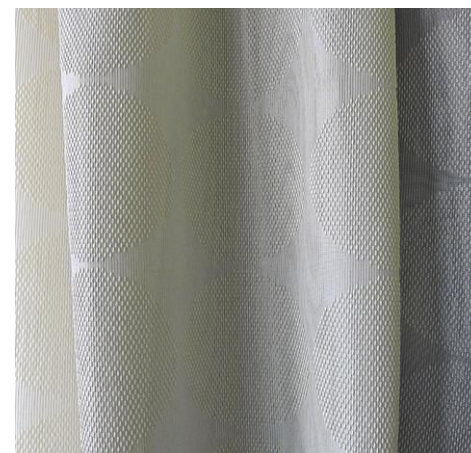
A company that embraced this discovery early on, **Carnegie** has to date released eight semi-transparent, sound-absorbing window coverings—from Alphacoustic to Zetacoustic—by the **Creation Baumann** brand. Constructed with 100 percent **Trevira CS polyester**, the textile line boasts NRC ratings from .25 to .60 depending on the style and how it's installed. Even more impressive, its Reflectacoustic not only allows light transmittance while absorbing sound, it also reduces solar heat gain.

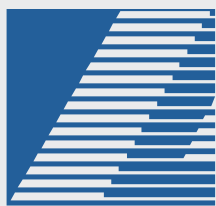
Another brand making waves in this arena is **DesignTex**, whose acoustic sheers have similar properties and appearance as Carnegie's, with the exception of Glace, which introduces a geometric pattern. Composed of 94 percent Trevira CS polyester and 6 percent polyester, it sports a tone-on-tone grid of large polka dots in five neutral colorways. And **Wolf-Gordon's** foray into acoustic sheers brings everything full circle: Its three curtain fabrics produced by **Vescom** are blended of Trevira CS polyester and polyester, have an NRC rating of .50 or .60, and were designed by Annette Douglas herself, the original inventor. —SK



LET THERE BE LIGHT

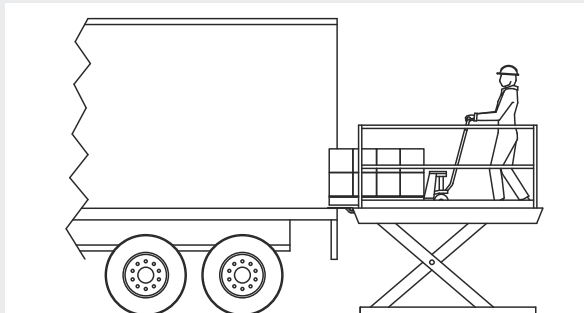
Above and bottom right: Wolf-Gordon's Formosa and Carmen acoustical fabrics. Top right, DesignTex's Glace.



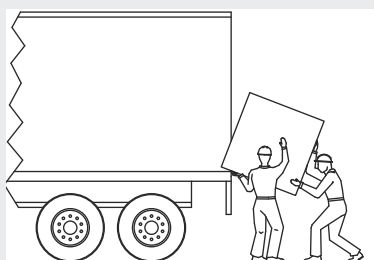


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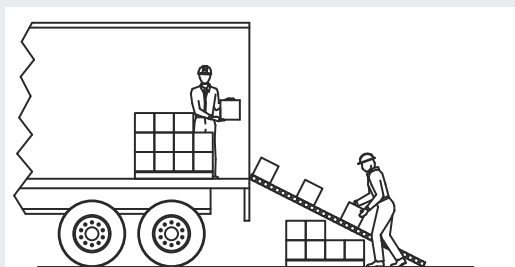
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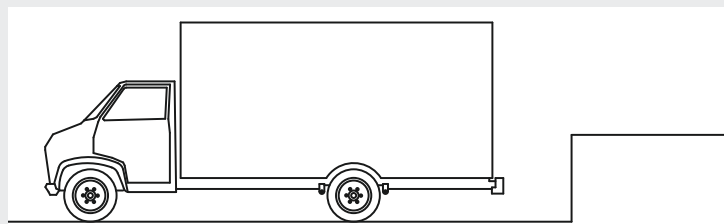


MANHANDLING LOADS CAN BE VERY DANGEROUS



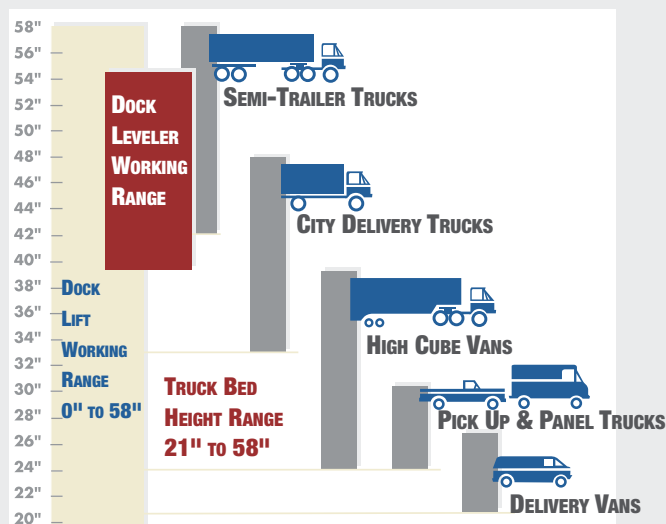
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Making Waves

WHEN ALLFORD HALL MONAGHAN MORRIS (AHMM) was tapped to design 61-67 Oxford Street, London, the brief was to replace several buildings of disparate architectural styles with a single, seven-story, mixed-use building that could meet the needs of three types of tenants.

To fulfill this brief, the architects designed a wavy glass wall for the exterior that would appear as a single element, but deliver different levels of visual and thermal comfort for the various tenants within.

The simple and effective solution lay in varying the building's glazing at different points—a fix which is not uncommon, but thoughtfully executed here. Twenty-foot-wide, single-glazed panels wrapping the ground and second levels, for example, allow for maximum visibility into retail spaces. Above, 10-foot-wide double glazing fronts offices; and five-foot bays of double glazing wrap the uppermost floors

occupied by one- and three-bedroom duplexes. Bedroom windows had to be inoperable to keep out street noise. The architects balanced that measure with south-facing elevations that have access to a terrace through sliding doors.

Meanwhile, the apartments' north- and east-facing elevations have floor-to-ceiling window walls to allow natural light into each space. To add a rainscreen without covering up the glazing, architects relegated it to the building's courtyard-facing side; they're made out of white terracotta panels and cover the entire elevation on all floors.

Together, these moves helped AHMM deploy the standout profile the retailer needs in this competitive shopping district. Says **AHMM director Simon Allford**, "As you walk past it, the building changes from reflective to solid mass to vitrine." — *Sharon R. Boone*



SHAPE SHIFTER

A street-level entry to the mixed-use building (top). The facade (above) was inspired by an Alvar Aalto vase.



TRANSLUCENT WALL SYSTEM



MANUFACTURER: Kalwall

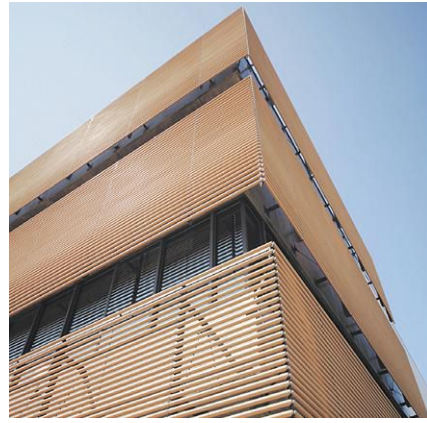
PERFORMANCE: These 4"-thick structural panels have a U value of 0.08/0.45 W/m²k and a solar gain coefficient of 0.04, while transmitting 5% of visible light.

PRICE RANGE: \$\$

APPLICATIONS: Lightweight and glare-free with superior thermal performance, these panels are durable and are available treated for graffiti/vandal resistance, making them an ideal choice for schools.

KALWALL.COM

(SNAP #229)



HYBRID ALUMINUM/WPC



MANUFACTURER: Geolam

PERFORMANCE: This wood polymer composite is made of recycled aluminum, resin, and wood and contains no chlorine, CFCs, PVCs, formaldehyde glues, or solvents. With an 8:1 ratio of wood to plastic, it's also three times lighter, four times more stable and eight times more rigid than alternative WPC profiles.

PRICE RANGE: \$\$

APPLICATIONS: Can be bent to different radii and directions, unlike wood, which can only be bent in the direction of the fiber.

EXTECHINC.COM/PRODUCTS/GEOLAM

(SNAP #230)



CROSSTRAK SLIDING DOORS



MANUFACTURER: Wausau

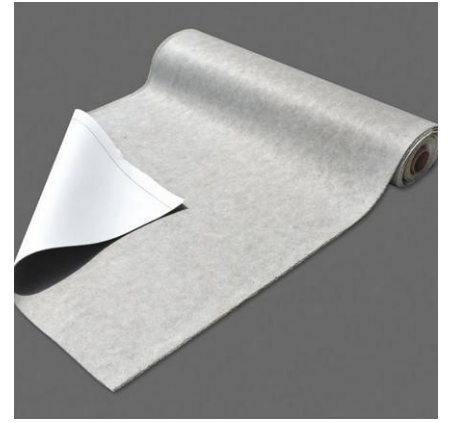
PERFORMANCE: Tested to withstand high-rise wind loads and achieve ratings up to AAMA AW-100 (Architectural Performance Class) as established by the North American Fenestration Standard, these panels span up to 8' x 10', feature a rigid aluminum frame 6" deep, insulating glass, and a polyamide thermal barrier for energy efficiency.

PRICE RANGE: \$\$

APPLICATIONS: Ideal for residential balconies. Options are available for use with Juliet balconies and outside-track doors.

WAUSAUWINDOW.COM

(SNAP #231)



CLAY-TITE WATERPROOFING MEMBRANE



MANUFACTURER: W.R. Meadows

PERFORMANCE: Dual-layer waterproofing made of virgin high-density polyethylene, sodium bentonite, and a protective layer of a non-woven polypropylene.

PRICE RANGE: \$\$

APPLICATIONS: Designed for use below grade, the membrane is equally effective in standard applications. Clay-Tite Bentonite can be used in both vertical and horizontal applications.

WRMEADOWS.COM

(SNAP #232)

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



= ECO-FRIENDLY ATTRIBUTES

Street Smart

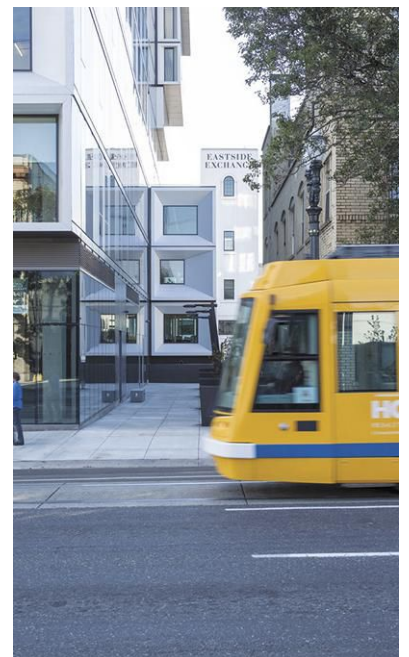
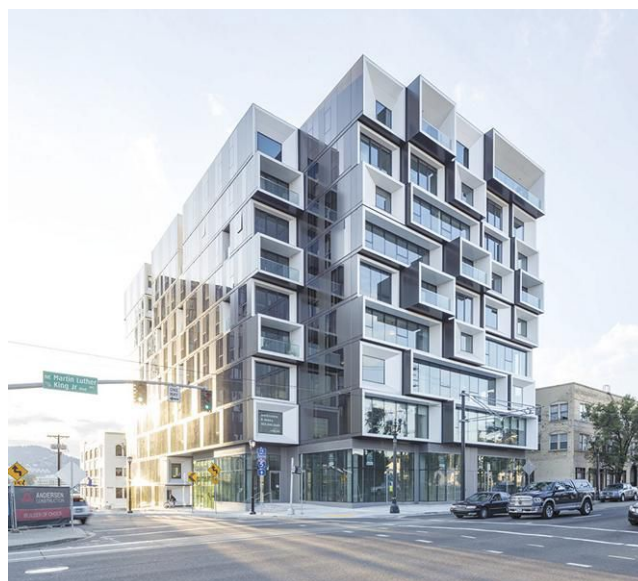
THE PLAYFUL PROFILE of a new mixed-used building in Portland, Ore., has a serious purpose. The site was curved at the southeast corner, and the projecting boxes allowed architects from local firm **Works Progress Architecture (W.P.A.)** to build on as much of the awkward footprint as possible without having to curve the facade itself. A resemblance to a honeycomb is also no coincidence, as boxes suggest the activities playing out within each space. "The facade is an articulation of the building's uses and a result of the site conditions," says project architect Lauren Page.

Completed in October 2016, the 10-story, 147,000-square-foot structure (tenants include retail, office, and residential clients) was also designed to interpret the look of the surrounding historic warehouses, which have been converted into creative workspaces. Like the maker community that has transformed the district, the new building's facade is "a collage of framed unique activities," Page says.

Together, deep and shallow projections define the commercial spaces where interiors are more communal and open. The projections become more dramatic at the top, which is occupied by more intimate residential spaces; the covered balconies for those units jut out the most. Comparatively, the north and south walls are contiguous swathes of **Wausau INvision HR** and **HRX** unitized curtainwall. Low-e, insulating glass the color of metal and coated with a polyamide barrier offers a thermal barrier with solar control. The architects had the window walls' aluminum panels and frames factory-fabricated as units to ensure the intended appearance and simplify their installation.

The building has earned LEED Gold certification through the U.S. Green Building Council. W.P.A. specified aluminum frames with an average of 74 percent recycled content (Linetec). Matching aluminum panels were supplied by **Firestone**.

Seasonal opportunities for natural ventilation help reduce tenants' reliance on HVAC systems. Operable windows offer fresh air, natural light and views. —SRB



BUILDING BLOCKS

Slate, a development in Portland, Ore., by Works Progress Architecture.



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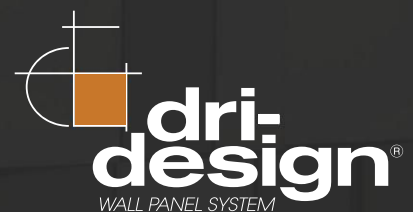


Ventura College Applied Science Center – Gensler

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DESIGN: Site

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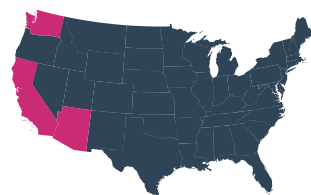
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SNAP 01

Up and Running

Five Years of Consistent Growth for Manufacturers in the West

BY J. MICHAEL WELTON



FOR MANUFACTURERS IN

Arizona, California, and Washington, 2012 was a turning point. Austerity triggered by the recession had begun to ease, and

growth and investments began to steadily increase.

"In 2012 we noticed an uptick, especially on the commercial side," says Matt Thomas, marketing manager at **NanaWall Systems** in Corte Madera, California. "A year later the residential side started falling into place."

At Seattle-based **LightArt**, a 3form company, a shift in strategy to add sales staff and a product line to its existing portfolio of custom work brought the company five consecutive years of growth. "We started to build in a simpler and more cost-effective way and made a product line that took off," says Ryan Smith, president and creative director.

Prospects for manufacturers in Arizona followed suit, but a little later. "It started to turn around about 2013 and 2014, then accelerated at all manufacturing companies across the state," says David Garafano, executive director of RevAZ, a program of the Arizona Commerce Authority.

LaCantina Doors in San Diego had survived the lean times by redesigning products and establishing new lines. "Immediately after the recession ended we were growing exponentially," says Lee Maughan, vice president and general manager.

Looking ahead, California's businesses seem poised for growth. In Red Bluff, **Sierra Pacific Windows** is expanding by an acquisition. "When we acquired Hurd Windows, we really started building momentum," says Stu Brown, director of products and services. Other Golden State manufacturers stand to benefit from an incentive related to buying equipment. "We took the sales and use tax down from 7.5 percent to 4.19 percent," says Sid Voorakkara, deputy director of external affairs for the governor's office of business and economic development. And legislators have extended the tax break through 2030. The future looks bright.

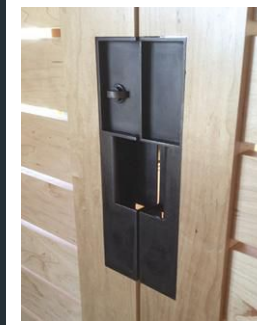
Arizona, California and Washington



1 MANUFACTURER: LightArt
LOCATION: Seattle
PRODUCTS: Lighting design and fabrication
FOUNDED: 2008
EMPLOYEES: 75
PRICE RANGE: \$-\$\$\$
LIGHTART.COM



3 MANUFACTURER: Sierra Pacific Windows
LOCATION: Red Bluff, CA
PRODUCTS: Aluminum-clad and all-wood windows and doors; architectural wall systems
FOUNDED: 1990
EMPLOYEES: 5,000
PRICE RANGE: \$\$
SIERRAPACIFICWINDOWS.COM



2 MANUFACTURER: 12th Avenue Iron
LOCATION: Seattle
PRODUCTS: Rolling furniture, pendant lighting, and door hardware
FOUNDED: 2005
EMPLOYEES: 12
PRICE RANGE: \$\$
12THAVENUEIRON.COM



4 MANUFACTURER: NanaWall Systems
LOCATION: Corte Madera, CA
PRODUCTS: Operable, sliding, glass walls and bi-fold door systems
FOUNDED: 1986 **EMPLOYEES:** 100
PRICE RANGE: \$-\$\$\$ **NANAWALL.COM**



5 MANUFACTURER: Tournesol Siteworks
LOCATION: Union City, CA
PRODUCTS: Fiberglass planters
FOUNDED: 1979 **EMPLOYEES:** 140
PRICE RANGE: \$\$ **TOURNESOLSITWORKS.COM**



6 **MANUFACTURER:** C.R. Laurence Co.
LOCATION: Los Angeles
PRODUCTS: All-glass entrance systems, door rails, panic devices, glass railing systems, storefronts and curtain walls, door closers, bi-folding and sliding doors, balanced doors, cladding, sunshades, transaction windows, foodservice hardware and security screens
FOUNDED: 1961 **EMPLOYEES:** 1,700
PRICE RANGE: \$-\$\$\$ **CRLAURENCE.COM**



7 **MANUFACTURER:** Western Window Systems
LOCATION: Phoenix
PRODUCTS: Door systems and windows
FOUNDED: 1959 **EMPLOYEES:** 300
PRICE RANGE: \$-\$\$\$ **WESTERNWINDOWSYSTEMS.COM**



8 **MANUFACTURER:** Bonded Logic
LOCATION: Chandler, AZ
PRODUCTS: Denim wall insulation, radiant barriers, acoustical and shipping products
FOUNDED: 1972
EMPLOYEES: 100+
PRICE RANGE: \$\$ **BONDEDLOGIC.COM**

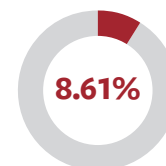


SNAPSHOTS

ARIZONA

Manufacturing output in the Grand Canyon State is

\$24 BILLION



The percentage its manufacturing sector contributes to the state economy.

SOURCE: ARIZONA EXPORT FACTS, CENTER FOR MANUFACTURING RESEARCH, 2017; AZCENTRAL.COM

CALIFORNIA

More than

30,000

manufacturers are based here, employing more than **1.4 million** people.

The Golden State has the world's sixth largest economy—bigger than the economies of Russia, Italy, India, and Canada.



SOURCE: CALIFORNIA MANUFACTURERS & TECHNOLOGY ASSOCIATION; CALIFORNIA MANUFACTURING TECHNOLOGY CONSULTING; COMMITTEE ON JOBS, ECONOMIC DEVELOPMENT, AND THE ECONOMY

WASHINGTON

Gross income from Washington's forest products businesses totals approximately

\$28 BILLION
a year.

More than **1,700 forest-products businesses** employ 105,000 workers in the Evergreen State.



Forest product workers earn nearly

\$5 BILLION
in wages annually.

SOURCE: WASHINGTON STATE DEPARTMENT OF COMMERCE



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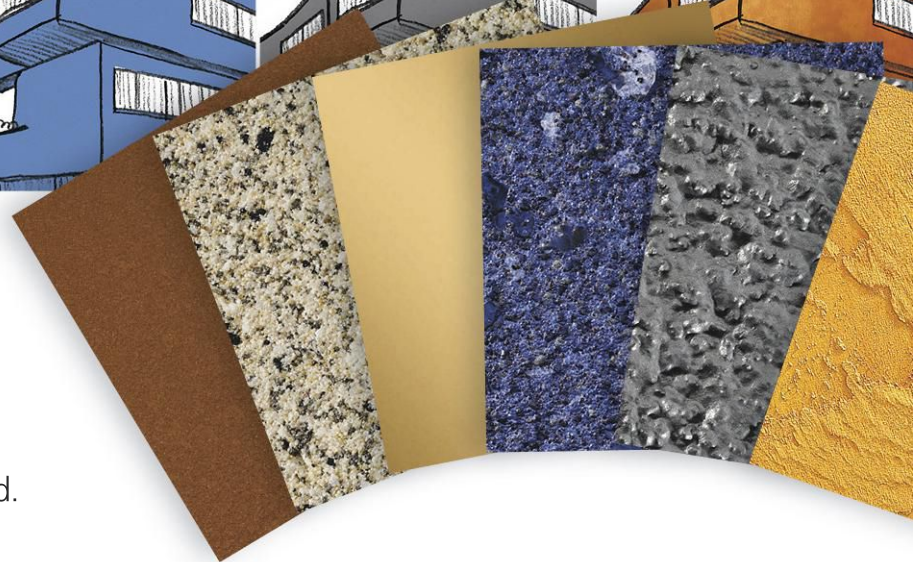
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Teaching Tool

The net zero building for a Virginia middle school informs a green curriculum.

BY PILAR VILADAS

WHEN ARLINGTON PUBLIC SCHOOLS (APS) in Virginia approached Charlottesville firm VMDO Architects to build a new elementary school for its expanding student population, the goal was a place “that integrated learning with sustainability,” recalls John C. Chadwick, the district’s assistant superintendent of facilities and operations.

VMDO’s design produced an innovative teaching environment, which not only integrates sustainability into the curriculum but also offers the school’s 650 pre-K through 5th-grade students lively, interactive learning and play spaces. The Discovery Elementary School, which opened in 2015, is the largest net-zero-energy school in the country. This year it was the recipient of the AIA Committee on the Environment’s Top Ten award, and designated a Green Ribbon School by the U.S. Department of Education.

The approximately 98,000-square-foot building features a tiered design that is set into a hillside to minimize

its scale. Despite its considerable size, exterior building materials (brick, stone, and colored insulated panels and sun shades) appear to harmonize with the surrounding residential neighborhood, and the building’s energy-saving features (among them 1,710 roof-mounted solar panels, a geothermal well field, 100-percent LED lighting, solar orientation and high-thermal-mass exterior walls) all contribute to its low Energy Use Intensity (EUI).

Discovery was designed for an EUI of 23kBtu per square foot, per year—one-third of the energy use of a typical elementary school in the area—but it actually performs at 18, Chadwick says. And while other elementary schools in Arlington each spend about \$110,000 a year in energy costs, this one spends about \$12,000 annually.

Sunlight is an integral part of the learning experience. A roof canopy with a cedar soffit runs the length



SUN DAYS

Colorful insulated panels punctuate the brick cladding (top) and define windows and doors. An oculus built into the main entry’s roof awning (above) channels sunlight onto the ground creating a solar calendar.



HIGHER LEARNING

The rooftop's lab uses functioning panels to integrate sustainable practices into lessons on energy use (above). Flexible furnishings such as height-adjustable tables and chairs (far left) allow students to migrate between informal learning stations. A slide instead of stairs (left) and bean bags keep the environment fun.

of the school's southern (street) side, serving as its "front porch." A rooftop solar lab enables students to conduct real-time experiments, the data from which can be tracked via the building's dashboard, which is accessible to anyone with a wireless device. Meanwhile, a part of the roof that extends out over the main entrance with an oculus turns the entry plaza into a solar calendar. A video made by the school on September 22nd of last year shows the oculus tracing the autumnal equinox.

The result of such interactive architecture is that it encourages behavior on the part of students and teachers that fosters sustainability. (Another of the school's videos offers a time-lapse look at the dashboard during the August 21st solar eclipse.)

The school's interiors encourage flexibility and informality, with foldable partitions, retractable garage doors, and furnishings that include bean bags, height-adjustable tables and chairs, reading steps, and a two-story slide. The "Hedge," which encloses and defines the kindergarten's indoor common space, or "Backyard," is punctuated with inset semicircular and round nooks for reading, discussion, and hanging out. But perhaps the most intriguing aspect of the school's design is the way that its ingenious organization and wayfinding reflect the expanding curriculum of each successive grade level.

Wyck Knox, a VMDO principal and the project architect, explains that astro-

naut John Glenn figured prominently in the concept. Glenn lived next door to the school's site when he was the first American to orbit the earth in 1962; he became the oldest person to fly in space when he was on the crew of the space shuttle Discover in 1998. Chosen by the students, the school's name is a partial tribute to the space pioneer and U.S. senator. But just as important, Knox adds, is that Glenn was an inspiration for the school's "expanding world" concept: Students start out in the first-floor kindergarten rooms as Backyard Adventurers, with graphics that refer to trees and animals (nooks are named "Groundhog Burrow" or "Eagle Aerie"). Then, in the first and second grades (also located on the first floor), learners progress through the themes of forest and ocean to the atmosphere, solar system- and galaxy-themed areas for third, fourth, and fifth graders—the last are called Galaxy Voyagers—on the second floor. Knox refers to the concept as "zooming out," a reference to Charles and Ray Eames's film *Powers of Ten*. The result, Knox says, is that "sustainability and learning feed off each other in a really nice way."

Chadwick is equally enthusiastic. "We've achieved more integration of teaching, learning, design and sustainability than I had ever imagined," he says. "In the best hands, every student, teacher and parent understands how their actions contribute—you're creating a culture change, and the kids, especially, understand." ■

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SNAP 45



A LIGHT LOAD

The six-story central atrium inside the Interdisciplinary Science and Engineering Complex (ISEC) at Northeastern University.

Command Performance

The latest LEDs, coupled with sophisticated sensors and wireless technologies, are changing the role of lighting in the built environment.

BY LINDA C. LENTZ AND JOANN GONCHAR, AIA

THE ABILITY TO CONTROL electric light in a user-friendly and visually seamless manner became a viable design option for public, commercial, and residential spaces more than 50 years ago with Joel Spira's invention of the solid-state electronic dimmer in the early 1960s. Initially developed to enhance homes and other interior environments, architectural lighting controls have since

developed into systems that are used to create various scenes for retail and hospitality venues, provide security, and conserve energy usage and costs. Today, largely enabled by the capabilities of advanced, high-quality LEDs and digital technologies, lighting controls are being transformed into critical networks that not only effectively illuminate the spaces within and

around buildings, they enhance the way these environments are used and inhabited.

In the half century that followed the introduction of a dimmer small enough to fit into a standard electrical wall box by Spira, the late founder of Lutron, the industry has evolved to keep up with myriad innovations and user preferences. Basic technologies such as 0–10 volt dimming—a protocol as straightforward

CEU ALERT

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as its name, developed first for stage lighting, then fluorescent lamps, and now LEDs—have been supplemented with more robust wired protocols such as DALI (Digital Addressable Lighting Interface) and DMX (Digital Multiplex), both encompassing products from different manufacturers that work together within each distinct convention. According to Arup lighting designer Jake Wayne, DALI is the workhorse that controls most of the typical white architectural lighting in buildings. It's a standard protocol whereby components such as LED drivers can be controlled

individually, allowing for the fine-tuning of a particular fixture or small group of fixtures instead of a vast zone. DMX (a digital-communication network created for theatrical lighting) facilitates dynamic color-changing schemes. DMX is also great for new tunable-white LEDs, which are growing in popularity. "So we might start to see more commingling of these two protocols in the architectural environment," says Wayne.

"Typically on jobs, we end up with two or three control typologies just to address all of the requirements of a space," Wayne explains. This scenario

NORTHEASTERN UNIVERSITY INTERDISCIPLINARY SCIENCE AND ENGINEERING COMPLEX

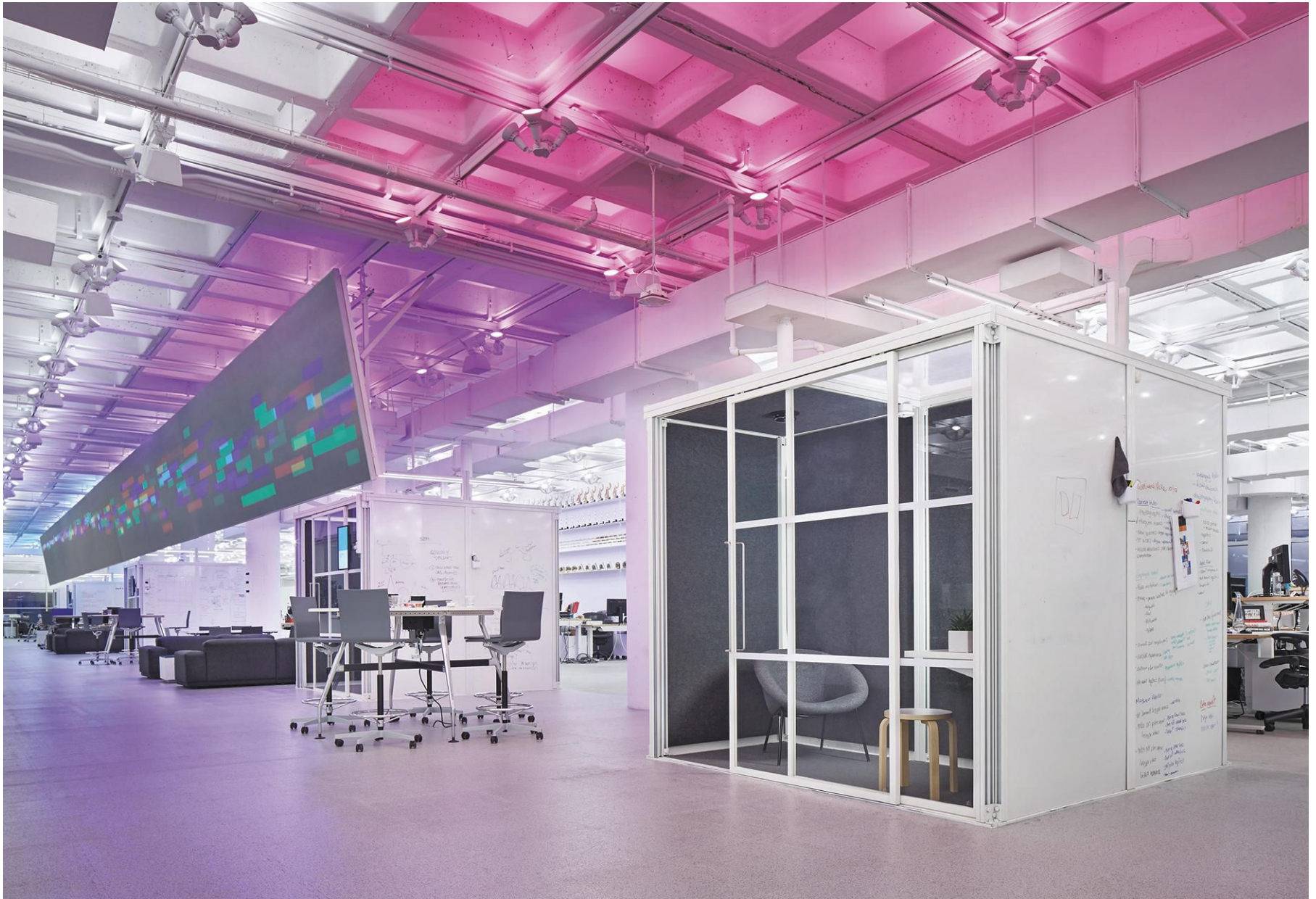
BOSTON Payette | Arup

When architects from Payette developed the concept for the Interdisciplinary Science and Engineering Complex (ISEC) at Northeastern University, they conceived its central atrium (opposite page) as being the building's centerpiece, as well as being a student hub for the expanding campus. They envisioned a dramatic and lively space topped by a generous skylight. But as they developed and refined the scheme, the initial mostly glass roof was transformed into one with three discrete cone-shaped apertures. The aim of this "right-sizing" process, according to Arup lighting designer Jake Wayne, was to eliminate glare in the atrium and ensure quality daylight in adjacent spaces—namely laboratory write-up areas (above). These look onto the atrium from multiple levels through a glass wall. For those times when daylight is not sufficient, the write-up spaces are illuminated with Peerless linear pendants that bounce light off the ceiling. The atrium also has supplemental LED lighting, including Selux spotlights tucked into balconies at its perimeter and Lumenpulse RGBW linear projectors concealed in coves at the base of the skylights. The latter fixture provides a soft glow so that the skylights are always legible, says Kevin Sullivan, Payette president. Although the building's fixtures are wired, its Lutron Quantum control system's components, such as occupancy sensors, photo sensors, and switches, are for the most part wireless, a characteristic that streamlined their installation, says Wayne.



CONTINUING EDUCATION: LIGHTING CONTROLS

FROM ARCHITECTURAL RECORD



R/GA OFFICE

NEW YORK Foster + Partners | Tillotson Design Associates

Responding to the client's request for a flexible space, lighting designer Suzan Tillotson and her team devised a dynamic scheme meant to engage the New York employees of the advertising agency R/GA, as well as to foster their creativity and well-being. The design revolves around an indirect lighting strategy using 10,000 RGBW, PAR38 LED lamps bundled into groups of four sockets. Affixed to a unistrut grid below the existing waffle-slab ceiling—painted white for reflectivity—these custom industrial-style fixtures are distributed at regular intervals throughout the two levels of the 134,000-square-foot space (in both open and enclosed areas), then configured to uplight each ceiling coffer. The lamps, by Ketra, have a high color-rendering index (CRI) and wireless connectivity through which they can be programmed to change color, or color temperature in the white spectrum. Taking advantage of these capabilities, the lighting designers created a circadian-rhythm program, which begins at 2700K in the morning, subtly shifts to 4000K at midday, and gradually returns to a warmer color temperature in the evening. Staff can override this system easily with a tablet to incorporate color or alternate scenes for events. A Zigbee-compliant device from Ketra enables the system to communicate wirelessly with a Crestron DMX master control that also ties into the window shades and a/v equipment—simplifying the operation of all three for the office manager.



PHOTOGRAPHY © JOHN MUGGENBORG



requires a central network system that has the built-in intelligence and programming capabilities to manage them. For example, Arup's recently completed Boston office, where Wayne is based, is a "working lab" installed with several different control typologies. To manage them, the lighting design team is using a central system that controls all the protocols. "Think of it as a server that detects a group of DALI fixtures and knows how to talk to those through the DALI protocol, then recognizes the 0–10 volt fixtures and talks to those through the correct language," he adds. But once it is implemented and commissioned, all that a facility manager sees is a clean floor-plan graphic through which one can view and modify the scheme. The actual process happens behind the scenes.

These open protocols, and the gateway solutions that integrate methodologies without a hitch, are essential for the adoption of new and existing products and technologies, says Joseph Bokelman, chairman of the Controls Protocols Committee for the Illuminating Engineering Society (IES). Many clients are risk-averse, so "the goal is to remove the complexity." In this regard, connected wireless systems, which eliminate the need for extensive electrical work, are gaining ground with lighting designers and architects for retrofit installations and multi-tenant buildings, as well as for open

office and retail applications where the lighting must adapt to variable spatial configurations.

Like the wired versions, open wireless protocols provide a common language to connect the devices of different manufacturers adopting a particular convention. One such standard, developed by Zigbee, has an alliance of 400 members, including manufacturers of luminaires, switches, and gateways, whose products communicate through low-frequency radio technology. Using a MESH network, the Zigbee system has self-healing properties, so if a route between any two devices is interrupted, it is reconfigured, making this a suitable technology for large and complex programs. "There is really no limit," says Musa Unmehopa, a Philips Lighting senior director and Zigbee vice-chairman of the board. "You can build sub-networks and, in this modular fashion, grow or shrink a network to fit a particular building." The Aria Las Vegas hotel is outfitted with 100,000 Zigbee nodes, Unmehopa says. Each guest room is its own network and connects to a central system. "This is how you gradually build up the infrastructure."

At the same time that the lighting industry is moving toward increasingly integrated and interoperable systems, a new layer of luminaire connectivity is poised to have an effect on the built

SWEDISH MEDICAL CENTER BEHAVIORAL HEALTH UNIT

SEATTLE ZGF Architects

For a new 22-bed behavioral-health unit on two floors of an existing hospital, designers from ZGF wanted to imbue the two central gathering areas—which have no access to daylight—with a natural sense of the passage of time. In order to accomplish this, they developed an illumination scheme based on circadian-rhythm research conducted by the Lighting Research Center at Rensselaer Polytechnic Institute. The lighting subtly changes, with a bright, cool light in the morning that gradually becomes warmer over the course of the day. The aim was not only to provide a comfortable environment, but also physiological benefits for patients who are sometimes admitted for weeks at a time and spend most of their waking hours in these spaces, explains Ed Clark, a ZGF sustainable strategist. To create an installation that would reinforce patients' natural wake-sleep cycles, they specified high-CRI tunable-white LED downlights from USAI. And to facilitate the desired modifications in color temperature and intensity, they paired the downlights with a 0–10 volt dimming system. For a cove surrounding the main raised area of the ceiling, they chose double-diode linear LEDs (one orange and the other blue) and a separate DMX control system. When first installed, the fades between colors of the downlights were too abrupt, making the environment "like a disco," jokes Clark. But after reprogramming, the transitions are now gradual and nearly imperceptible, he says.



WIMBLEDON CENTRE COURT

LONDON *Populous | MEEngineers*

When the U.K.'s premier tennis venue recently replaced the High-Intensity Discharge (HID) lamps at Centre Court with advanced LED sports lighting, the owner, All England Lawn Tennis Club (AELTC), tasked ME Engineers to revise the controls, which had been installed in 2009 along with the HID lamps and the stadium's retractable roof. This was to assure compatibility between the new fixtures and controls and to take advantage of the latest LED and control technologies. To do this, the lighting designers upgraded the software for the existing Quantum system by Lutron, which had been providing complete management for all of the lighting elements and such energy-management components as motorized shades. The updated system, which includes a DMX controller that communicates with every fixture individually, can be accessed via PC or remote keypads with an improved graphical interface. It is now possible to more finely tune the lighting during a game, eliminating potential glare (distracting to both players and spectators) and providing the appropriate illumination for television cameras. Custom programs consist of a championship scene as well as additional adjustable settings for the remainder of the year in areas of the building shown in tours of the facility. This system also integrates with the operable roof controls and is programmed to automatically turn sports and seating lights on and off depending on whether the roof is open or closed, although a manual override is available. Outside of the championship, a time clock and remote keypads control the house lighting for the tours and for staff. The manufacturer maintains that this lighting retrofit has been so successful that AELTC is currently considering a similar solution for its Court No. 1.

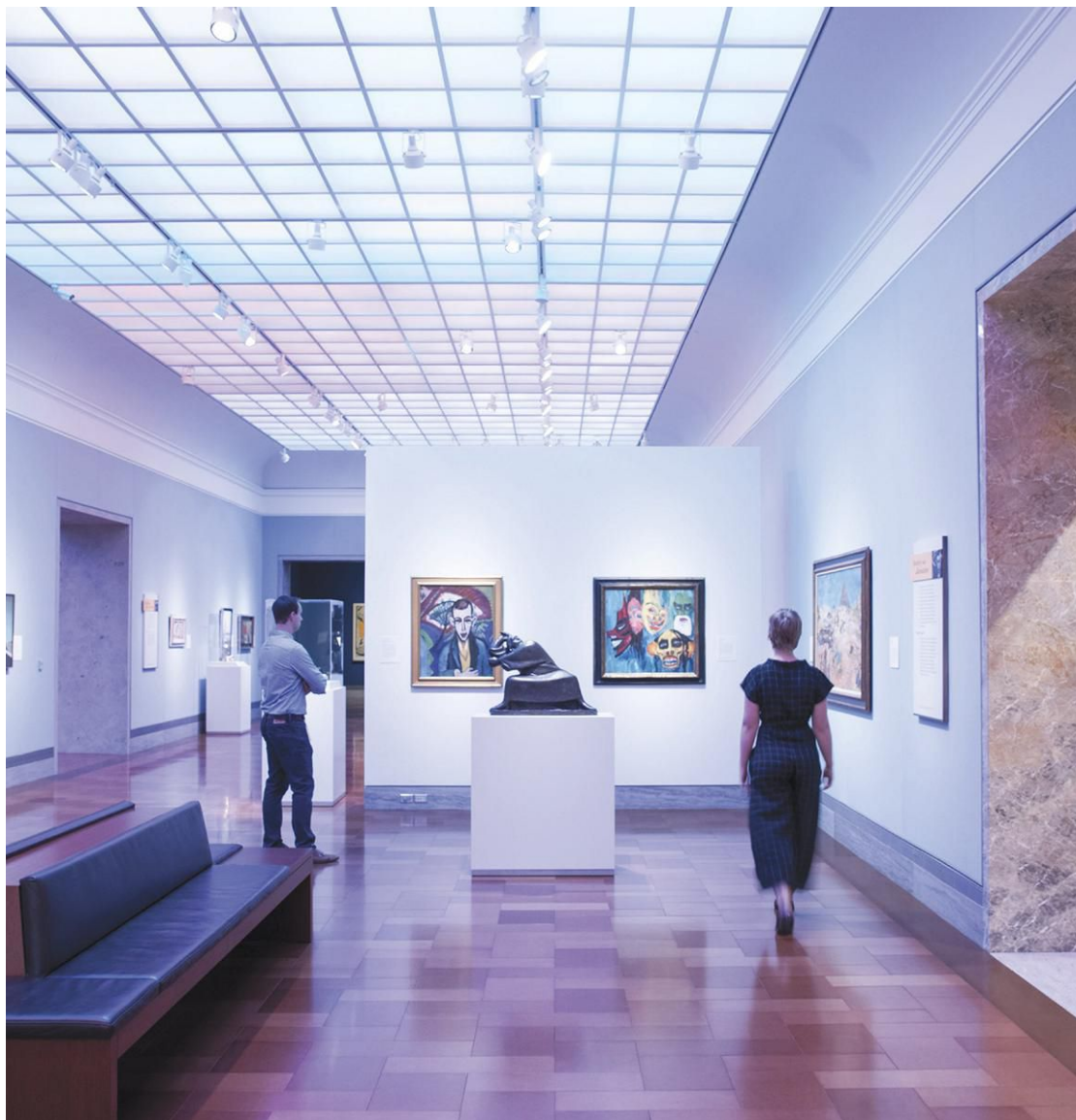
environment. As part of the growing phenomenon commonly referred to as the Internet of Things (IoT), manufacturers are beginning to embed light fixtures and even LED modules with smart sensors that measure conditions such as light levels, occupancy, temperature, and energy use. These communicate wirelessly and respond to distant and local commands, delivering data directly to facility managers as well as individuals at worksta-

tions, visitors to museums, even consumers at supermarkets and big-box stores.

These IoT capabilities present new possibilities for outdoor lighting systems at the urban scale. Manufacturers such as Philips and Current by GE offer connected lighting that goes well beyond turning streetlamps on or off. For instance, Philips is working with the city of Los Angeles and has outfitted its light poles with sensors

that allow municipal managers to track energy use, determine if a particular lamp needs maintenance, and monitor grid health by detecting power fluctuations or surges. Some of the functionality has little to do with illumination: in September, the company completed a pilot installation of acoustic-sensing modules on 30 of L.A.'s streetlights. Susanne Seitingner, leader of Philips's Global Smart Cities division, explains that the sensors process, map, and analyze peaks and averages rather than record sound. Some of the potential benefits are faster emergency response times after a car crash, or the ability to monitor noise pollution.

Many major LED manufacturers have already developed or are working on similarly "intelligent" lighting for building interiors, where a network of lighting fixtures can serve as the backbone for an indoor positioning system (IPS). Such networks, which pick up where global positioning systems (GPS) leave off, are being used in a number of different building types, including chain retailers like Walgreens, Toys "R" Us, and Target. IPS takes advantage of the ubiquity of lighting within stores, and can work in a number of ways. But often it communicates with shoppers' smartphones via Bluetooth beacons integrated into the LED lamps or with visible light communication (VLC), which capitalizes on LEDs' inherent flicker. These positioning technologies can help customers navigate the aisles and locate specific products



NELSON-ATKINS MUSEUM OF ART BLOCH GALLERIES RENOVATION

KANSAS CITY, MISSOURI BNIM | Renfro Design Group

To create new galleries at the Nelson-Atkins Museum of Art to showcase 29 Impressionist and Post-Impressionist works from the Marion and Henry Bloch collection, BNIM reconfigured 9,000 square feet within the institution's historic Beaux-Arts building, opening up sight lines and adding more than 200 linear feet of wall space. The architects also took advantage of an important element of the 1930s structure: its laylights, above which the original architects created a 5-foot-tall attic space for installation of the lighting. "The building was thoughtfully configured for the lighting and its maintenance," says lighting designer Richard Renfro. He and his team replaced the existing lighting above the laylights, which were modified to correspond to the new floor plan with Ketra G2 linear fixtures. These provide ambient illumination throughout the galleries. The interior of the attic space is painted white, enhancing reflectivity as well as the ceiling's new slumped glass, so that it appears to emit a soft glow. Tracks installed below the laylight hold Ketra PAR38 lamps, to project the desired light onto the individual pieces of art. All the lamps are RGBW LED, wireless, color- and white-tunable, and individually addressable with the manufacturer's own MESH control system. This enables the museum staff to change color temperature and intensity according to a curator's objectives. Lighting for the whole suite of galleries can be managed. Alternatively, each lamp can be "adjusted and adapted on the fly" from a handheld device, for special events and educational programs, says Jake Ludemann, the museum's lighting designer. For instance, during a recent presentation for a group of children, he was able to approximate how the collection's *Water Lilies* painting by Monet would appear over the course of a day in natural light, from sunrise to sunset, within a span of 15 minutes. Says Renfro, "The technology is allowing museum visitors to see art in a new way."

and allow retailers to track inventory, notify customers of special promotions, and understand which areas of a store are most popular. The ultimate goal is, of course, to increase sales.

While sophisticated controls can certainly help an owner's bottom line, architects and lighting professionals increasingly see such systems as a means of enhancing the quality of a space and the occupants' experience of it. One example is the use of tunable-white LEDs. These lamps, which have color temperatures that range from warm to cool, can help regulate the body's circadian rhythm (its internal clock), making people feel more alert during the day and sleep more soundly at night. The success of such lighting schemes depends on the amount and duration of exposure, color, and especially timing, points out Mariana Figueiro, the program director of the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute in Troy, New York. "For the circadian system, the same light given at the wrong time will have negative effects, while at the right time it will be beneficial," she explains. "That's where advanced controls can play a major role."

Figueiro sees the greatest potential for circadian applications in facilities that operate around the clock such as hospitals, nursing homes, and prisons. But these applications are also finding their way into the work-

place. Even the General Services Administration (GSA), which owns and leases more than 376.9 million square feet in 9,600 buildings, could adopt circadian lighting. With the help of the LRC, the agency has been studying the effects of both daylight and electric illumination on circadian rhythms in a variety of its buildings. The investigations, which combined photometric measurements with occupant questionnaires, attempt to quantify the relationship between certain kinds of light and alertness, mood, and sleep quality. The project could shape the way the agency designs and renovates buildings. "The goal is to make evidence-based changes to our [construction] guidance documents," says Bryan Stevenson, a GSA high-performance-building program advisor.

If owners with holdings as extensive as the GSA's were to embrace the capabilities of the latest lamp technologies and harness the potential of intelligent systems, the use of connected controls and their integration into the still nascent Internet of Things could soon become mainstream, say industry sources. "As long as we get the level of technology right, drive down the price, and get people to accept its security and reliability," says Bokelman of IES, "we will create a platform that will carry us into the future—one that won't be made irrelevant because it's 'just a light.'" ■

Continuing Education

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Learning Objectives

- 1 Identify commonly used lighting protocols, discuss their origins and their appropriate applications.
- 2 Explain how lighting and lighting controls can be designed to enhance building occupants' circadian rhythms.
- 3 Describe some of the capabilities and potential uses of so-called "smart" connected lighting systems.
- 4 Discuss efforts to make the latest generation of lighting-system components interoperable.

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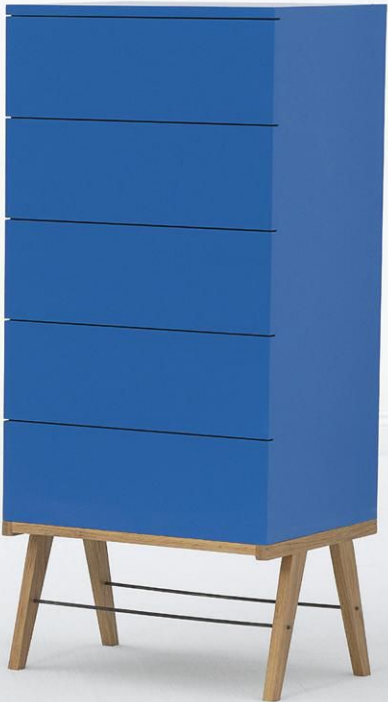
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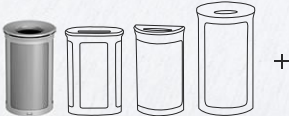
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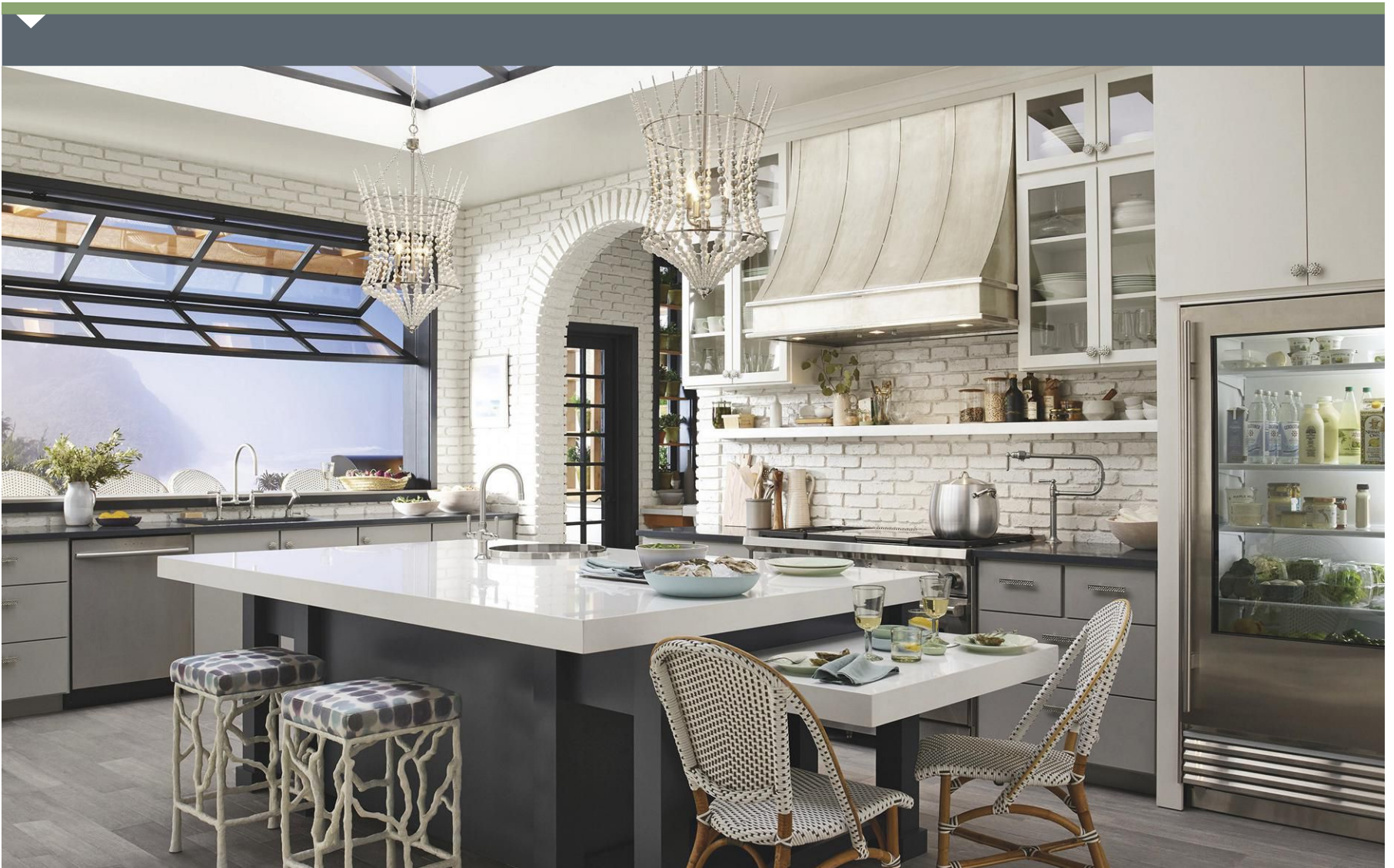
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Designer Cheryl Kees Clendenon built practical zones into this “greenhouse kitchen” by installing four different surfaces from Silestone. The company’s Charcoal Soapstone and Calacatta Gold from the Silestone Eternal Collection, Silestone Iconic White, and Dekton Makai, all help define areas for such tasks as dining, food prep, and serving. (SNAP #233)

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Doors, windows, storefronts, entrances, skylights, framing systems, glazed curtain walls, and translucent wall and roof assemblies.

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A broad range of electrical and tech goods, among them audiovisual, multimedia, and control systems. Also covers elevators and appliances.

Interior Finishes, Furnishings

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Products for finishing and furnishing building interiors, including flooring, wallcoverings, ceilings, furniture, shelving systems, and window treatments.

Landscaping, Sitework

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Exterior improvement products, such as site furniture, bollards, pavers, landscape edging, and exterior green walls. Also includes gazebos and other site structures.

Materials

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Basic products used in construction, among them lumber, concrete, and masonry units. Includes paint, coatings, and structural materials and fittings.

Mechanical Systems, HVAC, Plumbing

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Products for conditioning, moving, holding, and controlling air, water, and other fluids. Examples include fans, ventilators, and boilers.

Roofing, Siding, Thermal & Moisture Protection

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Goods for constructing the building envelope, such as exterior wall and roof panels, sheathing, thermal insulation, and waterproofing.

Specialty Products

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Products for special applications or that apply to more than one category, such as gates, ladders, columns, signage, awnings, canopies, and railing systems.

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- Commercial

Performance Data

- Lightweight, No Floor Track & FSC Certified
- Fully customizable solutions for any application

raydoor.com
212.421.0641 | info@raydoor.com



SNAP 235

DOORS, WINDOWS

SIMULATED DOUBLE-HUNG, HURRICANE-RESISTANT WINDOW

WR

Graham Architectural Products

Fixed window with offset lites and a historic beveled sash design simulates the appearance of historic hung windows. Graham's HIS1400 Offset is a hurricane impact-resistant version of this product.

Product Application

- Protection in high velocity hurricane zones for historic and commercial applications
- Lower cost, more thermally efficient historic replication of original hung windows

Performance Data

- Large and small missile impact protection
- ASTM 1886 and ASTM 1996 tested

www.grahamwindows.com
800.755.6274 | jeisenbeis@grahamwindows.com



SNAP 236

DOORS, WINDOWS

HEAVY DUTY SLIDING DOOR HARDWARE

\$\$

Richards-Wilcox Specialty Door Hardware

Black Box Track Sliding Door Hardware for unique outdoor theater access doors.

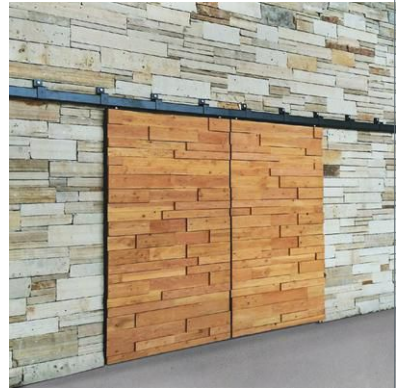
Product Application:

- Stage Curtain Walls
- Acoustical Panels
- Stage Lighting Rigging

Performance Data:

- Track and Hangers support Doors weighing 600 lbs – 1000 lbs (depending on series track.)
- Powder Coated in 8 Beautiful Colors
- Custom Design Support

www.rwhardware.com
800-253-5668, ext. 4678 | dlorden@richardswilcox.com



SNAP 237

DOORS, WINDOWS

VARIANT ADJUSTABLE CONCEALED HINGE SYSTEMS

\$\$\$ | NEW

SIMONSWERK North America

The VARIANT series offers 3-way adjustable hinges for high frequency institutional, commercial & industrial applications. This European proven concept has been tailored for the North American market.

Product Application

- Office Buildings
- Schools
- Hospitals
- Airports

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



SNAP 238

DOORS, WINDOWS

LIFT-STRAP BIFOLD DOORS AND ONE-PIECE HYDRAULIC DESIGNER DOORS

WR

Schweiss Doors, Moving Walls

Schweiss Doors manufactures unique custom designer doors, one-piece hydraulic doors and patented lift-strap opening/closing bifold doors.

Product Application:

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

Performance Data:

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

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



SNAP 239

EQUIPMENT

SERIES 3000 DOCK LIFT- UPDATED & EXPANDED

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 240

INTERIOR FINISHES, FURNISHINGS

TIMES-2 ROTARY CABINETS

\$\$

Aurora Storage Products, Inc.

Times-2, the modern, dual-sided alternative to lateral filing cabinets, stores more in a smaller footprint and can easily go around spaces that are normally not used for storage.

Product Application:

- Interconnect Units from tall to low to make one unique storage system.
- Use wasted space under low windows, building controls or logo in corporate lobby.
- Guest coffee service and corporate promo items.

Performance Data:

- Stores more in less space than lateral files or standard cabinets.
- 10 Unit Sizes, 31 Beautiful Eco-Friendly Colors

www.aurorastorage.com
800-253-5668, ext. 4520 | sniemiec@aurorastorage.com



SNAP 241

INTERIOR FINISHES, FURNISHINGS

PROJECTABLE MAGNETIC GLASS DRY-ERASE BOARDS

Bendheim

Bendheim's magnetic glass marker boards are in a class of their own. They combine the finest glass surfaces with the strongest magnetic action in the industry.

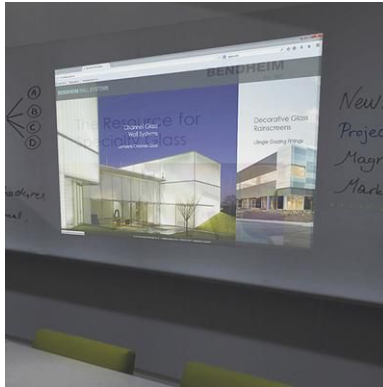
Product Application

- Marker boards
- Projection surfaces
- Writable wall surfaces

Performance Data

- No ghosting or permanent staining
- Laminated glass meets safety codes

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



SNAP 242

LANDSCAPING, SITEWORK

PERMEABLE WITHOUT COMPROMISE

Unilock

Designing to be "environmentally-friendly" doesn't mean you have to compromise your design vision. Unilock offers the widest selection in the industry. Explore the possibilities. Eco-Promenade™ shown.

Product Application

- Chinatown Library, Chicago, IL (shown)
- Navy Pier, Chicago, IL
- Patriot Park, Bedford MA
- Delaware North, Buffalo, NY

Performance Data

- Exceeds ASTM C936 and CSA_A231.2

https://commercial.unilock.com
1-800-Unilock | CustomerService@unilock.com



Booth: 423 ASLA

SNAP 243

MATERIALS

600LB HEAVY-DUTY SLIDES

Accuride International, Inc.

Accuride 9300E slides give smooth/silent movement to heavy-duty drawers, trays, panels, and racks up to 600 lbs. AWI- and BHMA-certified, they come in many lengths and with optional locking features.

Product Application

- Residential
- Institutional
- Commercial

Performance Data

- 600-lb. load rating
- Smooth & silent movement

www accuride.com/en-us/gain
562.903.0200



SNAP 244

MATERIALS

ECHO ELIMINATOR ACOUSTICAL PANELS

\$ | GREEN

Acoustical Surfaces, Inc.

Echo Eliminator is a high performance acoustical material made from recycled cotton, and is ideal for noise control applications. Product can be used as acoustical wall panels or hanging baffles.

Product Application

- Schools, Restaurants, Offices, Childcare, Clinics,
- Pro Audio, Auditoriums, Community Centers, Churches
- Anywhere high performance noise control is needed

Performance Data

- Class A Fire Rated
- No VOC's or formaldehyde, lightweight & durable
- Requires no warning labels

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



SNAP 245

MECHANICAL SYSTEMS, HVAC, PLUMBING

COMPLETE WATERPROOF SYSTEM FOR TILED SHOWERS

USG Durock™ Brand Infinity Drain™ Shower System

One complete waterproof shower installation made easy. Pairs high-performance Durock™ Brand Shower System components with decorative linear drains from Infinity Drain.

Performance Data

- Easier and faster to install than traditional shower construction.
- Bonded waterproofing system with pre-sloped floor made for tile shower installations.

http://usgid.com
516.767.6786 | info@usgid.com



SNAP 246

MECHANICAL SYSTEMS, HVAC, PLUMBING

IN-SINK DRAIN SYSTEM

\$\$ | GREEN | NEW

Just Manufacturing

Integra Drain - seamlessly welded to sink, creates an integral drain in-sink system, without additional parts or rings. Reduces leak potential. Includes basket strainer and tailpiece.

Product Application

- Commercial & residential applications
- Ideal for healthcare environments

Performance Data

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- Includes the JSN-8-6 self-adapting sensor operated mixing faucet with manual override

www.justmfg.com/Integra-Drain.html
847.678.5150 | custserv@justmfg.com



SNAP 247

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

ARCHITECTURAL PRECAST CONCRETE CLADDING PANELS

GREEN | WR

Easi-Set Worldwide Licensed Precasters

SlenderWall is an Ultra Hi-Performance 30 lb/sf award winning architectural precast concrete with integral heavy-gauge steel-stud frame building envelope panel system. Wind-load tested to 226 mph.

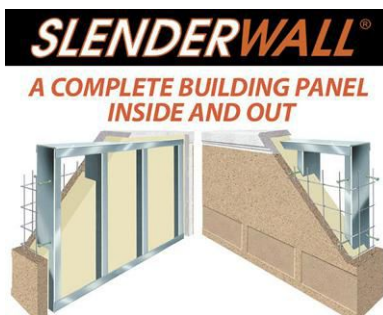
Product Application

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

Performance Data

- Factory-installed continuous closed-cell foam insulation - compliant with all IECC/ASHRE energy codes

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



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

SNAP 248

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

E.SERIES COMPOSITE WATERPROOFING SYSTEMS

WR

EPRO Services, Inc.

Redundant Field-Installed Composite Design combines multiple types of waterproofing into one system, thus creating the ability to meet a wide range of site conditions, performance goals, and budgets.

Product Application

- Underslab
- Blindside Shoring Walls
- Over Excavated Walls
- Podium Decks, Planters, & Green Roofs

Performance Data

- Resistant to Hydrostatic Conditions
- Extremely Effective Barrier to Methane Gas, and

www.eproinc.com
800.882.1896 | info@eproinc.com



SNAP 249

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

UNIQUE DISTINCT FACADES

Dri-Design

Dri-Design's Metal Wall Panel System is a pressure equalized rain-screen system, with a unique and patented interlocking design, that is both advanced and sophisticated.....made simple.

Product Application

- Ventura College Applied Science Center
- The Tapered Series Panels give the impression of many shades, though only painted one color.

Performance Data

- True Dry-Joint rain-screen system
- AAMA 508-07 and Dade County approved

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



SNAP 250

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

WALL PANELS

\$\$ | GREEN | NEW

Petersen Aluminum Corporation

PAC 1/2" and 7/8" corrugated panels offer unmatched flexibility for both walls and roofing. Panels can be perforated for a variety of exterior projects, as well as interior acoustical applications.

Product Application

- Sharpsburg Library, Sharpsburg, PA

Performance Data

- 30-year non-prorated finish warranty
- 70% full PVDF-finished metal
- Available in 45 colors

PAC-CLAD.com
800.722.2523 | Rob Heselbarth | METALCON booth 1431



SNAP 251

ROOFING, SIDING, THERMAL & MOISTURE PROTECTION

RAINSOON SYSTEMS/WALL PANEL SYSTEMS

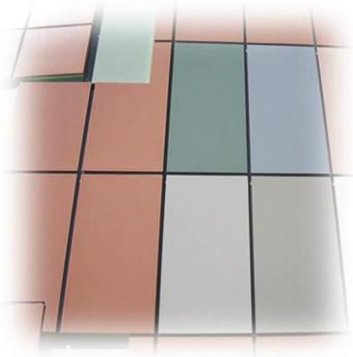
WR | GREEN

Overly Manufacturing Company

Systems fabricated in a variety of metal types, thicknesses and finishes.

- Computer model creation allows variations in system depth and profiles to customize the project
- Designed and engineered to meet or exceed your performance criteria

www.overly.com
800.979.7300 | Jon Reese



SNAP 252

SPECIALTY PRODUCTS

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NEW

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Stondeck uses urethane technology that is specially formulated for high vehicular traffic in demanding environments. A superior alternative to sealers and paint that meets ASTM C957 requirements.

Product Application

- Parking Decks
- Parking Garages
- Pedestrian Bridges

Performance Data

- Slip Resistance
- Moisture Resistance

www.thestonhardgroup.com
800.257.7953



SNAP 253

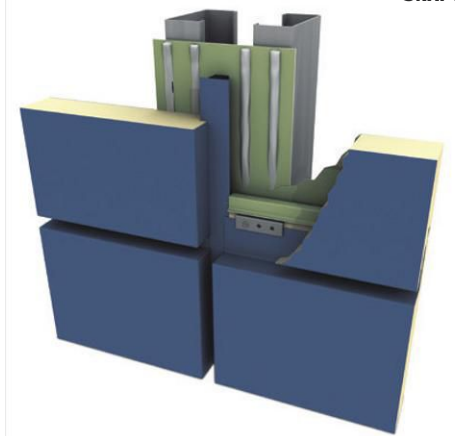
CENTRIA FORMAWALL® PE SEAL PLATE

CENTRIA's Formawall® Pressure-Equalized (PE) Seal Plate equalizes pressure at the end joint of each panel, forming a solid shield against air and moisture penetration. Any moisture that enters the panel system is expelled to the exterior.

Performance Data:

- Features an integral gasket, a vented drain channel and a non-curing butyl seal
- Vents moisture that enters the drain channel to the exterior
- Allows the seal to be inspected for consistency

CENTRIperformance.com/PESealPlate • 800.250.8675



SNAP 254



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SNAP 255





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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
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- Available in a variety of profiles and colors

www.wooster-products.com • 800.321.4936

SPECIALTY PRODUCTS

FOLDING STAIRWAY

\$\$\$ | NEW

Precision Ladders, LLC

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

Product Application

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

Performance Data

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

www.precisionladders.com

800.225.7814 | Steve Fugate



SNAP 257

SPECIALTY PRODUCTS

FLOOD PROTECTION FOR ANY LOCATION

Walz & Krenzer, Inc.

Removable Lip Seal Flood Barrier: Successful deployment of Flood Barrier for University of Iowa

Product Application

- Retail stores, Parking garages
- Hospitals, Universities, Office buildings
- Any location that requires minimal appearance and fast deployment

www.floodbarriers.com

203.267.5712 | Tom Themel



SNAP 258

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London Design Festival

British designers invite the public to a series of innovative exhibitions.

NOW IN ITS 15TH YEAR, the annual London Design Festival—a citywide program of events, exhibitions and installations—successfully played its role as the glue that binds the city’s multiple, simultaneously held design trade shows each fall. Decorex International, 100% Design, designjunction, Focus/17, and the London Design Fair all occur around the fall LDF dates.

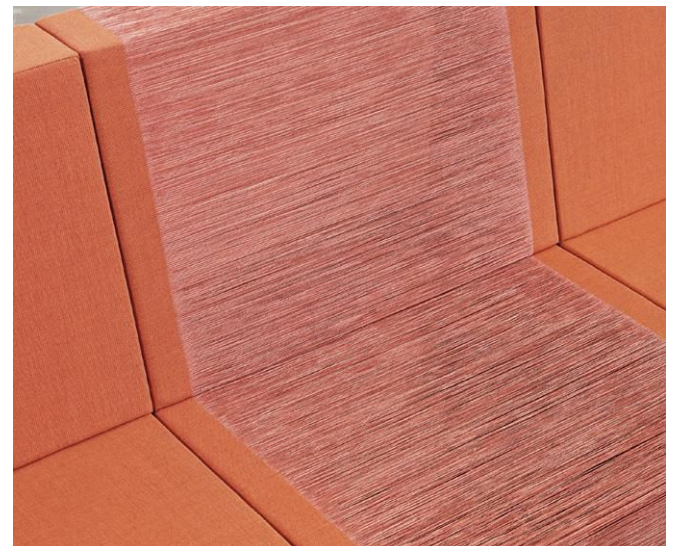
But the thing that sets this festival apart from these other shows is that most of its events are free to the public (LDF

organizers were anticipating around 375,000 attendees this year.)

A focus of the citywide event is the Victoria & Albert Museum, which hosts installations by both seasoned and up-and-coming designers. Standouts this year were British designer **Ross Lovegrove’s** *Transmission*, a site-specific, nearly 70-foot-long, “three-dimensional tapestry” made with **Alcantara**, a tactile and sound-absorbent synthetic fabric. *Transmission* was designed to respond, with color and details such as gold and silver threads, to the

COOL BRITANNIA

Villa Walala, Camille Walala’s colorful outdoor “building block castle” located in Broadgate, an office-retail complex in London’s East End (above). Also on view at Design Frontiers was Mimi Jung’s design for Kvadrat’s *My Canvas* exhibition of projects by 20 emerging designers (right).





PUBLIC DISPLAYS
For the trade show designjunction, the industry organization Turkishceramics commissioned designer Adam Nathaniel Furman's Gateways, a series of four gates in Granary Square that illustrate the history of ceramics in Turkey (above). Ross Lovegrove's installation, *Transmission*, a "three-dimensional tapestry" collaboration with Alcantara at the Victoria & Albert Museum (left).



SCRATCHING THE SURFACE

Arik Levy's "floating" kitchen island of mineral quartz, a collaboration with COMPAC, part of Design Frontiers at Somerset House.

15th century Devonshire Hunting Tapestries that line the gallery in which it was installed. (And visitors could also take in the museum's current exhibition *Plywood: Material of the Modern World*, which features objects from airplanes to skateboards and furniture by Aalto, Breuer, and the Eameses—as well as a series of ice-skating shelters, designed for the run of the LDF by the Canadian firm **Patkau Architects**, in V&A's John Madjeski Garden.)

The Landmark Project was the outdoor installation Villa Walala, a colorful "building-block castle" of inflated forms clad in vinyl and covered with digitally printed patterns by textiles designer **Camille Walala**. The designer built it in London's East End on the grounds of Broadgate, a massive office and retail complex owned by British Land, the festival's sponsor. Temporarily, the structure offered local workers and visitors a playful, interactive space for socializing.

New to the LDF was Design Frontiers, a group exhibition at Somerset House that included collaborative projects among 30 designers and manufacturers, including Amanda Levete's dematerialized Glass Cloud chandelier for WonderGlass; Tord Boontje's light fixtures that use Swarovski's new, *un-faceted* crystals; **Arik Levy**'s "floating" kitchen island, made from a single block of mineral quartz for the luxury surfaces company **COMPAC**; and *My Canvas*, in which the forward-looking Danish textile company **Kvadrat** invited 20 emerging designers to create projects using its Canvas fabric, designed by **Giulio Ridolfo**.

LDF also hosted Design Districts, like in years past. Brompton Design District, with its cutting-edge temporary exhibitions and furniture showrooms for Italian manufacturers **B&B Italia** and **Molteni**, is the best known, but Shoreditch

Design Triangle and the Clerkenwell Design Quarter also attracted crowds, as did new additions The Pimlico Road Design District and the Mayfair Design District, which is home to design galleries Galerie Kreo, Gallery FUMI, Achille Salvagni, and Galerie Patrick Seguin. As Ben Evans, director of the LDF, notes, each district "allows you to immerse yourself in the design personality" of the area, and reflects "how varied London's design story is."

At the Design Museum, relocated to its new home in the city's Kensington area last year, *Set in Stone* showcased eight experiments in marble and limestone, including seating by the Portuguese architect **Eduardo Souto de Moura**, a slide by **ELEMENTAL**, the socially-conscious Chilean architecture firm, and objects by **Michael Anastassiades** and **Jasper Morrison**. —Pilar Viladas



JoAnn Hindmarsh Wilcox, AIA, LEED AP

Principal, Mahlum Architects

EXCITED ABOUT ANY PRODUCTS?

We recently used a slat-sized, glass-fiber-reinforced concrete wall panel, called Öko Skin by Rieder. It's a high-quality material we used at Northwood Elementary School on Mercer Island in Washington state (shown here). The sandblasted surface gives the material depth and variety, which we used to complement the building's brick base. And the construction team cut panels to length and drilled fastener holes in the field, which minimized waste and even left the district with surplus stock at the end of the project.

...AND PROJECTS?

I fall in love with every project, but our new Arlington Elementary School in Tacoma, Washington, rethinks the basic premise of education design – the classrooms. The district challenged us to grasp the cutting edge of education design in a low socio-economic neighborhood. We provided a core instruction space (600 SF), a project room (1,000 SF), two small-group rooms (150 SF each), a shared large-group exploratory learning lab (3,000 SF), and a connected and contained outdoor learning space (3,000-6,000 SF).

DESCRIBE YOUR TYPICAL WORKLOAD FOR THE YEAR?

In the past year, I had the privilege to lead design on six new schools, and followed three through construction. In addition, I oversaw design of another five in the pre-design or planning phases.

THAT'S A GOOD PACE TO IDENTIFY TRENDS. WHAT IS THE LATEST?

An increase in non-toxic materials in schools, but we need to do more. Children are especially vulnerable to the impacts of the built environment, and the places they spend a majority of their day should be as free of harmful materials as humanly possible.

WHEN DESIGNING FOR STUDENTS, WHAT'S MOST IMPORTANT?

The student is always at the center of our design process. Their mental and physical needs must be met before learning can take place. We begin by asking how our design will promote the students' healthy development, so they feel empowered to champion their own education. Student-centered design should incorporate opportunities for them to learn at their own pace; help teachers address individual needs; create a sense of community where kids are encouraged to explore, make mistakes, and achieve; and give students and teachers a beautiful building that honors the work that they do there. There is hidden curriculum in the design of schools which too often can communicate a powerlessness to students.

IF YOU HAD TO BUILD WITH ONE MATERIAL, WHAT WOULD IT BE?

Glass, because it transmits light, which breathes life into collaborative learning. Glass is even better as movable walls to provide schools the flexibility that is so critical to 21st century learning.



1 The number of new schools built in Mercer Island, Washington, since the 1950s. It is by Mahlum.

JoAnn Hindmarsh Wilcox stands outside the main entry to Northwood Elementary School in Mercer Island, Washington, overlooking its central courtyard play area. Mahlum Architects placed the entrance on the second level to accommodate the school's sloped site.

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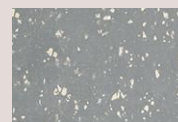
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SNAP 43



DATES + EVENTS

NEW AND UPCOMING EXHIBITIONS

Chicago Architecture Biennial

CHICAGO

Through January 7, 2018

The second edition of the Chicago Architecture Biennial features works by over 141 architects and designers on the theme of “Make New History.” Consisting of six community anchor exhibitions, two special project sites, installations, performances, talks, and films, the Biennial is a citywide event that encourages visitors to explore Chicago with an architectural eye. For more information, visit chicagoarchitecturebiennial.org.

Archtober 2017

NEW YORK CITY

Through October 31

The annual architecture and design month in New York City kicks off October 1 and will present lectures, films, tours, and exhibitions throughout the city. Previous partners include diplomatic missions, local architecture schools and institutions such as the Historic House Trust of NYC and the Public Art Fund. For the 2017 calendar, visit archtober.org.

Alex Schweder and Ward Shelley: Your Turn

RIDGEFIELD, CONNECTICUT

October 1, 2017–April 22, 2018

For this combined architecture and performance art piece, Alex Schweder and Ward Shelley will build a 24-foot-high living environment, which they will then inhabit, sharing nine basic amenities that, while being used by one, cannot be used by the other. Audience members are invited to engage in conversation with the artists, as well as explore an adjacent gallery, which holds the first survey of Schweder and Shelley’s reverse paintings on Mylar. At the Aldrich Contemporary Art Museum. Visit aldrichart.org.

Beazley Designs of the Year

LONDON

October 18, 2017–January 28, 2018

The 10th annual exhibit on display at the Design Museum provides a preview of the nominees for the best contemporary and innovative designs of 2017. Nominees range from projects by Zaha Hadid Architects and Sir David Adjaye to creations in the fields of fashion, graphics, and transportation. The public can vote online beginning in October. A jury of industry pros will cast the deciding votes announced in January. designmuseum.org

Exhibit Columbus

COLUMBUS, INDIANA

Through November 26

The annual exhibition of architecture, art, design, and community features 18 outdoor installations in and around the Modernist buildings the city is famous for. This year’s exhibitors range from award-winning design firms such as Aranda\Lasch, to local university and high school students, unified by the theme of exploring the past, present, and future of design. For further information, visit exhibitcolumbus.org.

ONGOING EXHIBITIONS

Living in America: Frank Lloyd Wright, Harlem & Modern Housing

NEW YORK CITY

Through December 17

Curated by Columbia University’s The Temple Hoyne Buell Center for the Study of American Architecture, the exhibition is correlated to The Museum of Modern Art’s ongoing Frank Lloyd Wright exhibition. The exhibit in upper Manhattan features two of Wright’s housing projects—one occupied by predominantly black residents, the other predominantly white. The exhibition examines racial segregation and socioeconomic inequality, and probes visitors to consider: “How to live in America, together?” Details available at arch.columbia.edu.

Solo Exhibition of Bardula

ZURICH

Through October 21, 2017

In its fourth presentation of Bardula’s artwork, Galerie la Ligne is hosting a solo exhibition of the Paris-based artist’s latest works, which use LED technology to focus on simple geometric shapes like spheres, circles, and squares, as well as complex ones like the torus. For more information, visit galerie-la-ligne.ch.

Ettore Sottsass: Design Radical

NEW YORK CITY

Through October 8, 2017

This exhibit brings together a diverse collection of works by Italian architect and designer Ettore Sottsass, including architectural drawings, interiors, furniture, machines, ceramics, glass, jewelry, textiles, paintings, and photography. The collection is on view at the Met Breuer. For more information, visit metmuseum.org.

Noguchi’s Playscapes

SAN FRANCISCO

Through November 26, 2017

This exhibition will revisit sculptor Isamu Noguchi’s designs for several playgrounds and stand-alone play structures. Through models, sketches, set designs, and archival images, the exhibition will show Noguchi’s visions for new experiences of art, education, and humanity through play. For more information, visit sfmoma.org.

Plywood: Material of the Modern World

LONDON

Through November 12

Featuring a collection of objects that ranges from skateboards to planes, this exhibition explores the many ways that plywood has shaped the modern world. Pieces by Alvar Aalto, Marcel Breuer, and Charles and Ray Eames are highlighted alongside architectural designs and drawings, historical photos, and a Singer sewing machine. At the Victoria & Albert Museum. Visit vam.ac.uk.

Found in Translation: Design in California and Mexico, 1915 – 1985

LOS ANGELES

Through April 1, 2018

This Los Angeles County Museum of Art exhibit examines cultural exchange through the lens of Mexican and American architecture and design. Curated under four main themes—Spanish Colonial inspiration, pre-Columbian revivals, folk art and craft traditions, and Modernism—the

underlying current of the exhibition is how place informs the built environment. Architects’ works by Richard Neutra, Luis Barragán, the Eames, and Clara Porset are among the 300 objects displayed. For more information, visit lacma.org.

Albert Frey and Lina Bo Bardi: A Search for Living Architecture

PALM SPRINGS, CALIFORNIA

Through January 7, 2018

This innovative exhibition at the Palm Springs Art Museum showcases a collection of 3D models, drawings, design objects and photographs related to four famous houses by the two mid-century architects: the Frey II House and Aluminaire House by Frey, and Casa de vidro and Cirell House, by Bo Bardi. Although the two never met, Bo Bardi translated Frey’s treatise “In Search of a Living Architecture” for *Domus*. The exhibition (part of a Getty-led initiative to explore Latin American and Latino art in dialogue with Los Angeles) draws parallels between Frey’s and Bo Bardi’s distinct architectural styles, which connect people, nature, building, living, even social contexts together. For more details visit psmuseum.org.

LECTURES, CONFERENCES, AND SYMPOSIA

Architectural Record Innovation Conference East

NEW YORK CITY

October 19, 2017

Curated by RECORD editors, this conference examines the boundaries of architecture through the lens of technology. With more than 300 architects and designers attending, the conference serves as a connecting platform among American architects as well as an opportunity to earn up to 7.75 AIA LU/HSM. Registration information is available at east.arinnovationconference.com.

World Design Summit

MONTREAL

October 16–25, 2017

In the inaugural World Design Summit meeting, 50 international organizations will come together to develop an international action plan for harnessing the power of design to address pressing global challenges. Participants will produce a declaration and 10-year implementation framework for their designs. At the Palais des Congrès. For more information, visit worlddesignsummit.com.

NeoCon East

PHILADELPHIA

November 15–16, 2017

The design expo and conference comes to the East Coast with its showcase of new products ranging from accessories and lighting to building products and furniture systems from more than 200 exhibiting companies. Attendees can learn from industry thought leaders in more than 25 CEU seminars and hear keynotes from world-class speakers TPG Architecture, Perkins + Will and the U.S. General Services Administration. For more information, visit neoconeast.com.

COMPETITIONS

Ice Breakers

Submission deadline: October 13, 2017

For its second year, this Toronto competition

invites architects, designers and artists to propose temporary public art works and installations to animate five sites along the city’s major waterfront street, Queens Quay, during the winter months. Coordinated by Winter Stations Inc., the theme for this year’s proposals is “constellation.” For further information, visit icebreakers.winterstations.com.

2018 Better Philadelphia Challenge

Submission deadline: October 27, 2017

In celebration of the Benjamin Franklin Parkway’s centennial, the green thoroughfare that links downtown Philadelphia with Fairmount Park, the Ed Bacon Memorial Committee of the Center for Architecture and Design is challenging all university-level students to design the next “parkway” that will create new connections in the city. Visit philadelphiacfa.org.

Call for Ideas: Revitalization of Charles Square Park

Submission deadline: October 12, 2017

The City of Prague is seeking international proposals to update a pre-existing masterplan of a significant municipal heritage site which borders a teaching hospital, and courthouse and is accessible to cars and pedestrians, from landscape architects, civil engineers specializing in traffic, and architects. Successful participants will be invited to participate in further stages of the bid process. See full details at iprp Praha.cz.

Shelter 48: Emergency Life Support Design

Submission deadline: November 11, 2017

In its seventh year, this international competition asks architects and designers to imagine a post-disaster shelter with life-saving capabilities. The competition draws on the natural disasters caused by climate change and searches for a design solution that could be deployed within the first 48 hours following such an incident and then provide ongoing services. Submissions from both professionals and students are welcome. More information available at eleven-magazine.com.

Senior Housing News Architecture & Design Awards 2017

Submission deadline: November 13, 2017

The annual award series honors innovative projects and practices which are specifically designed for seniors. With professional and student divisions, the awards break down into categories including independent living, assisted living and continuing care to reflect the diversity of needs in the senior living industry. For more information, visit shnawards.com.

FORM Student Innovation Competition

Submission deadline: November 13, 2017

The FORM Student Innovation Competition offers students a chance to design something to sit, lie, lean on, or play on using Formica brand products. The competition is a twist on Formica’s 2008 contest, FORM: Contemporary Architects at Play, which posed the same challenge to 10 internationally renowned designers and architects including Zaha Hadid and Bernard Tschumi. Visit formica.com.



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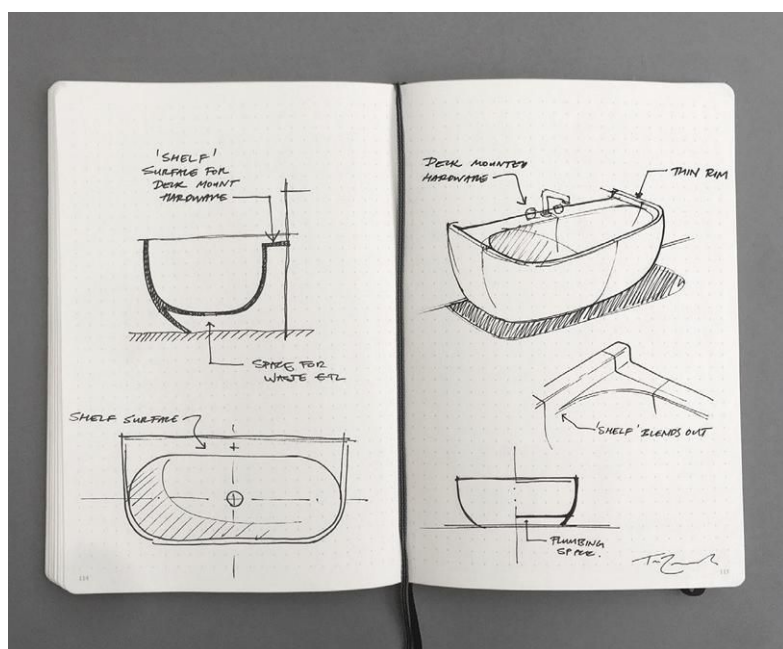
TOM BURKE

New product development manager for Victoria + Albert Baths.
vandabaths.com/us/americas/



TIM RUNDLE

Industrial designer for Conran and Partners.
conranandpartners.com



Beauty and the Bath

CONRAN AND PARTNERS—known for its collaborations with such global household brands as Virgin Atlantic, W Hotels, and Barclays bank, has brought its long insights on how consumers typically use products to bear in a new design for Australia manufacturer **Victoria + Albert Baths**.

“When we began this product design project, we never envisaged the tub in isolation,” says Conran industrial designer Tim Rundle. By that he means that in addition to considering end users, **Conran and Partners** also focused on what would make the most of Victoria + Albert’s best asset—a lighter-than-cast iron composite of volcanic limestone and high-performance resins that renders the tub’s hefty shape as an easy-to-install mold.

Its hollowed-out, back-to-wall profile is practical for small spaces such as apartments and boutique hotels, without sacrificing bathing and deck space or style. The Eldon measures 68 $\frac{7}{8}$ ” long x 33 $\frac{1}{2}$ ” wide x 23 $\frac{5}{8}$ ” high. And unlike profiles made of heavier materials, it doesn’t have the usual exposed plumbing. A void underneath the tub affords ease of installation and conceals pipework.

“For us, the key was this back-to-wall installation,” says Tom Burke, new product development manager for Victoria + Albert. “It allows you to get as close as possible to the beauty of a freestanding tub while still being practical and space saving.”

—Christine Gordon (SNAP #270)

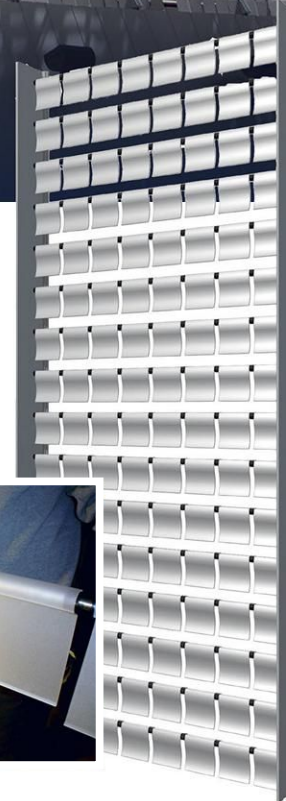
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