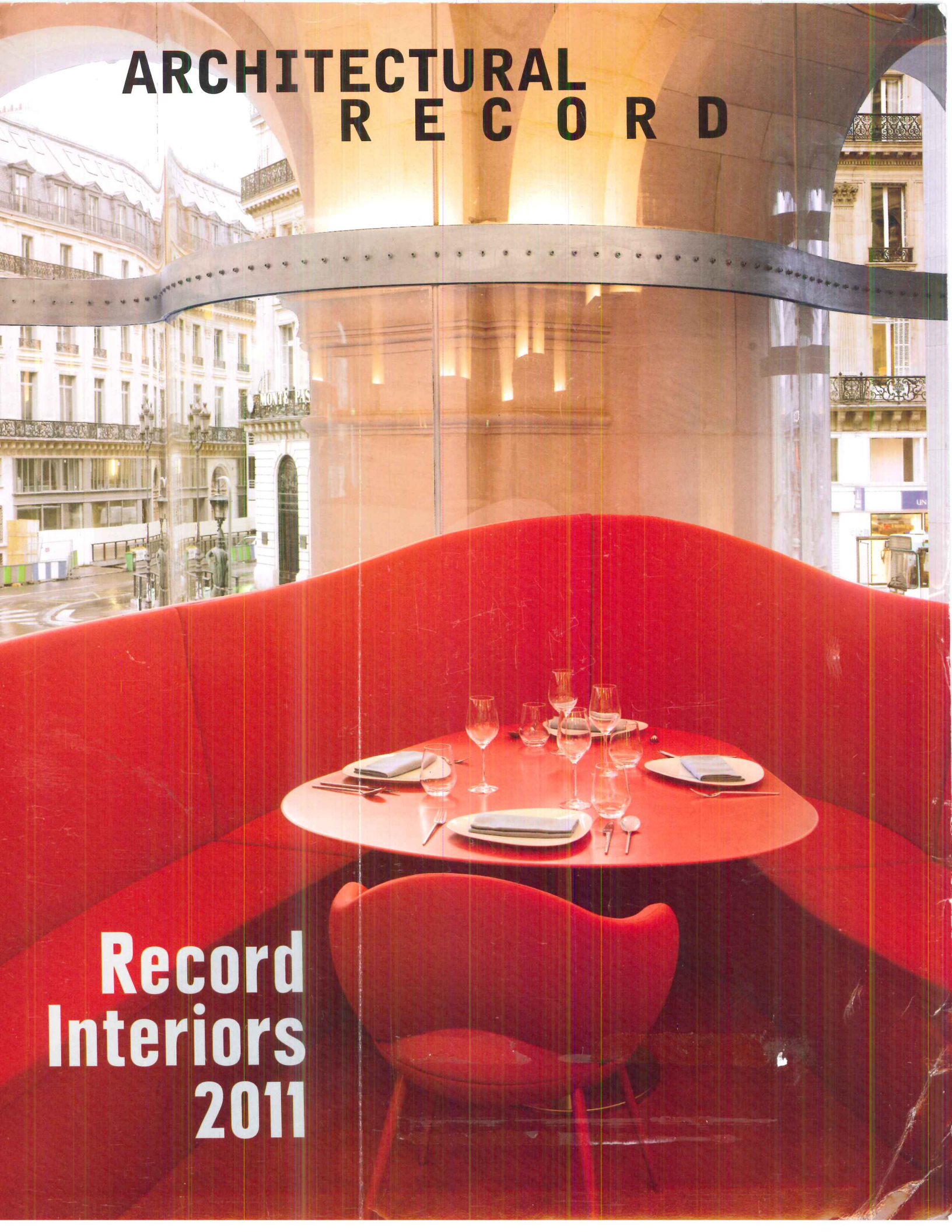


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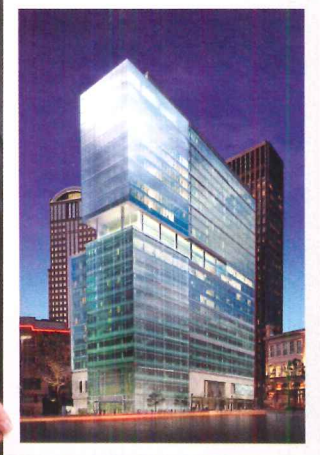
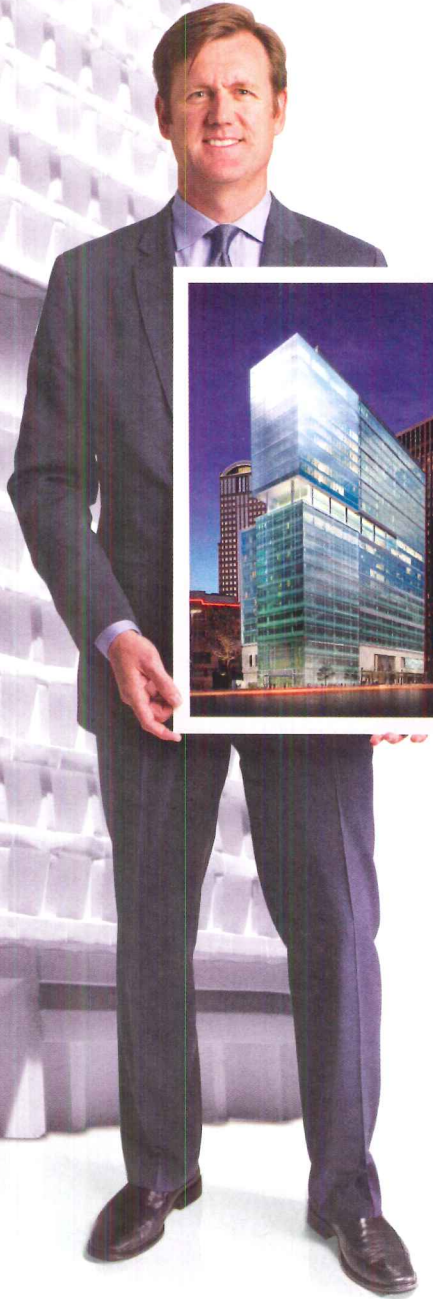
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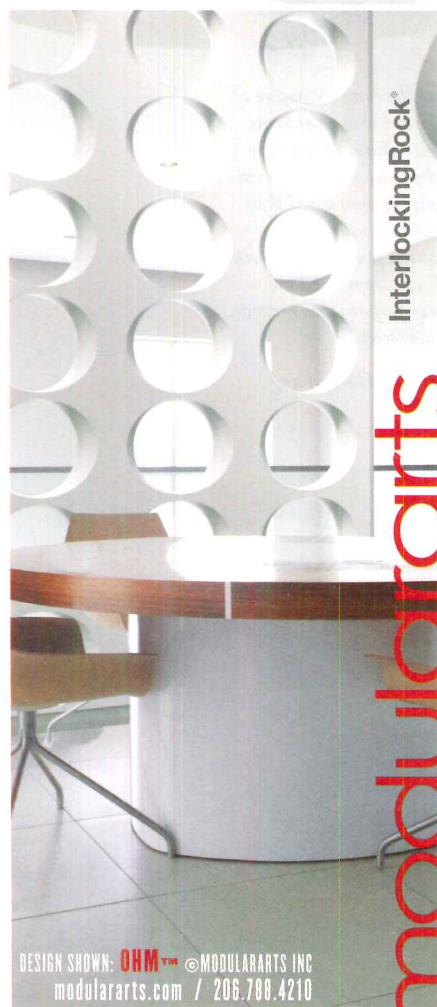
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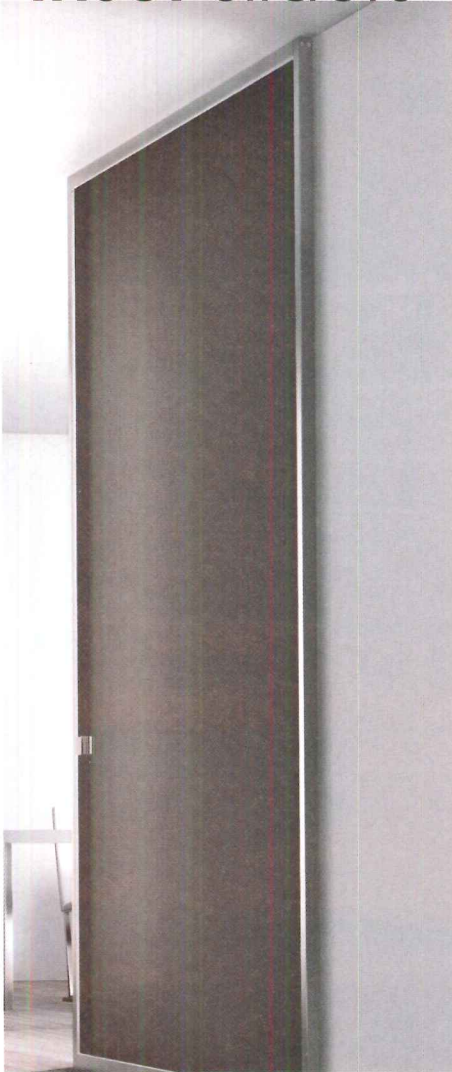
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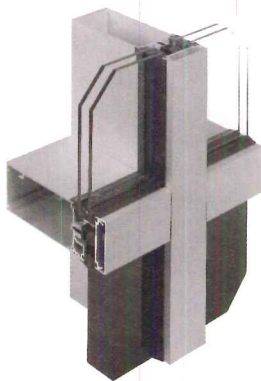
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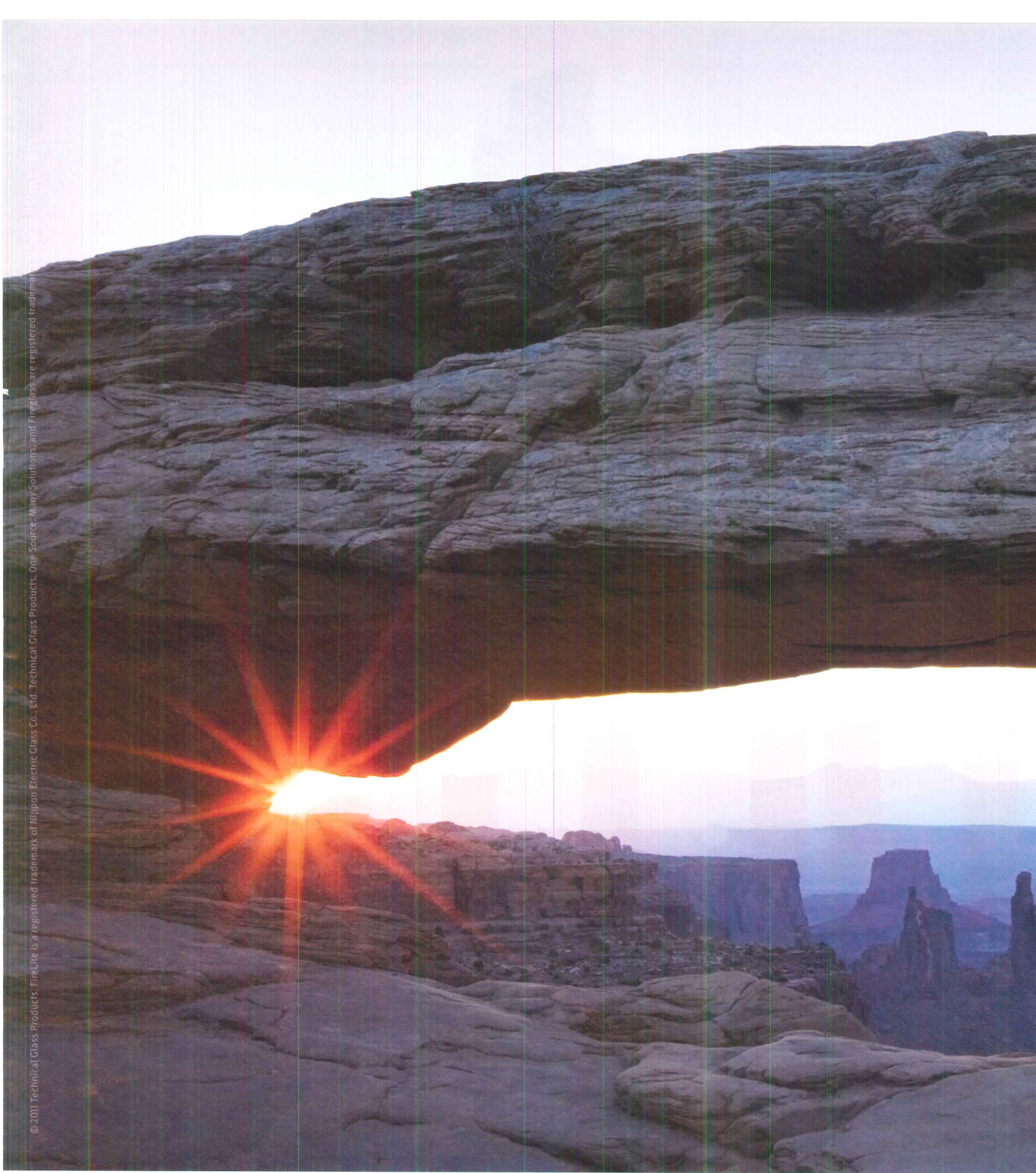
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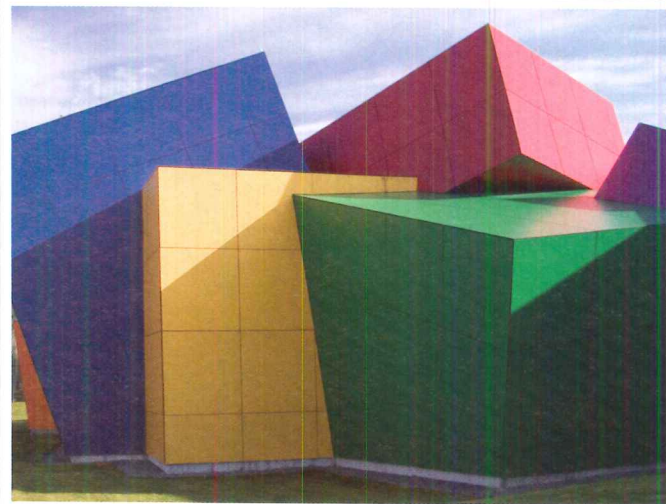


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Water-Conserving Appliances: Saving Water Saves Energy

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Assessing Resilient Flooring for Sustainability: Introducing a New Standard

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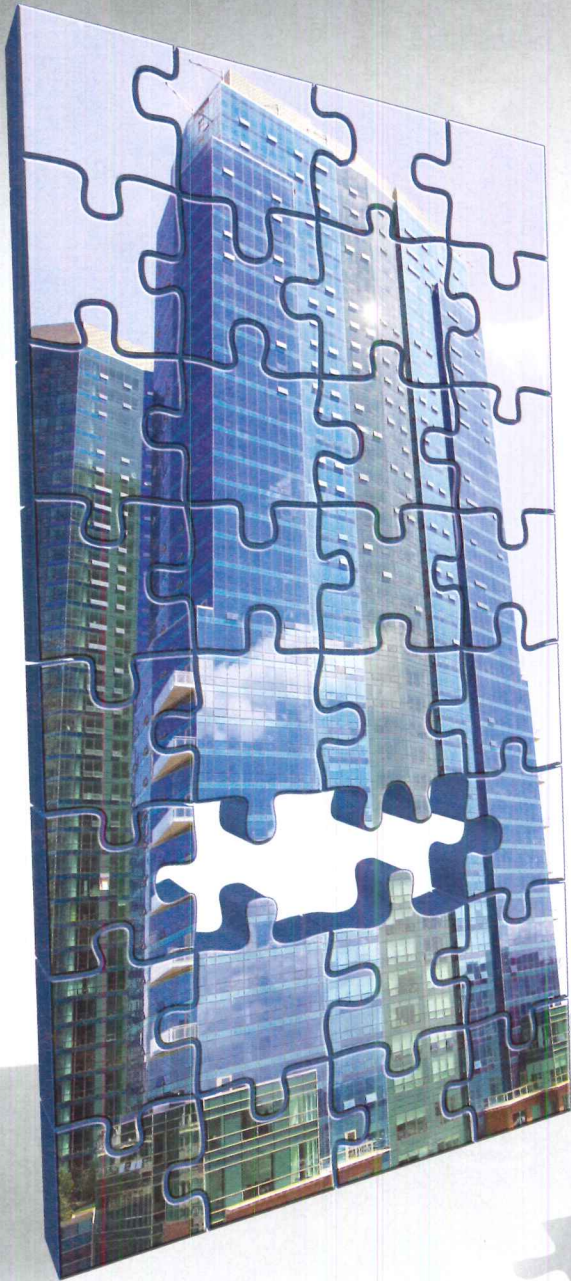


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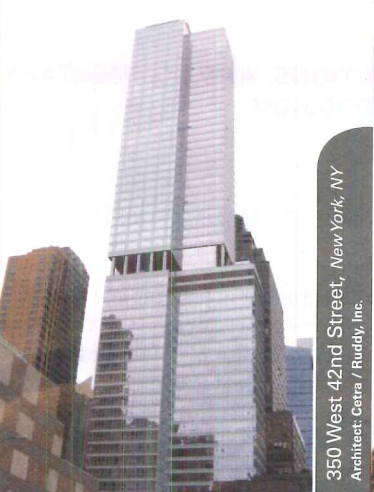
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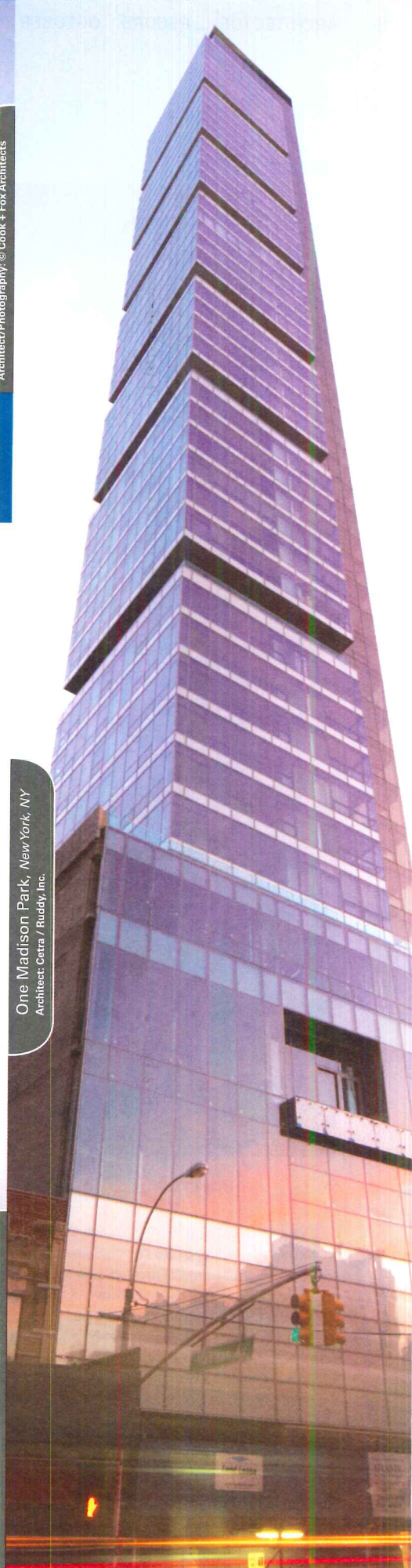
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Architect: Costas Kondylis & Partners, LLP



77 Hudson Street, Jersey City, NJ
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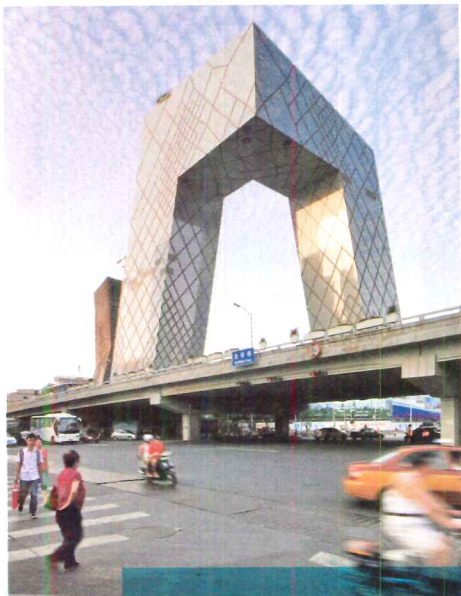


One Madison Park, New York, NY
Architect: Cetra / Ruddy, Inc.

COMMUNITY

FEEDBACK, CONTRIBUTIONS, AND COMMENTARY FROM OUR READERS
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[READER PHOTOS]



Our readers recently shared images of OMA's CCTV Tower in Beijing [above] and Johnson Architecture's Helix Bridge in Seattle [below] in our online galleries. Visit them to see more photos and to submit your own work.



Our story "Battery Park City: It's a Wrap," about the Lower Manhattan neighborhood's final parcel being developed and the completion of its 32-year-old master plan, led to divided reflections on the project by commenters.

[COMMENTS AND LETTERS]

While a student at Columbia, I worked on the original presentation model for Battery Park City at the old Cooper Eckstut office at Rockefeller Center over winter break. It was a great introduction to New York, and it's great to see the project fully built. By the way, the other model we were working on at the same time was for the redevelopment of the Port Authority. Still waiting for that one!

—Alex Lamis, partner, Robert A.M. Stern Architects

The urban planning within the enclave may have been okay, but—not to put too fine a point on it—where was the architecture in all of this? The buildings in Battery Park City are universally bland. Cesar Pelli's winter garden is a clumsy collision of unresolved geometries that looks like an afterthought. But worst of all, the West Side Highway effectively separates this place from the city. It is a ghetto, albeit a wealthy one.

—Anonymous

Funny thing is, when I'm in Battery Park City, I always expect to hear muzak playing in the background, even on the sidewalks. It's shopping-mall design retooled for bland habitation.

—Anonymous



Construction has begun on the final piece of New York's Battery Park City, completing a 32-year-old master plan.

For me Battery Park City has literally become the fulfillment of a dream. I worked at Cooper Eckstut on the master plan in 1980–81, and became so invested in imagining what this all might become that I would dream of it at night. The reality is remarkably similar to what I conjured, though on the whole I do wish the architecture was better. Despite all of the protestations listed above, it is in my mind a fine, urbane environment that I am sure over time will develop character and patina. Perhaps the relative tranquillity is offensive to some, but it can also be a welcome respite from and complement to the adjacent bustle of Lower Manhattan. Alvar Aalto said that it takes 30 to 40 years for buildings to adapt and prove their worth to the point that they really become architecture. BPC, though far from perfect, is on its way; given time, care, the right architectural tweaks, linkages, and broader public usage, it will become an integral and cherished part of New York.

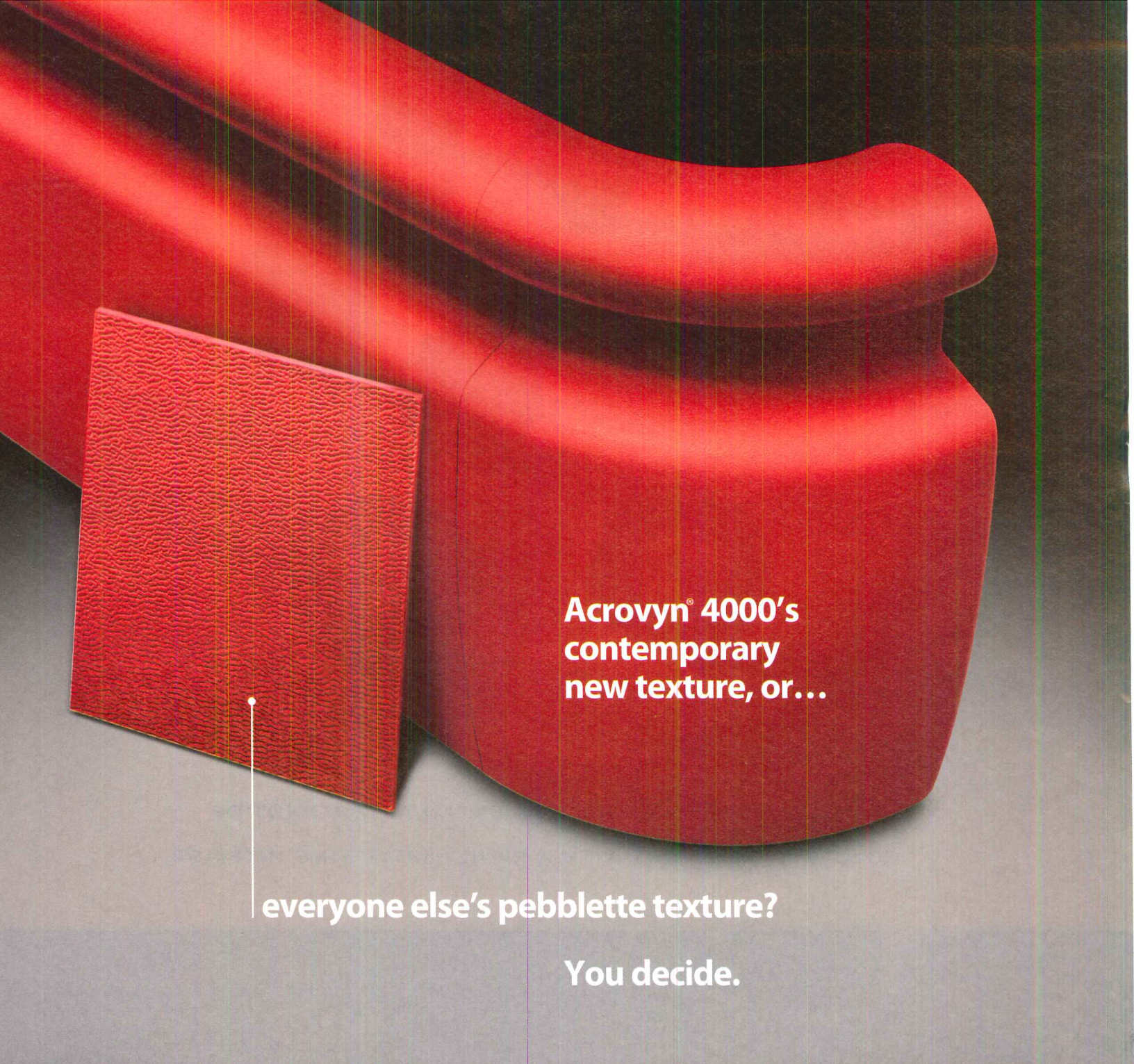
—David N. Fixler

[CORRECTIONS]

In the article "High-Performance Concrete Gets a Makeover" [RECORD, May 2011], we reported that six years ago the Carpinteria, California-based manufacturer Forms+Surfaces determined that ultra-high-performance concrete (UHPC) was not at that time available for commercial applications. The article should have noted that Ductal, a UHPC developed by Lafarge, has been commercially available since 2000.

The article "Investments in Public Architecture Pay Off for the City" [RECORD, September 2011] should have listed Lee H. Skolnick Architecture + Design Partnership, in addition to 1100 Architect, as the designer of the Queens Central Library Children's Discovery Center.

In our story "Making Waves in the Skyline" [RECORD, September 2011], the photo on page 98 was shot by James Ewing.



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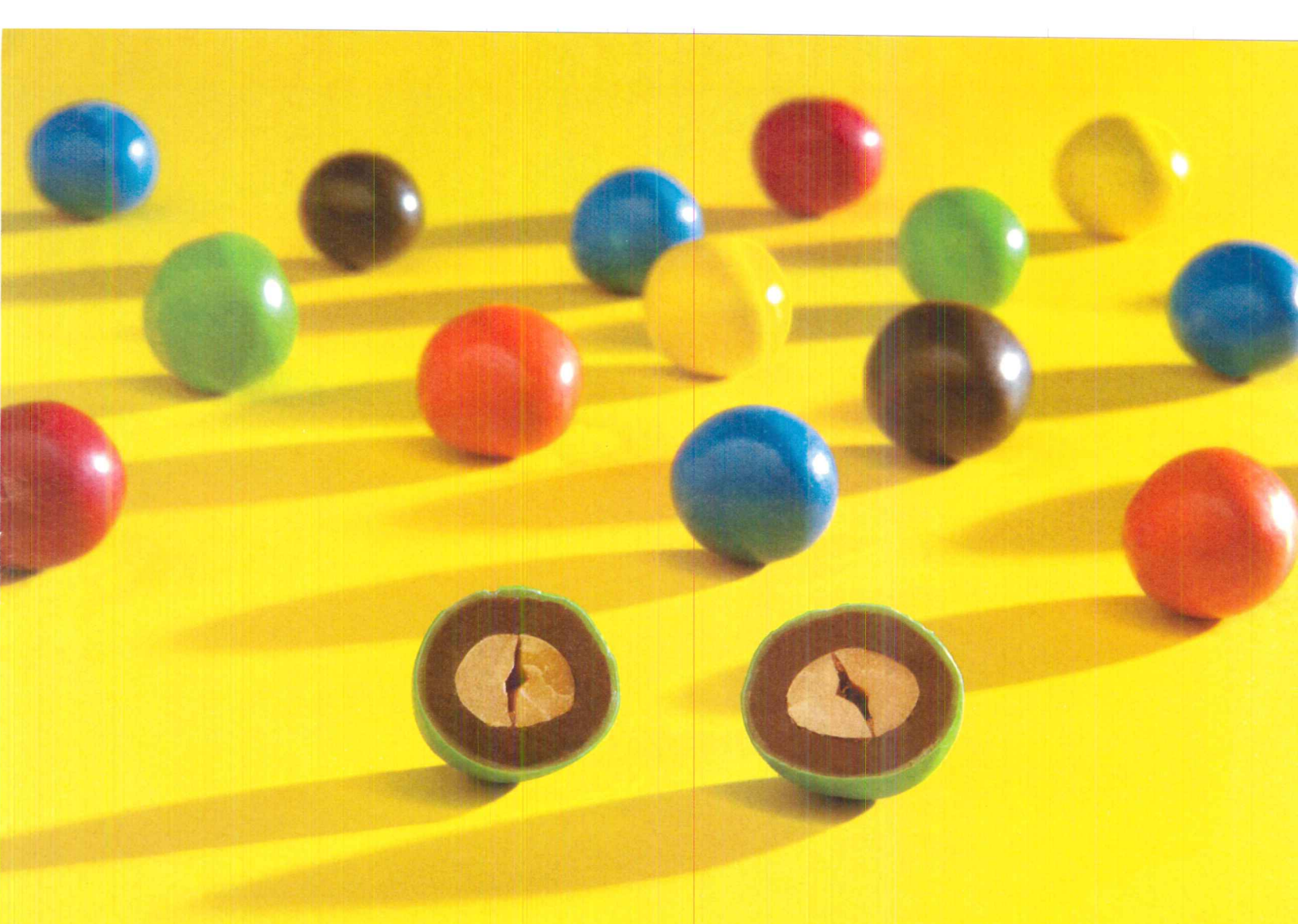
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COMMERCIAL

The Apple of Our Eye

Steve Jobs and his objects of desire.

I'M WRITING this letter on an iMac. I just got off a call on my iPhone 4. I still have a beloved old MacBook, but I'm cheating on it with an iPad 4.

This is not a paid testimonial. Like a lot of people connected to the design world, I'm merely a devoted member of the cult of Apple. The sad news at summer's end that Steve Jobs was resigning as the company's CEO felt like a watershed moment for our culture. It got me thinking, too, about Jobs's complicated relationship to architecture.

Not long ago, I visited an architect's studio, a pristine white loft with long rows of work tables topped by a battalion of gorgeous iMacs. What other brand of computer could such an office possibly employ? The firm is known for serene, crisply detailed minimalist buildings; naturally, the principal architect is a devotee of Apple. He's someone who would deeply appreciate products so beautifully designed that they express exactly what they do, nothing more. The idea behind Apple isn't that form follows function, but that each object is the ultimate integration of both. Or as Yeats might well have put it, had he beheld an iPod, "How can we know the dancer from the dance?"

Yet there is, as you know, a flaw in that seeming perfection, at least for the field of architecture. For years, Macs had to be adapted to run some of the top software architects use. As much as practitioners might like the beauty and artful operation of Apple's computers, many have opted to equip their offices with PCs. (The iPad, on the other hand, is turning up more and more at client meetings and building sites.)

We can't forget that Jobs has been a notable architectural patron. He commissioned Peter Bohlin, the 2010 AIA Gold Medalist, to create Apple's retail stores, including the stunning iconic glass cube for the New York flagship on Fifth Avenue. Jobs has been fascinated by design at least since his days as a college dropout. In a commencement address at Stanford in 2005, Jobs, who grew up as a working-class kid, talked about the influence of a calligraphy class he'd audited at Reed College. He learned about typeface and later would carefully consider the fonts for the first Mac. He dreamed of encasing Apple I in blonde koa wood. When he started the company NeXT, he got the celebrated graphic designer Paul Rand to create the logo. At Apple, he has regularly haunted the studio of his chief designer, Jonathan Ive.

But some of Jobs's decisions about architecture have been controversial. He hired Bohlin to design a 6,000-square-foot house for his family—but wanted to build it on the site of his 14-bedroom onetime bachelor pad, a 1926 mansion in Woodside, California, by architect George Washington Smith, the godfather of Spanish Colonial Revival. Preservationists were outraged that he was eager to tear it down. After a long legal tug-of-war, during which Jobs let the house badly deteriorate, he was allowed to demolish it last February [RECORD, April 2011].



And his latest architectural adventure, the design of a gigantic new doughnut-shaped headquarters for Apple, is already drawing mixed reviews. At the Cupertino, California, city council meeting where he unveiled the scheme last June, the ferociously secretive Jobs didn't even mention the name of the architect—though the Foster + Partners logo was on the drawings. In the *Los Angeles Times*, critic Christopher Hawthorne called the 2.8 million-square-foot building for 12,000 Apple employees "doggedly old-fashioned," akin to the 20th-century corporate office parks that turned away from urban vitality.

I can imagine the conversations between Jobs and Norman Foster, the Lord of the Ring. Steve would love hearing about Foster's early mentor, the genius innovator Buckminster Fuller, who was a hero, too, of Stewart Brand, the guru behind the 1960s *Whole Earth Catalog*. In that same Stanford speech, Jobs cited Brand's "bible." It was, he said, "sort of like Google in paperback form, 35 years before Google came along: It was idealistic, and overflowing with neat tools and great notions."

Neat tools, great notions—those simple words could be Jobs's legacy. While Apple fanatics everywhere fret about the company's future without him, architects especially can appreciate the Jobs ethos: How a design looks is inseparable from how it works.

Cathleen McGuigan

Cathleen McGuigan, Editor in Chief



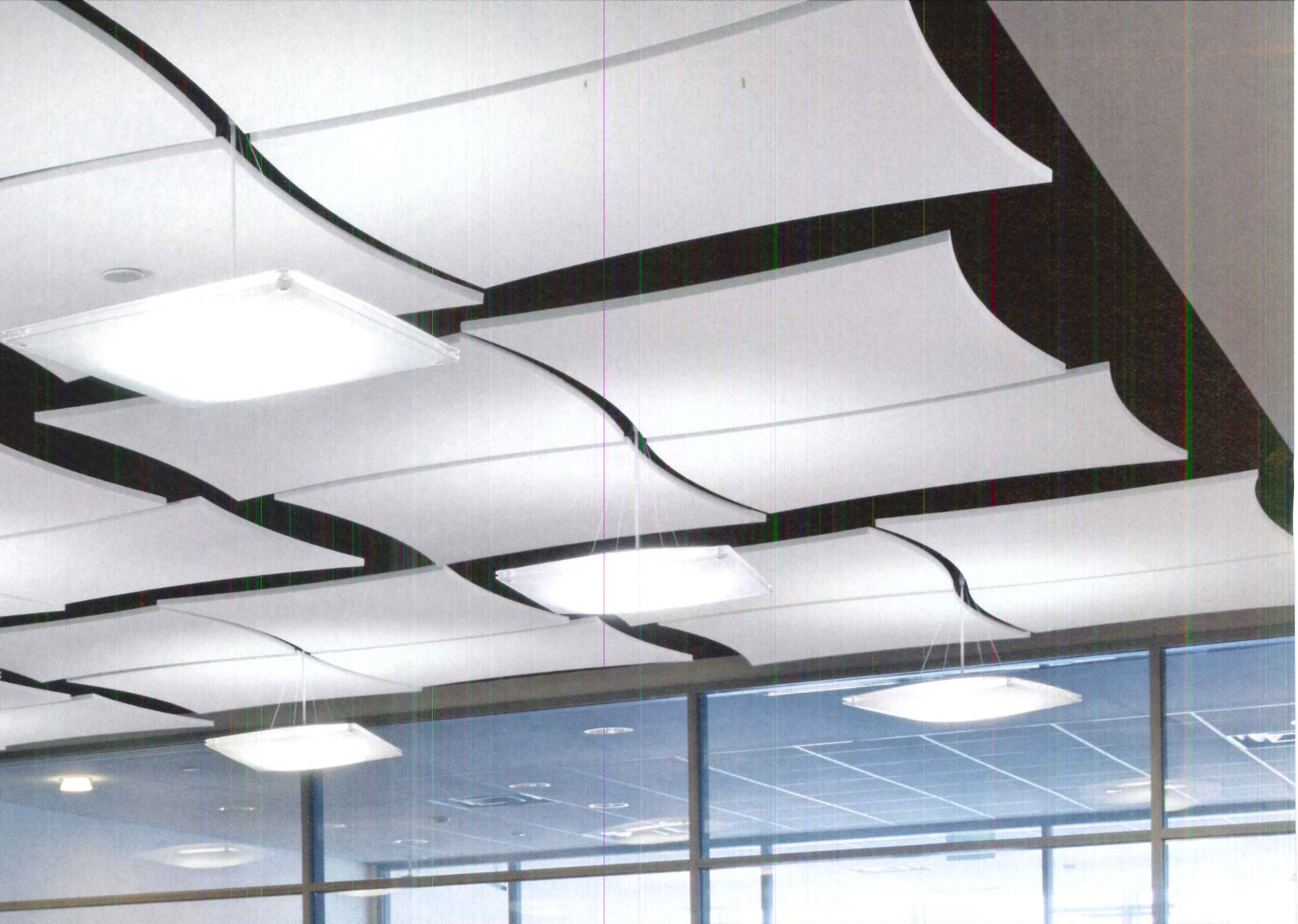
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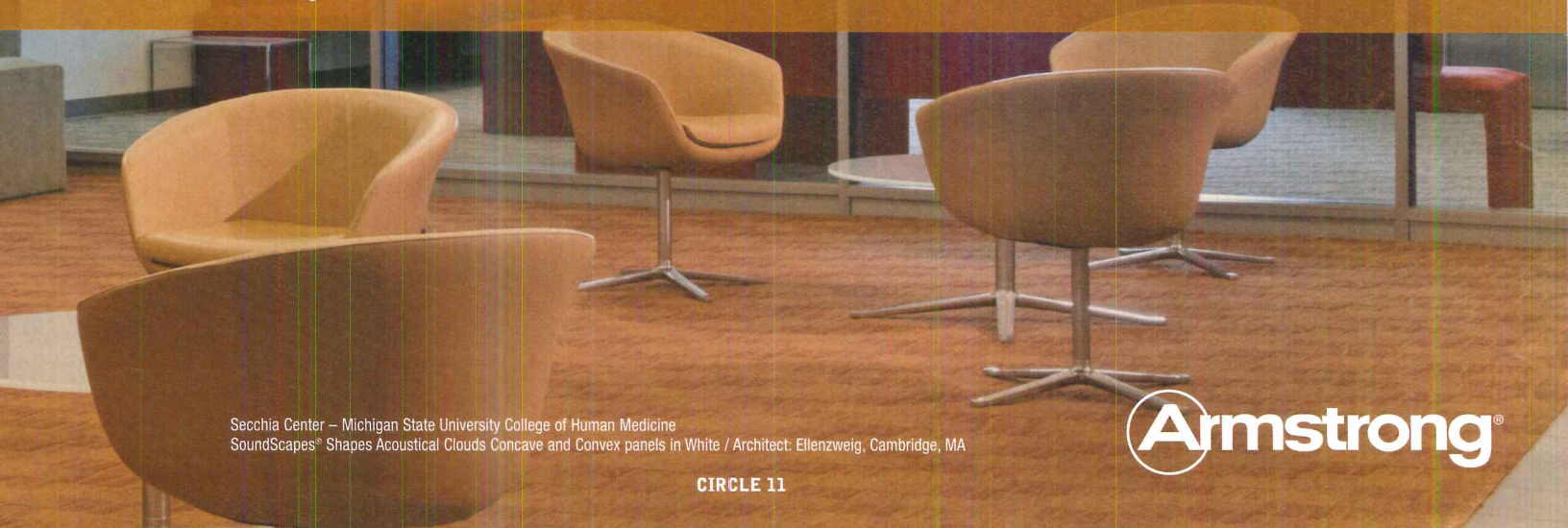




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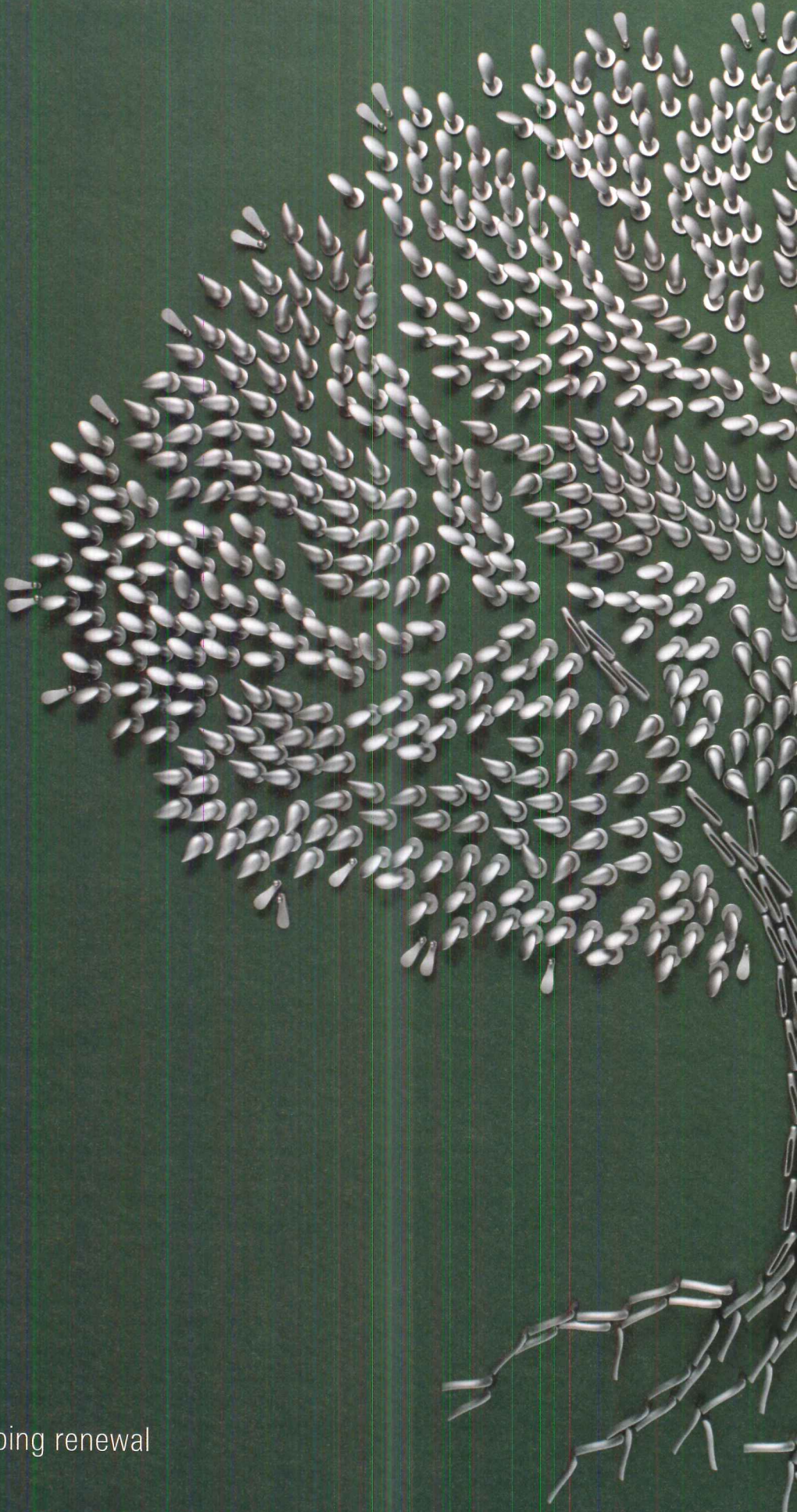
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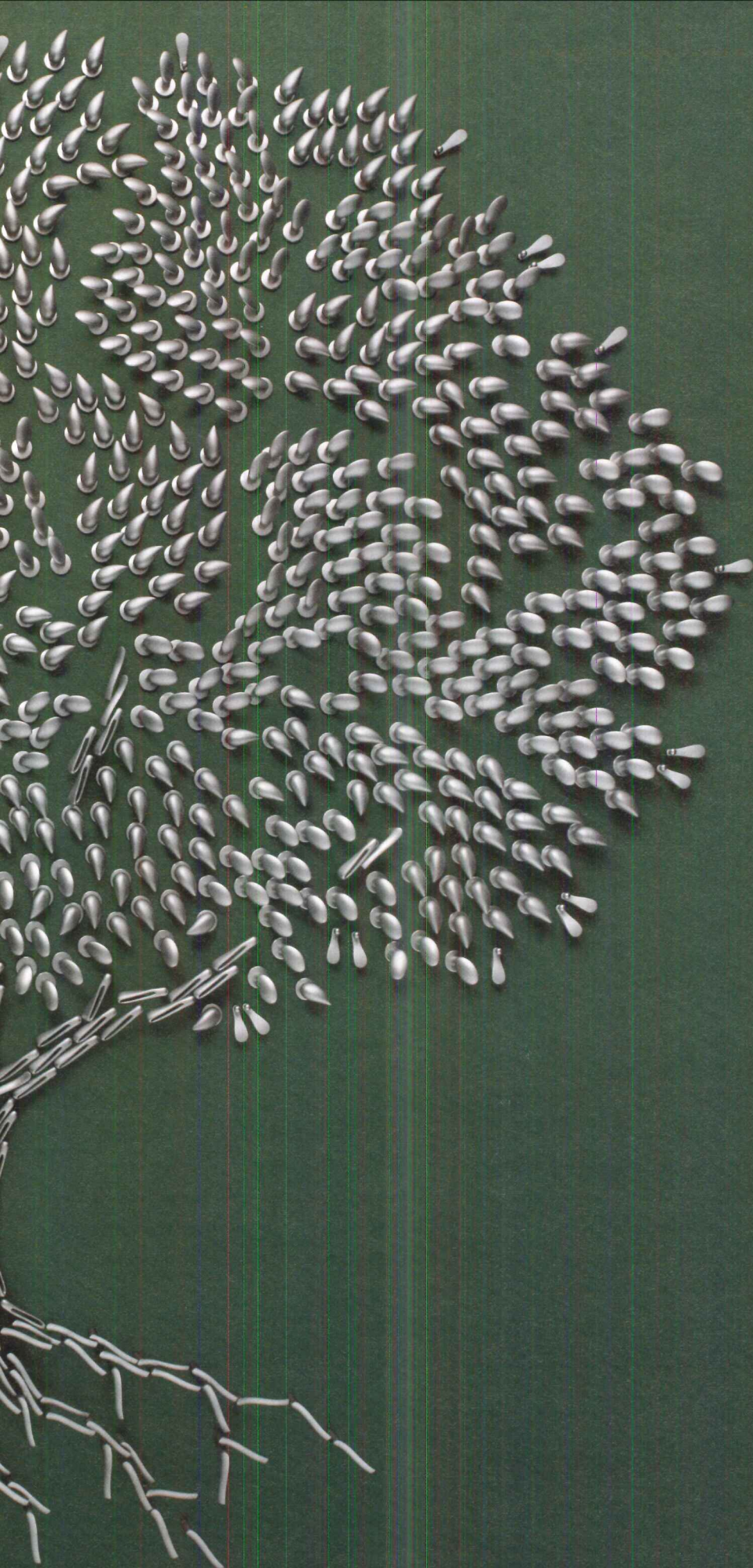
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CIRCLE 07

[GRAND OPENING]

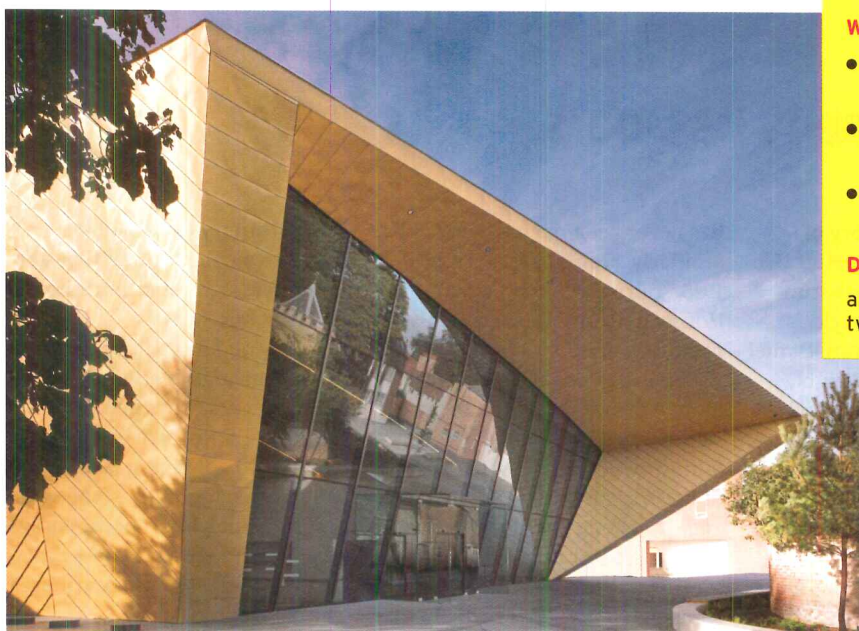
Curtain Up on Viñoly's Controversial Arts Center

IT HAS BEEN eight years in the making, come in more than \$15.8 million over budget, and been mired in litigation throughout its construction, but Rafael Viñoly's \$44.3 million arts center in Colchester, England, finally opened its doors on September 25.

The "Golden Banana," as it has been dubbed by the townspeople, is a 41,000-square-foot copper-and-aluminum-clad facility built for the arts organization Firstsite. The Colchester council hopes the center will raise the profile of this provincial town with Roman roots, located just 60 miles outside of London.

Stemming from a 2003 invited competition organized by the Royal Institute of British Architects, the project brief called for a multistory building on a tight site adjacent to a bus station. In a controversial move, Viñoly submitted four schemes, two of which were not on the competition site. His Golden Banana proposal, housing all of Firstsite's galleries and outreach functions in a single crescent-shaped volume on open parkland to the east of the original site, caught the judges' imagination and won.

Instead of designing a multi-level building that would have required deep foundations—plus a full-scale archaeological dig to protect possible Roman remains—Viñoly developed a single-story approach. "There was simply no money in the budget for [archaeological] works, so the project would have stalled at the outset," explained the architect. "Our one-story proposal was a 'light touch' . . . The building sits on curved concrete ring beams over site fill, with any Roman remains preserved beneath, untouched."



WEB HIGHLIGHTS

- Housing Solutions on View at Haiti Expo
- Revitalizing Toronto's Waterfront
- Ban to the Rescue in New Zealand, Japan

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LEFT: Dubbed the Golden Banana, the 41,000-square-foot building is clad in copper and aluminum.

BELOW: A wide corridor cuts through the curved, single-story arts center.

After construction started, in 2006, problems beset the project. The fiendishly complex geometry of the curved steel structure and huge cantilevered entrance canopy proved too much for contractor Banner Holdings. Beams had to be reengineered on-site because of unacceptable deflections, and parts of the standing seam roof and guttering details failed.

Instead of opening in 2007, the building was a leaking derelict shell by 2008. A year later, the contractor was kicked off the project, embroiled in legal claims and counterclaims for budgetary overruns; these are ongoing. The client managed to secure additional funding and completed the building with a different contractor, four years late and with a budget that had risen considerably from the original \$28.5 million.

There is no denying, though, that the building is dramatic—its horn-shaped golden curve contrasts with the Roman town's orthogonal urban grain, and its stepped section, reminiscent of Wright's Taliesin West, allows daylight deep into the galleries. Unfortunately, Viñoly's grand gesture—the building's sweeping, single volume—has been divided up awkwardly into lecture hall, gallery spaces, education rooms, and "destination" restaurant, all



linked by a wide corridor. It is interesting to note that the single largest wall, on the south side, leans out at an angle of about 15 degrees, which makes it less than conducive to easily hanging artwork. As a result, the building's bold, glinting exterior might be considered more successful than its internal spaces.

Borough councillor Paul Smith, who has supported the scheme throughout its long gestation, says the town has "come round" to the new arts facility, adding that it is "projected to bring in revenues of over \$3.2 million a year to the city." Colchester member of Parliament Bob Russell, however, called it "the 'golden blunder,' which disfigures and disgraces my hometown," and declared himself

"ashamed of it." He also took exception to Viñoly's 6 percent fee claim, even on the cost overrun. (Russell says the architect's fee amounted to about \$1.58 million.)

Viñoly, meanwhile, has stayed busy in Britain. His 25-strong London office is working on a \$316 million, 37-story "Walkie Talkie" tower in London's historic core. And on the banks of the Thames River, work is proceeding on his \$8.7 billion master plan for the 1930s Battersea Power Station. The project is a beast—a 10 million-square-foot mixed-use development with 2 million square feet of office space, nearly 3,500 new apartments, and commercial and leisure facilities. The first phase is due to be completed in 2016. ■

BY DAVID HILL

[EVENTS]

Chicago Opens Its Doors

FOR LOVERS of the history of architecture, there's no better U.S. city than Chicago, with its stunning collection of landmark buildings by Louis Sullivan, Daniel Burnham, Frank Lloyd Wright, Ludwig Mies van der Rohe, and others. For years, the Chicago Architecture Foundation (CAF) has offered guided tours—on foot and by boat—of the city's architectural gems. But, surprisingly, there's never been an annual Open House weekend in the Windy City. That's about to change.

Following in the footsteps of a growing number of cities around the world—including London, Melbourne, Barcelona, Dublin, Toronto, New York, and Denver—Chicago will launch its own Open House weekend October 15 and 16. Sponsored by the CAF, Open House Chicago offers architecture buffs the chance to see, free of charge, more than 100 sites, including many that are normally off-limits to the public. "One of our goals," says managing director Bastiaan Bouma, "is to reintroduce the city to its own residents."

Although some buildings and sites are well known—the Newberry Library (Henry Ives Cobb, 1893), Tribune Tower (Howells & Hood, 1925), the Inland Steel building (Skidmore, Owings & Merrill, 1958)—others may be unfamiliar even to longtime Chicagoans. For example, the original, 14-story "Sears Tower" (Nimmons & Fellows), in the North Lawndale neighborhood, dates to 1906 and was once part of the catalog store's sprawling headquarters. The 1925 Park Castle apartment, in West Ridge, designed by Jens E. Jensen, features a Moorish-style basement swimming pool. A private, elevated 2.5-acre park designed by landscape architect Alfred Caldwell, part of the 70-story Lake Point Tower residential building,

has never been open to the public. Similarly, Frank Lloyd Wright's 1915 Prairie-style Emil Bach House, in Rogers Park, is rarely open to visitors.

Some sites, says Bouma, have more cultural than architectural significance. For instance, the family-owned Fish Keg restaurant in Rogers Park is a simple brick-and-formstone storefront with an imposing neon sign, but it's been serving fried fish, shrimp, and chicken to loyal customers for 60

years. Hungry Open House Chicago participants will be able to sample the restaurant's homemade potato salad.

"Our model is a little different from some of the other Open House events," says Bouma. "Even though architecture is a big part of it, we're not giving it top billing. We want to highlight some of Chicago's neighborhoods, not just downtown. And we want people to see how buildings contribute to the communities." ■



ABOVE: Designed by Frank Lloyd Wright, the Emil Bach House (1915) is one of more than 100 sites that will be open to the public during the inaugural Open House Chicago.

LEFT: The neo-Gothic Fisher Building (1896), designed by Charles Atwood and D.H. Burnham & Company, is listed on the National Register of Historic Places.

GLOBAL TREND

Cities around the world have launched open house events as a way to engage the public in architecture and design. Slovenia's Chamber of Architects, an advocacy organization, has taken the idea a step further, hosting an open house featuring more than 100 sites throughout the country.

BARCELONA

Launched: 2010

Next: October 22-23, 2011

DENVER

Launched: 2005

Next: April 14-15, 2012

DUBLIN

Launched: 2005

Next: October 7-9, 2011

GALWAY, IRELAND

Launched: 2009

Next: October 13-16, 2011

HELSINKI

Launched: 2011

Next: September 2012

JERUSALEM

Launched: 2007

Next: November 4-5, 2011

LONDON

Launched: 1992

Next: September 2012

LOWELL, MASSACHUSETTS

Launched: 2002

Next: May 17-19, 2012

MELBOURNE

Launched: 2008

Next: July 28-29, 2012

MILWAUKEE

Launched: 2011

Next: Not yet scheduled

NEW YORK

Launched: 2002

Next: October 15-16, 2011

SLOVENIA

Launched: 2010

Next: October 8-9, 2011

TEL AVIV

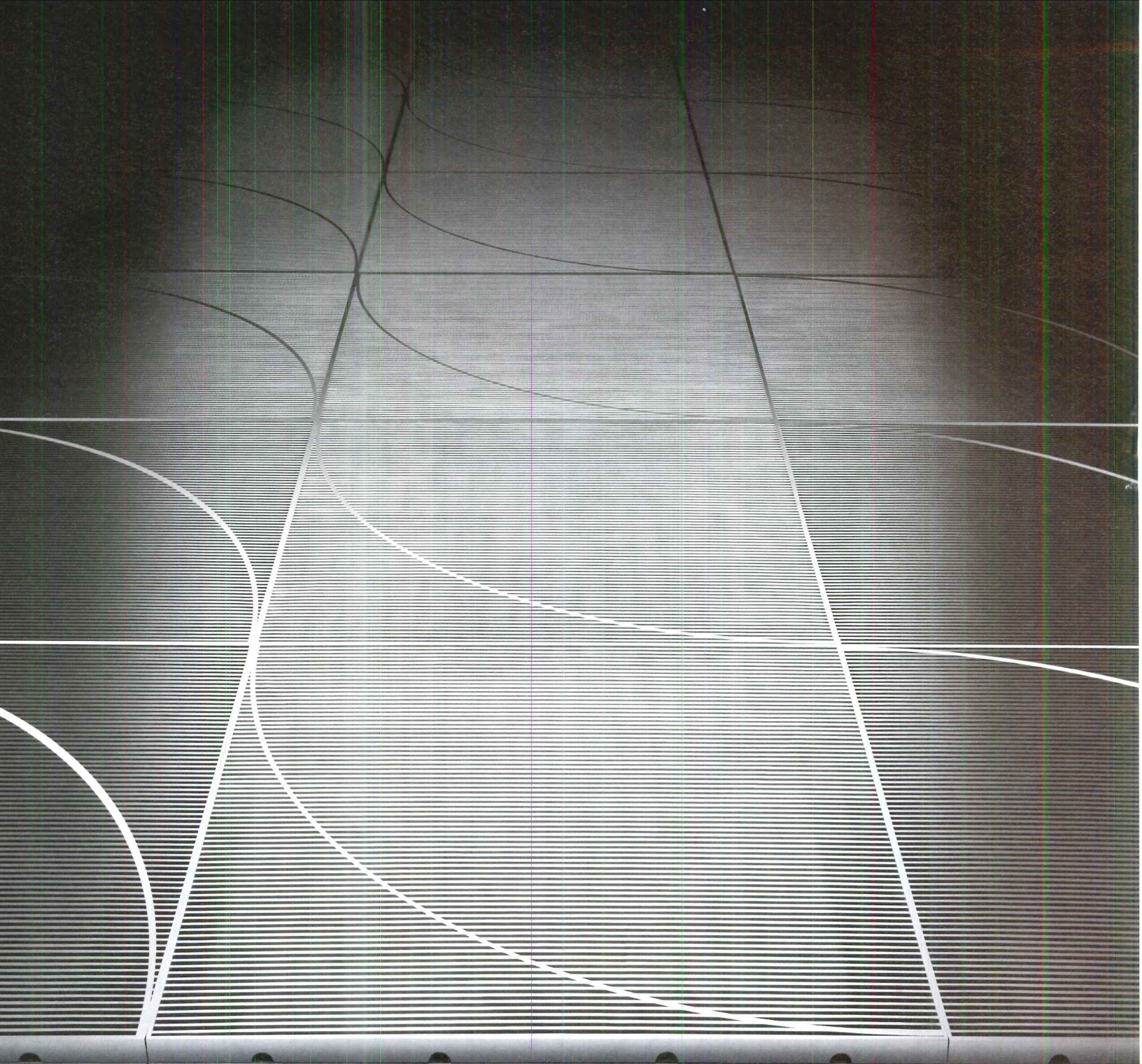
Launched: 2007

Next: May 2012

TORONTO

Launched: 2000

Next: May 26-27, 2012



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ON THE BOARDS



Project **Aspen Art Museum**
Location **Aspen**
Architect **Shigeru Ban Architects**

With \$46 million in funding secured, construction will begin in early 2012 on the new Aspen Art Museum. Shigeru Ban's design features a "woven" exterior screen encompassing a multilevel structure with ample glazing. The 30,000-square-foot facility will contain 12,500 square feet of exhibition space—triple the amount in the contemporary art museum's current 32-year-old home. It also will feature a classroom, shop, café, and rooftop garden.

Project **BAM/PFA**
Location **Berkeley**
Architect **Diller Scofidio + Renfro (DS+R)**

Two years after a \$200 million Toyo Ito proposal was scrapped, DS+R has unveiled its design of a facility for the UC Berkeley Art Museum and the Pacific Film Archive (BAM/PFA). The pared-down, \$90 million project calls for construction of a new, zinc-clad structure and the repurposing of a 1939 printing plant. Completion is slated for late 2015.



Project **Parkland Hospital**
Location **Dallas**
Architect **HDR, Corgan**

Construction is under way on the 2.1 million-square-foot Parkland Hospital, designed by HDR and Corgan Associates. Featuring a series of glass-clad rectilinear structures in a parklike setting, the massive campus includes 862 private patient beds and 27 operating rooms. It is located near stops for the city's light rail and commuter rail lines. The facility will replace the existing Parkland Hospital, where President John F. Kennedy was taken after his fatal shooting in 1963.

WHAT IS ROOFING FOR

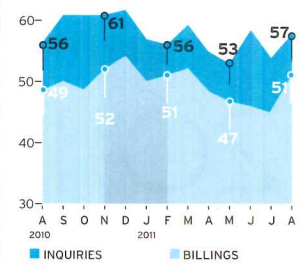
A Quiet Addition to Ronchamp Chapel



Designed by Renzo Piano, the controversial new visitors' center and convent at Le Corbusier's Notre Dame du Haut, in Ronchamp, France, opened in September. Piano inserted the restrained glass-and-concrete structures into the side of a grassy slope leading up to the chapel, so as not to detract from the 1954 masterpiece—a concern among project opponents. Piano is sympathetic to his critics. "Le Corbusier made one of the most beautiful places of meditation in the world," he says. "If a different architect had been hired, I would probably be worried, so I can understand."

Calatrava Pulls Out of Denver Airport Expansion Project

Santiago Calatrava has stepped down from the Denver International Airport expansion project. In a letter obtained by the *Denver Post*, Calatrava's wife and business manager, Robertina, cited "financial constraints, unnecessary time delays, and deep divisions" among the architect's design team, the client, and Parsons Transportation Group. Calatrava's ambitious \$650 million scheme for the site was unveiled last summer.



Big Jump for ABI

The Architectural Billings Index leapt to 51.4 in August, up from July's 45.1 (a score above 50 denotes a billings increase). The inquiries score also rose, to 56.9, following 53.7 the month prior. Although many firms still struggle, AIA chief economist Kermit Baker says, "It's possible we've reached the bottom of the down cycle."

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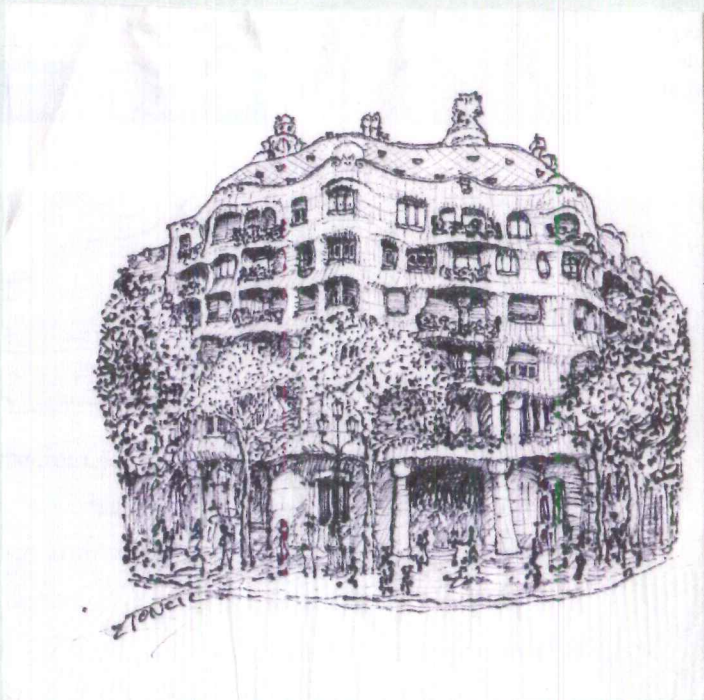
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ARCHITECTURAL RECORD Announces the Winners and the Runners-up of the

2011 COCKTAIL NAPKIN SKETCH CONTEST

Because of the enthusiastic response to the cocktail napkin sketch contest initiated a year ago, RECORD decided to do it again—not so much to encourage downing martinis as to honor the impulse to draw in a digital age. This year the jury of editors evaluated more than 1,200 napkins from nearly 400 entrants. With so many submissions, RECORD decided to select winners according to two categories—professional architects and nonprofessionals (architectural students, designers, and others).

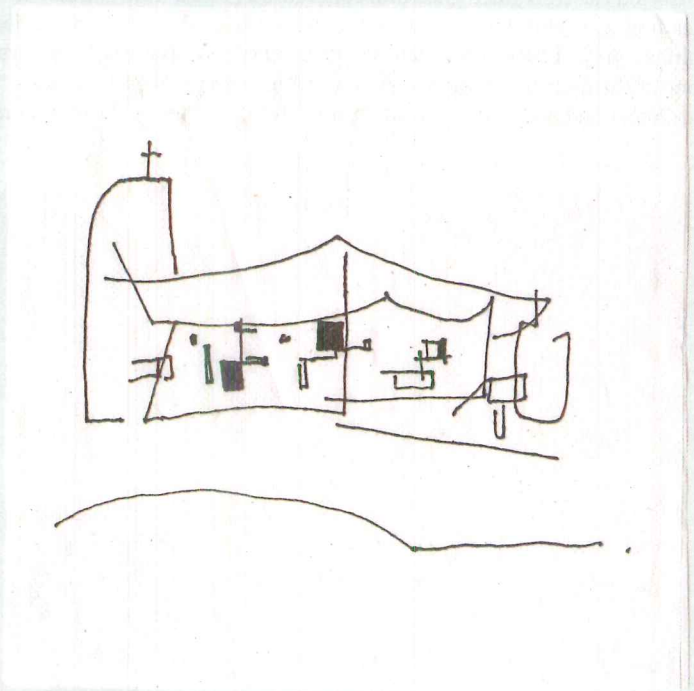
WINNER, PROFESSIONAL



ZELJKO TONCIC, ARCHITECT, RIZVI ARCHITECTS; BOSTON
CASA MILÀ, BARCELONA

The prize for the best-in-show cocktail napkin sketch by a professional goes to Zeljko Tonic for his drawing of Antonio Gaudi's Casa Milà, in Barcelona. The jury found it to be quirkily evocative of the 1910 landmark. Tonic, who has practiced for 33 years, says he has sketched the building before but this was the first time he dealt with the difficult medium of the cocktail napkin. "The paper is so soft and absorbs ink readily that maintaining control is tricky," he notes. "I was trying to capture the essence of the structure without going into extreme detail."

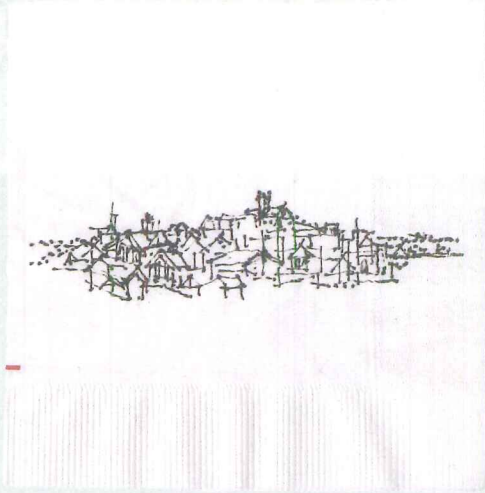
WINNER, NONPROFESSIONAL



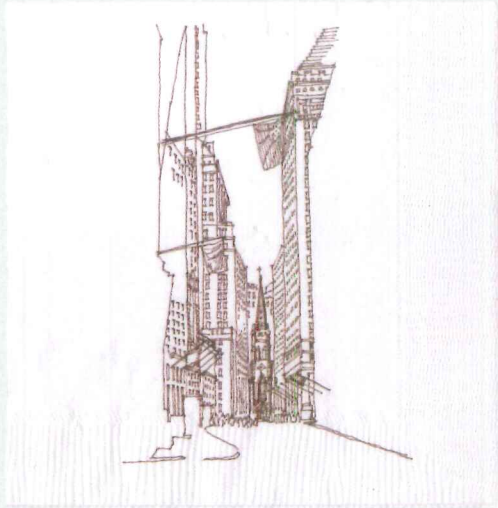
AMANDA D. PROSSER, M.ARCH. 2010; TOPEKA
NOTRE DAME DU HAUT, RONCHAMP, FRANCE

The winning cocktail napkin sketch by a nonprofessional was drawn by Amanda Prosser, who received her M.Arch. from Kansas State University. With jobs in architecture so scarce, she currently works for a life insurance firm. The jury found Prosser's sketch of Notre Dame du Haut, Le Corbusier's famous chapel at Ronchamp, France (1954), to exhibit a startling economy and elegance of line. (A number of contestants submitted sketches of Ronchamp, which can be seen on the web.) When Prosser visited Ronchamp as a student, she drew the building in a sketchbook with her eyes closed. "Back in Topeka, I decided to see if I could do it on a cocktail napkin with an extra-fine black ballpoint pen," she says. "I did it again without opening my eyes."

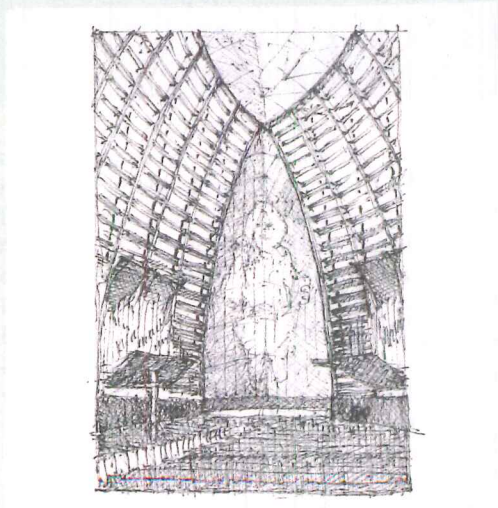
RUNNERS-UP, PROFESSIONAL



TONY COSTELLO, ARCHITECT,
COSTELLO + ASSOCIATES; MUNCIE, INDIANA
AN ENGLISH MEDIEVAL LANDSCAPE

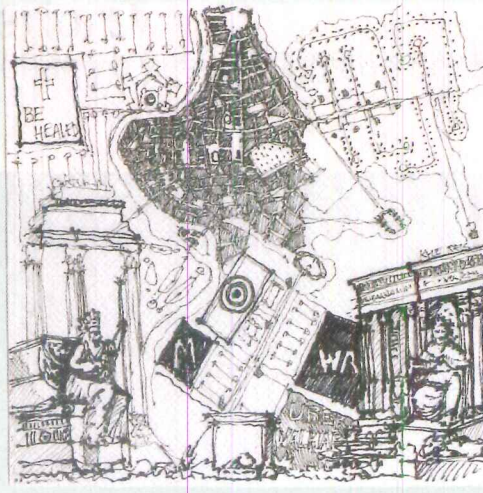


HIROTAKA HAYAKAWA, ARCHITECT,
COOPER, ROBERTSON & PARTNERS; NEW YORK CITY
TRINITY CHURCH, NEW YORK CITY

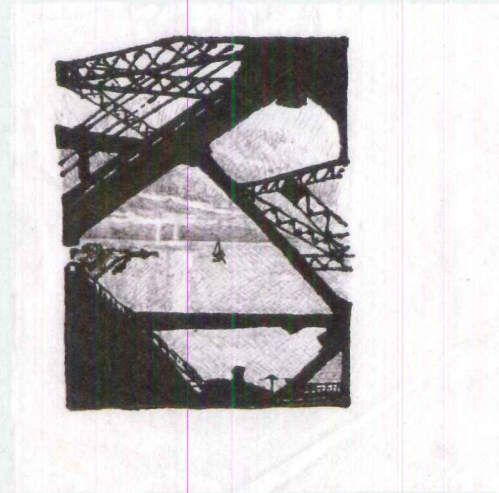


GREGORY L. KLOSOWSKI, ARCHITECT, ELLIPSIS
A+D; ALAMEDA, CALIFORNIA
OAKLAND CATHEDRAL, OAKLAND

RUNNERS-UP, NONPROFESSIONAL



KYLE REIS, PLANNER, COOPER CARRY; ATLANTA
NOLLI MAP WITH SUBURBAN SPRAWL



BRODIE STEPHENS, GENERAL COUNSEL, PERKINS + WILL
SAN FRANCISCO
LEFTY O'DOUL BRIDGE, SAN FRANCISCO

HORS DE CONCOUR



SCOTT GROVE, CREATIVE DIRECTOR,
SMITH + ASSOCIATES ARCHITECTS
ROCHESTER, NEW YORK
A COUNTRY CHURCH

Contestants were asked to submit sketches on a 5-inch-square cocktail napkin, a stipulation that many blithely ignored. But RECORD's jury stuck by the rules—with one exception: a tiny, delicate model of a church by Scott Grove (an artist) in which the cocktail napkin was made to act like balsa wood. RECORD created an "hors de concours" (out of the running) award. We couldn't resist it.

By sponsoring a contest for an arguably anachronistic art form in a digital age, RECORD supports the conviction that architects still draw to think—and to remember works of architecture and urbanism they have visited. Yes, it's true that many submissions were not the fast, direct, effortless gestures we associate with a cocktail napkin sketch per se. As the two winners and six runners-up demonstrate, these sketches took some time and effort, especially when executed on a small square of flimsy white paper. While keeping the true nature of the napkin sketch in mind, we allowed fastidiously worked-over entries to be considered. After all, it is for the sake of drawing, which seems alive and well.



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HOUSE OF THE MONTH **INGRID SPENCER**

ARCHITECT ROBERT GURNEY DESIGNS A SIMPLE LIGHT-FILLED CUBIFORM HOUSE IN BETHESDA, MARYLAND.



1. The north elevation of the cubic house brings to mind Adolf Loos's Villa Müller in Prague (1930) in its simplicity and austerity of detail. A charcoal-gray ground-faced block clads the structure, while the front door is mahogany.

2. A double-height window wall on the south elevation allows living spaces inside to become part of a landscaped open-air "room."

3. In order to give privacy to the interior, Gurney designed narrow rectilinear windows on the side walls, such as the L-shaped one on the west elevation of the ground floor.

ARCHITECT ROBERT GURNEY and his client, a young entrepreneur with a large family, shocked the residents of the Edgemoor section of Bethesda, Maryland, with the house they created. It was not because of the design's Modernist roots, although the house is decidedly unlike the Colonial- and Craftsman-style ones nearby.

The surprise comes from its size. At just 2,200 square feet, the house is dwarfed by its stately, overscaled neighbors. "Most of the new houses in the neighborhood are being built to the maximum size allowed by the zoning," says Gurney. "This was a different approach—with more outdoor space and a third less area for the house than what had been there."

The client desired a totally efficient design for his 60-by-150-foot property, which Gurney found in an understated cube. The elegance of the simple box startles in its lack of excess. Charcoal-gray ground-faced concrete block clads the wood-frame house, with rectangular and square windows of varying sizes punched out to capture views, control sunlight, and afford privacy to interior spaces.

Although small, the two-story



house has a large basement and an 1,100-square-foot roof deck surfaced in ipé wood and edged by concrete-block parapet walls that afford glimpses of Bethesda's growing skyline. A steel staircase on the east elevation provides access to the deck from the second floor.

Gurney's client, whose office is two blocks away, often holds business meetings on the roof, or invites contacts from his financial services firm to dinner. Mostly, though, the house is for the family. "We're very informal," he says.

Inside the house, spaces are bright and open, with walnut

floors, white walls, and stainless steel countertops as the main finishes. The four children (with one on the way) spend most of their time outside or in the basement, which contains one bedroom, a playroom, a media room, and a laundry. Other than a small office area, the ground floor is devoted to public spaces, including an open kitchen, while bedrooms are on the second floor.

"Not one part of this house goes unused," says Gurney. His client agrees, and adds, "It's a house of its time, and it's completely a reflection of me." ■

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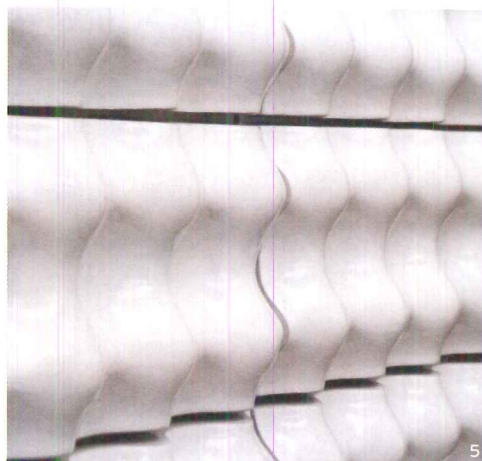
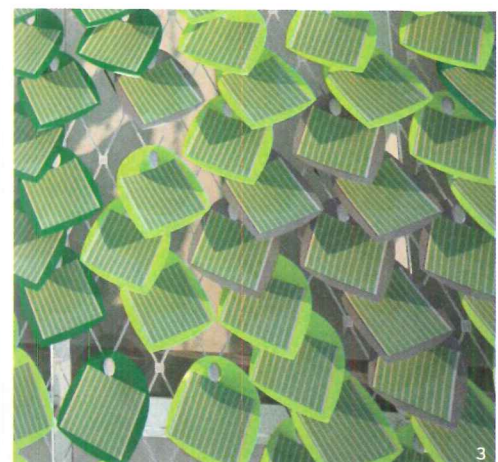
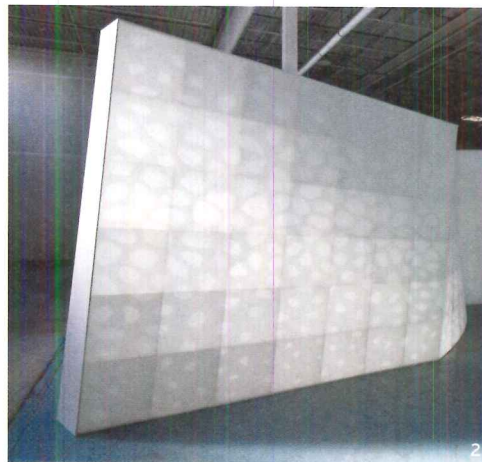
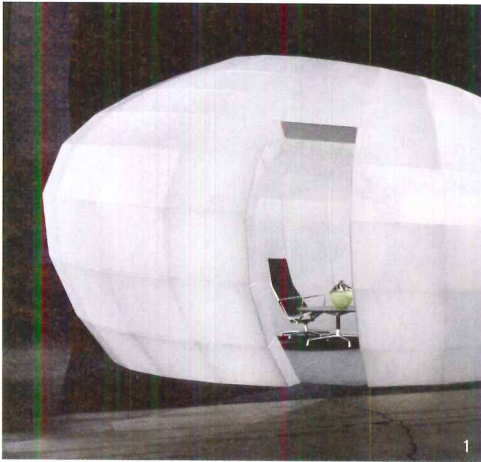
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Seeyond [1+2]

Seeyond Architectural Solutions seeyond.com

Seeyond is a new parametric design and building system that lets designers and architects create an interior feature in a 3-D modeling application, and then builds the precise design from flat sheet stock. Intended for non-load-bearing walls, wall-mounted structures, ceiling clouds, column wraps, and partial enclosures, the system uses the Tess Specification Tool to visualize the design, including feature type, size, form, and tessellation. Seeyond then uses the data to drive the manufacturing process, creating a unique specialty feature. Flat sheets are precisely cut, and then folded like origami to create the individual modules comprising the tessellated surface. The modules combine without tools or visible hardware to create self-structuring systems. Base pricing will range from \$50 to \$80 per square foot, with optional add-ons. **CIRCLE 200**

Dow-Knight CI-System [6]

The Dow Chemical Co. & Knight Wall Systems dowknightsolutions.com

Dow's Thermax Wall System can now be used in conjunction with Knight Wall Systems' CI-System for a high thermal performance continuous-insulation rainscreen solution. The Dow-Knight CI-System allows for cladding attachment over Thermax CI at insulation thicknesses of up to 3", to meet requirements of ASHRAE 90.1. The system's "drop-in" all-in-one design also saves time and money. **CIRCLE 201**

TerraClad Terra-Cotta Rainscreen [5]

Boston Valley Terra Cotta bostonvalley.com

The Fluid Panel can be used as a feature wall for interior or exterior applications or an accent unit in combination with standard smooth or reveal panels. An alternative profiled unit for architects who want more out of Boston Valley's TerraClad rainscreen system than the standard smooth panel, Fluid is made using ram press technology with a ship-lap, and incorporated into the company's standard vertical track-and-clip system. **CIRCLE 202**

Solar Ivy [3+4]

Solar Ivy solarivy.com

While ivy growing up a building's facade is usually discouraged, you might reconsider if it's Solar Ivy. A new solar-energy delivery device for residential, commercial, and advertising applications, Solar Ivy combines photovoltaic (PV) technology and piezoelectrics (electric polarity due to pressure). Made of recycled and reclaimed materials, the Solar Ivy "leaves" (detail, top) can be custom-colored for a specific aesthetic look or to "paint" a logo on a wall. The density of the leaves can be increased or reduced depending on goals for energy gain, visibility requirements, or architectural needs. The system can be produced with one of several types of PV material depending on the energy production and environmental objectives. Solar Ivy's flexibility gives it an advantage over other vertical systems; the individual leaves can be adjusted at various angles at different places along the surface to maximize solar exposure and shade. **CIRCLE 203**

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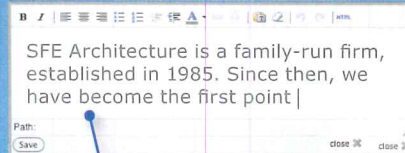
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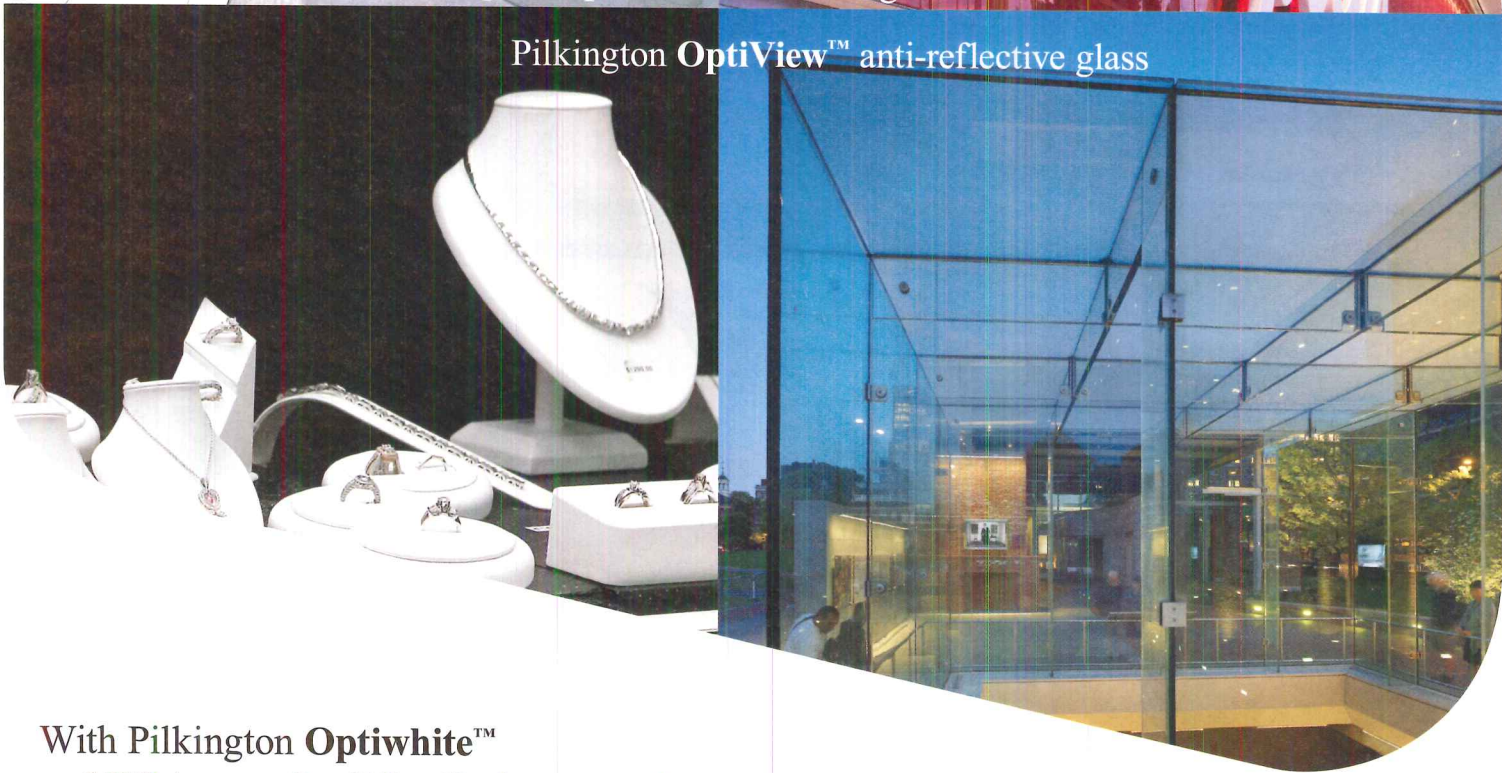
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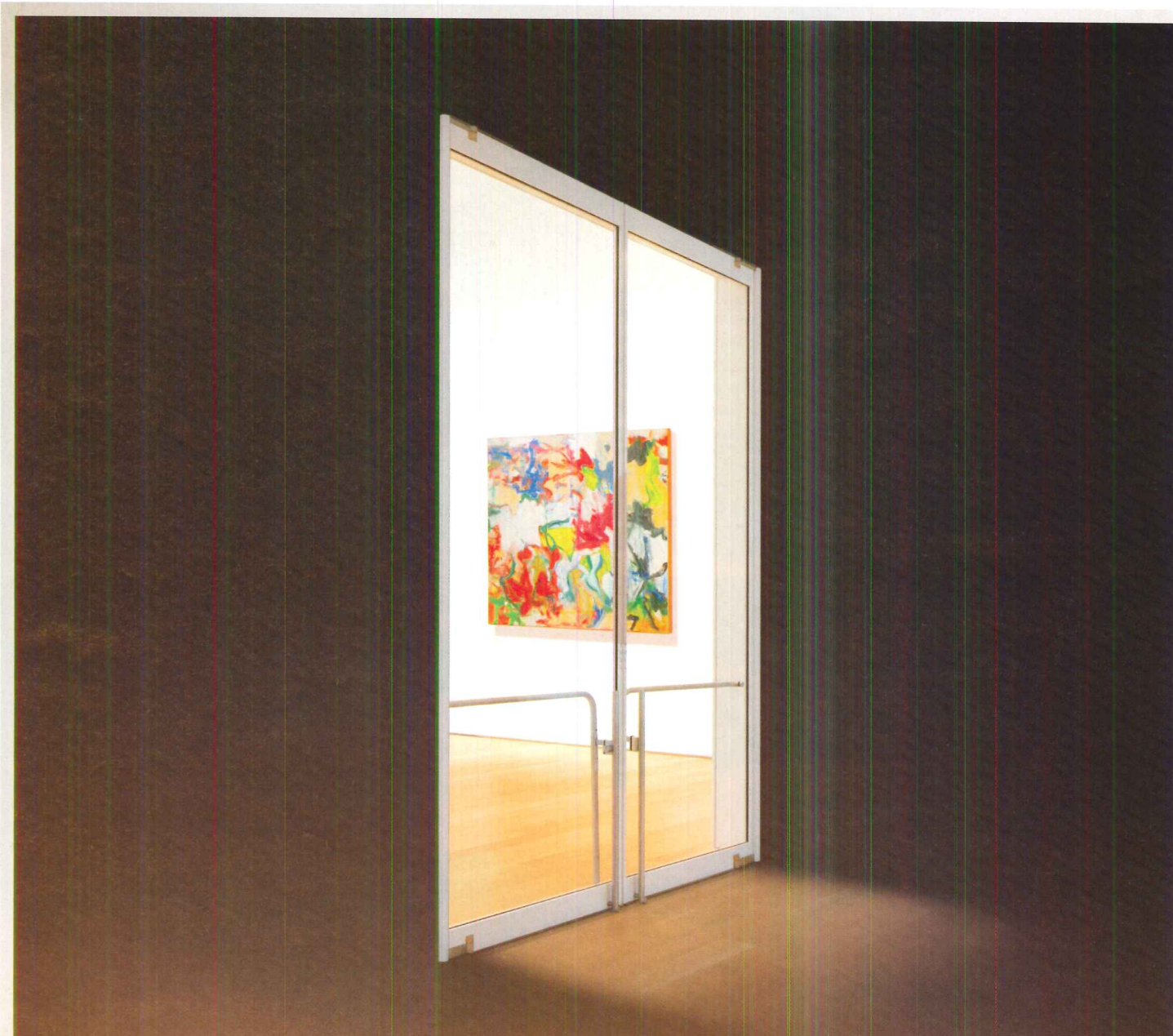
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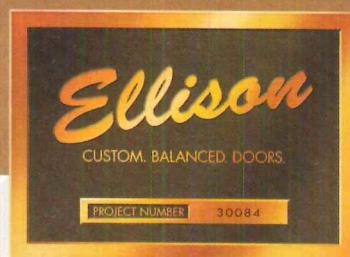


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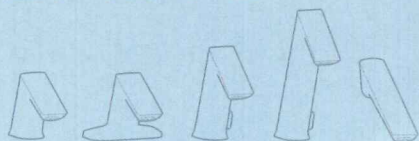


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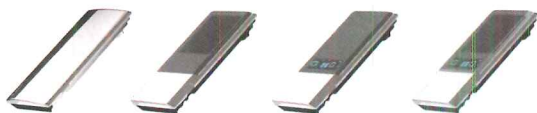
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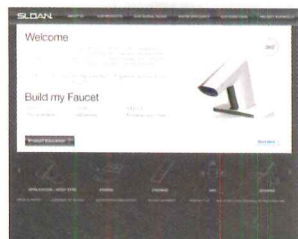
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CIRCLE 54

FLIGHTS OF FANCY

FOUR FIRMS APPLY BOLD MATERIALS TO ELEVATE MODEST SURROUNDINGS.

BY LINDA C. LENTZ, LAURA RASKIN, ASAD SYRKETT

MANY ARCHITECTS shun the notion of decoration—less is more and all that. But there are times when less is just less and the form clearly requires a dash of well-placed ornament to humanize it or improve its function. The designers of the projects that follow are all masters at transforming problematic interior spaces into wonderful places using material flourish, color, and humor. Here they demonstrate their skills with thoughtful solutions for a range of clients and locations that include a subterranean metro station in Naples, Italy (pictured), a vast central market in Moscow, a department store in Seoul, and a small, lackluster office in San Francisco—all universal challenges that speak to design teams everywhere.



UNIVERSITY OF NAPLES METRO STATION

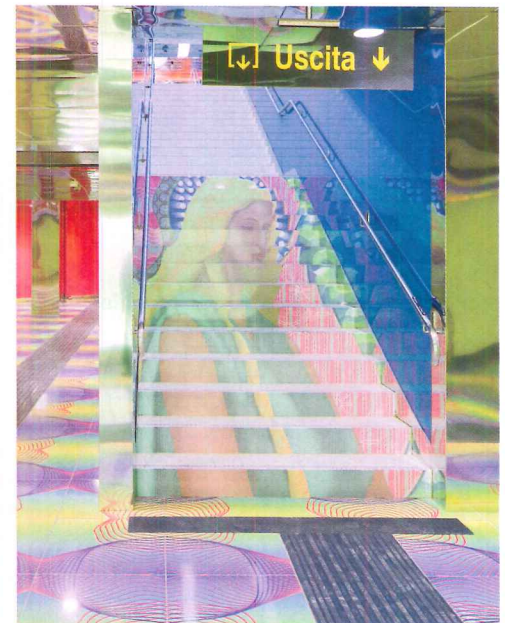
Naples, Italy
Karim Rashid

IN AN EFFORT to update its metro system, the city of Naples, Italy, has created a dozen art stations over the last decade, guided by Italian art critic Achille Bonito Oliva. The stations are filled with a range of contemporary works by local artists and international icons like Joseph Kosuth and Sol LeWitt. In 2004, they invited New York City-based artist and industrial designer Karim Rashid to bring his psychedelic sensibility to the University of Naples stop.

Working with the Milan firm Atelier Mendini, Rashid developed a scheme for the station integrating a textural mix of slick materials—from DuPont and Italian manufacturers Progetto Vetro and SITI Group—including: Corian, tile, marble, polished stainless steel, and glass or quartz printed with Rashid-designed patterns.

Now riders discover a new world below-ground, where they are embraced by the soft nature and striking palette of the space, says Rashid. “I wanted to use the conceptual descent that takes place when entering the subway as a physical and mental transition for visitors.” Going from the open Neoclassical

plaza into the subterranean station, commuters move from grayscale to Oz-like color. Floors in kaleidoscopic patterns and brilliant hues of blue, red, pink, and green intersect with highly reflective stainless steel ceilings and walls. But the color is not purely aesthetic. “Accent colors along hallways guide people to the platforms below,” says Rashid. And platform colors indicate the direction of incoming trains. Iconic touches like tile murals of Dante Alighieri and Beatrice on staircases orient commuters toward exits, he explains. “A person is in the station on average for three to four minutes. And in that time I want to communicate a place that stimulates, inspires, and exudes energy,” Rashid says.



TSVETNOY CENTRAL MARKET

Moscow

Lifschutz Davidson Sandilands

THERE IS A MISCONCEPTION among many designers that the top floor of a department store may as well be Siberia. Retailers tend to banish offices up there, far from quick-selling items like cosmetics and handbags on lower floors. After more than a decade designing upper-level hospitality and retail spaces like the OXO Tower Restaurant for Harvey Nichols in London and a dining/food hall emporium for Milan's La Rinascente [RECORD, February 2009, page 121], architecture firm Lifschutz Davidson Sandilands (LDS) sees opportunity in the heights. "Most architects don't understand that the retailer constantly changes what happens on the floor," says Paul Sandilands, a director at the London-based firm. "In most of the great buildings in the world, the ceilings are the most spectacular."

LDS put this experience to work for the Tsvetnoy Central Market, a lush food hall on

the top two floors of a new department store in Moscow (designed by Russian firm Project Meganom). The designers applied a shimmering expanse of 2,600 mirrored and hammered stainless steel panels in a geometric pattern on the fifth- and sixth-floor ceilings. The textured surface creates a distorted reflection of shoppers and rainbow-colored food displays that can be seen from the ground floor entrance, enticing visitors to travel up.

To achieve the effect they wanted, the LDS team specified a light-colored floor and configured cracks between the ceiling panels to express the building's structural grid, which adds clarity to the organization of the space. "You can end up with reflections of reflections of reflections," says Sandilands. Lights mounted on columns fill the gaps between the panels with a warm glow. Ceiling cutouts also have pairs of metal-halide lamps, chosen for their crisp light. "We did a lot of 3-D computer modeling to make sure it all worked, but there is a degree of chance here, and as it turned out, it all looks pretty spectacular," says Sandilands.



LOTTE MAGIC GARDEN

Seoul
Moss & Lam

FUSING ART AND ARCHITECTURE, fine artists Edward Lam and Deborah Moss frequently collaborate with architects, interior designers, and other clients to make custom, richly detailed works of art—many of them for international restaurants, hotels, and established retailers such as Sofitel and Louis Vuitton. When commissioned by the South Korean department store Lotte to fill a central atrium in its Seoul emporium, the partners and founders of the Toronto-based design studio created a dazzling seven-story mobile made of reflective gold and silver butterflies, crystals, and glass beads.

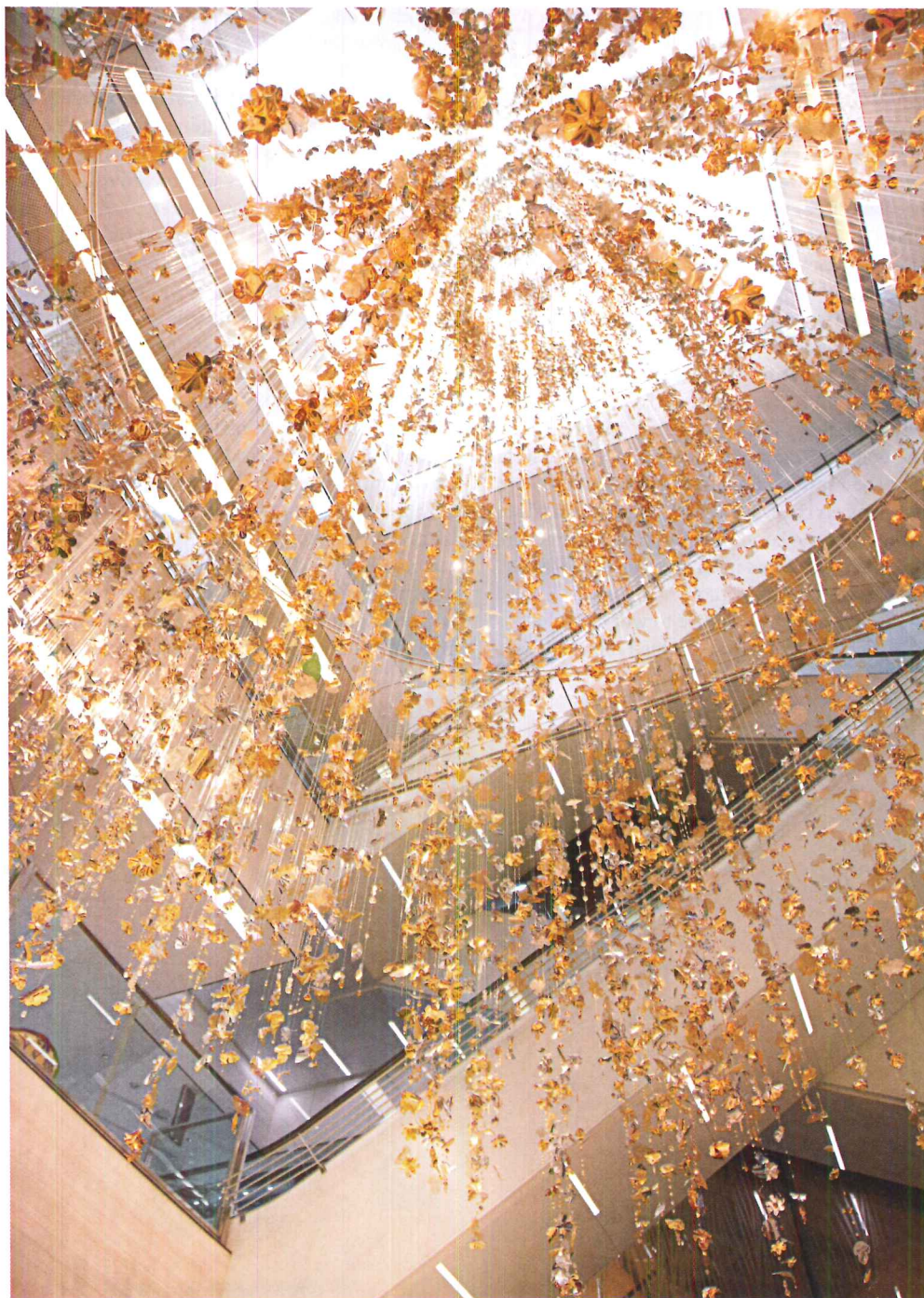
The atrium, Lam explains, brings light and air down into spaces that are frequently dense with customers. “At the same time, you’re losing a lot of [important] ground for retail,” he adds. This is particularly true on the main floor, where the more showy labels—jewelry, perfume, and other high-end items—are located to attract shoppers.

“So the client asked us to come up with ideas to put something sculptural there,” says Lam. They wanted a piece that would both complement the expansive space and enhance a sense of luxury in that area. The scheme



born of this marriage of art and commerce consists of 2,600 100-foot-long wires of brass mesh and polycarbonate, suspended from a copper framework that hangs from the ceiling.

Installing the piece was no small feat. The artists and their crew shipped the many components to South Korea in discrete boxes from their Toronto studio, where the duo’s work is fabricated. “As we designed them,” Lam says, “there were very quick reassembly points.” He cites a tight construction schedule—a mere two weeks—as a further challenge. When the pieces arrived at the site, members



of the project team fastened each module to the metal skeleton before they raised the glittering mobile to the full height of its new home. The work is Moss & Lam’s second of its kind for Lotte. In 2009, the duo created “Pisces,” a cascade of chrome fish, 190 feet high, that occupies the atrium of the company’s Busan store. The artists’ website lists the mobile as the world’s largest.

“What we’ve enjoyed about this work is the fine line between craftsmanship and fabrication,” Lam says. “It is a hybrid and an art piece, which is really what we’re after.”





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QUID

San Francisco
Studio O+A

IMAGINATIVE ENVIRONMENTS and surface patterning are essential for the offices of über-hip high-tech companies where youthful, creative employees work long hours. This is just the type of client Studio O+A has been engaging for about 20 years. And whether creating a workplace for an iconic firm like Facebook or Microsoft or a start-up with budget limitations, principals Primo Orpilla and Verda Alexander love to push boundaries when it comes to materials—especially the common variety.

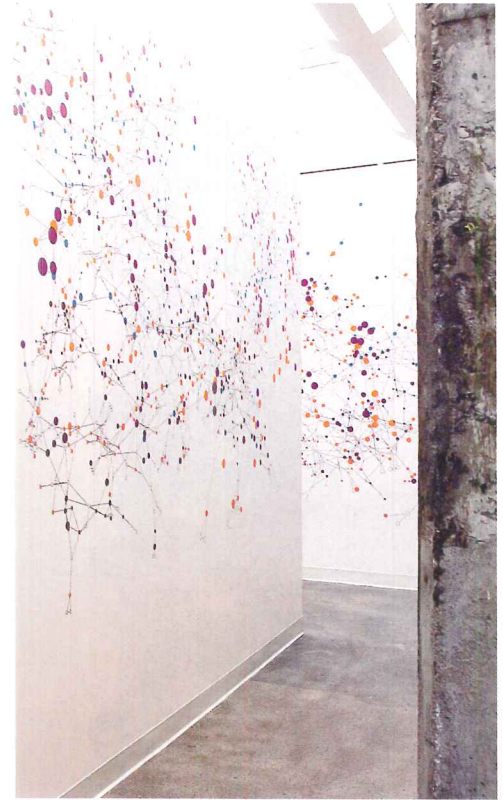
The selection is never random, however. According to Alexander, “First we try to understand the client to glean something unique for design direction.” In the case of Quid, a young analytics company specializing in software for investors in emerging technologies, the San Francisco-based interior designers took their cues from the intellectual Oxford pedigree of the founding partners as well as the graphic potential of their algorithms.

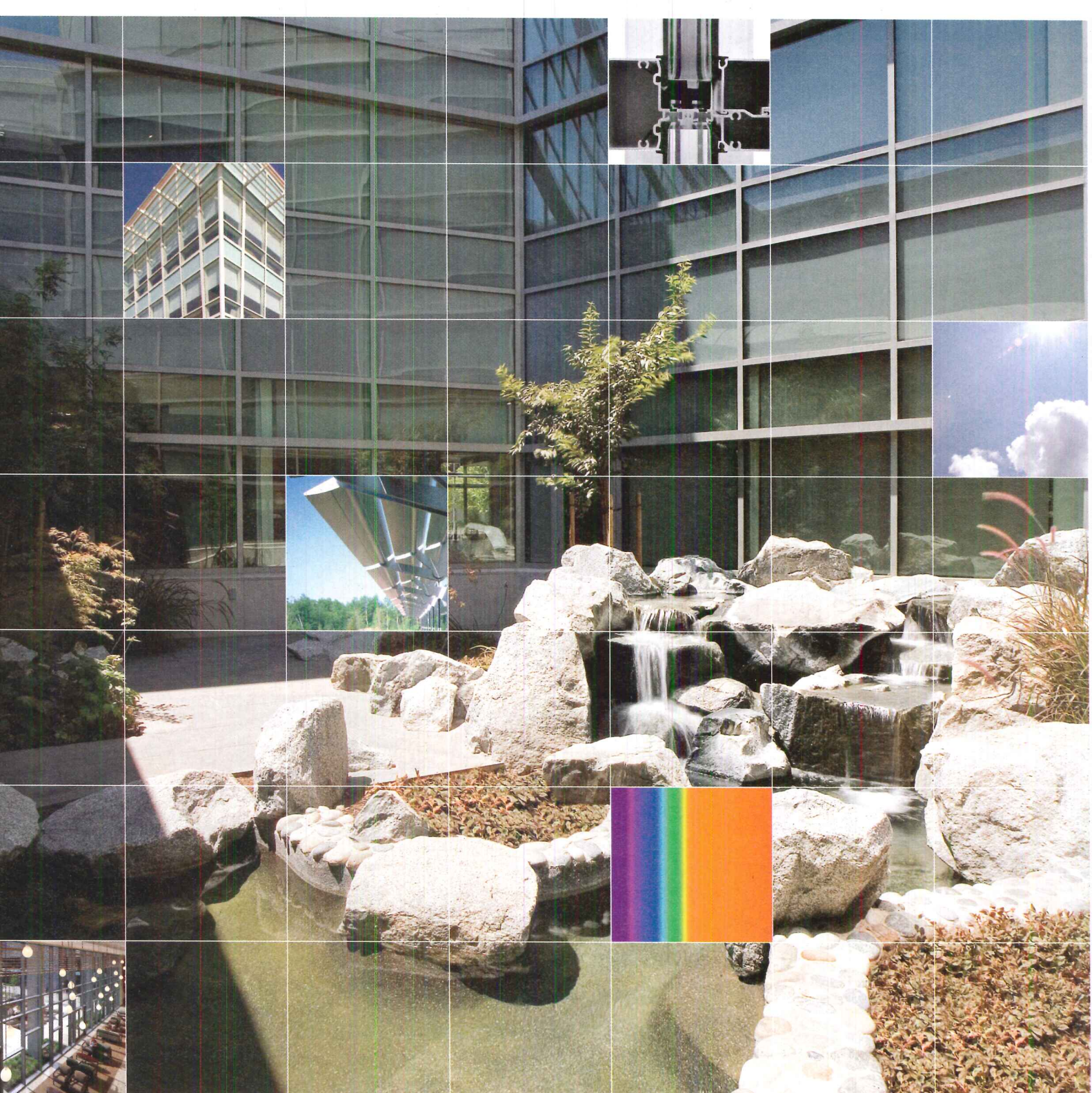
Making the most of the bunkerlike feel of the company’s 4,719-square-foot space, Orpilla

and Alexander devised an open office plan with exposed concrete, columns, and ceiling ductwork, painting most everything white to provide the illusion of height and space. Then they began to play, defining individual areas with eclectic elements that establish visual barriers within the room.

An accomplished artist, Alexander worked with her graphic design team to develop a wallcovering for the long entry hall and reception area. The resulting pattern (right) is an abstract interpretation of Quid’s mapping studies, and a whimsical introduction to the corporate offering and philosophy. Maintaining this sleight of hand, she and Orpilla crafted a small transparent conference room (below) out of vinyl welding strips (the kind you find on loading docks and in meat lockers), which simply hang from a suspended ceiling track—no doors required. And for the mostly paperless library, the designers achieved an authentic university feel with tromp l’oeil wallpaper dubbed Books and wing chairs upholstered with genuine British route signs (see page 11).

Such wit and wisdom clearly work for the client. The Quid website includes photos of its new office to tout the company culture. ■





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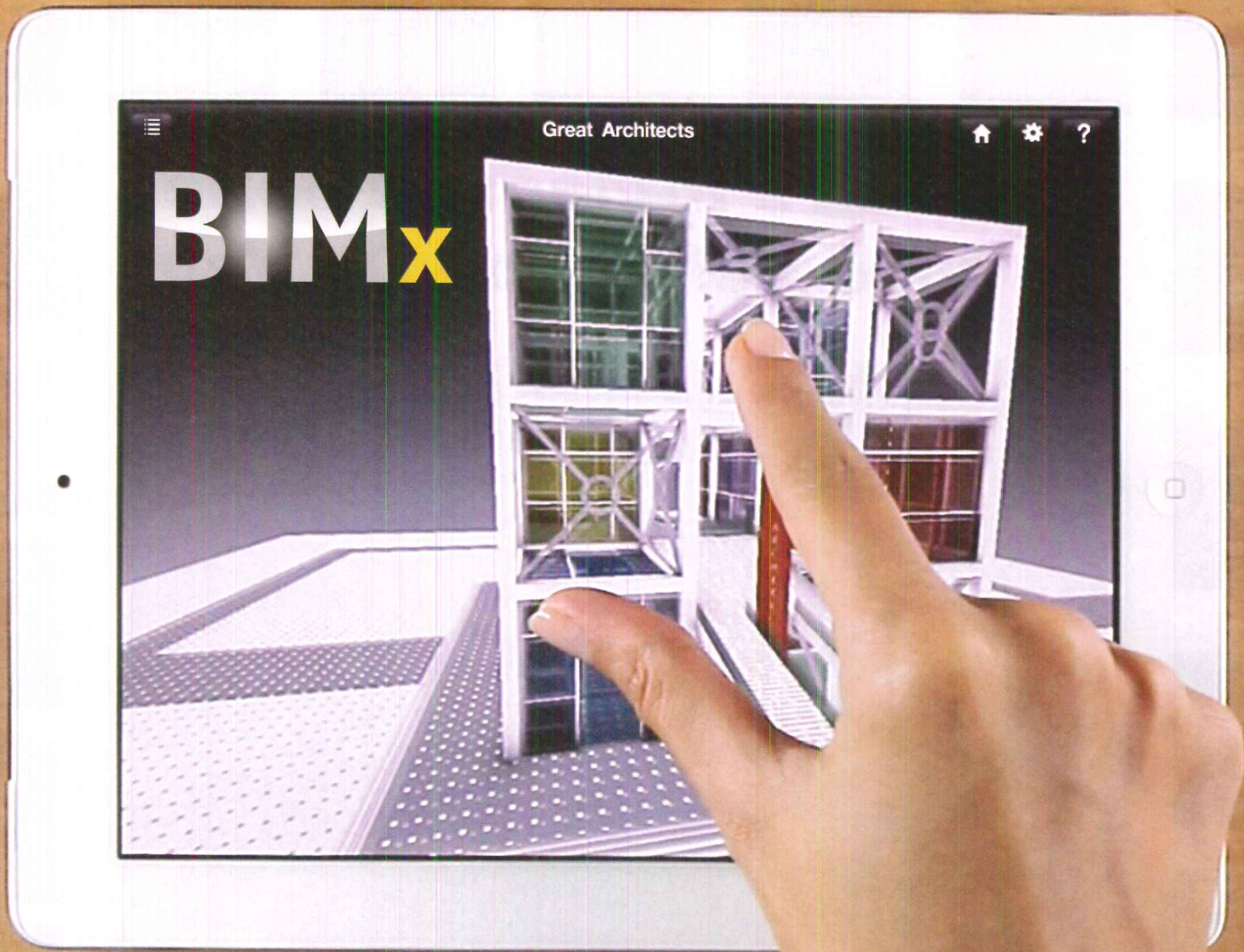


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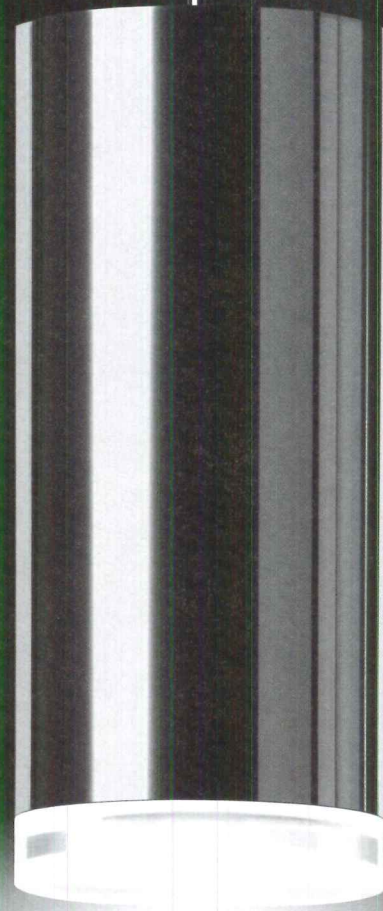


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"Wow! These are beautiful," was the unanimous reaction to this year's winning interiors when editors reviewed the selections. They also share a common thread when studied collectively. Like a barometer of the times, each project reflects the pragmatic realities of 21st-century design. In every case, the architects address exacting programs and budgets by syncing divergent styles and eras, in often surprising ways, with innovative materials and technologies. Our picks are modest in scope, yet big on ideas, and include: two futuristic installations – one, a series of bold metal forms, the other, a structural tour de force coated in plaster – juxtaposed with historic icons; plus an exciting mix of commercial enterprises (and one stunning residence) expertly crafted within aging or unremarkable structures. Thoughtful and wonderfully effective, all seven represent the best of interior architecture today. –Linda Lentz



ALBRECHTSBURG MEISSEN | MEISSEN, GERMANY | GERHARDS & GLÜCKER

TIME WARP

A polished installation reflects past and present within the soaring, richly decorated Albrechtsburg castle of Meissen, Germany, using aluminum, glass, mirrors – and sound.

By Michael Dumiak



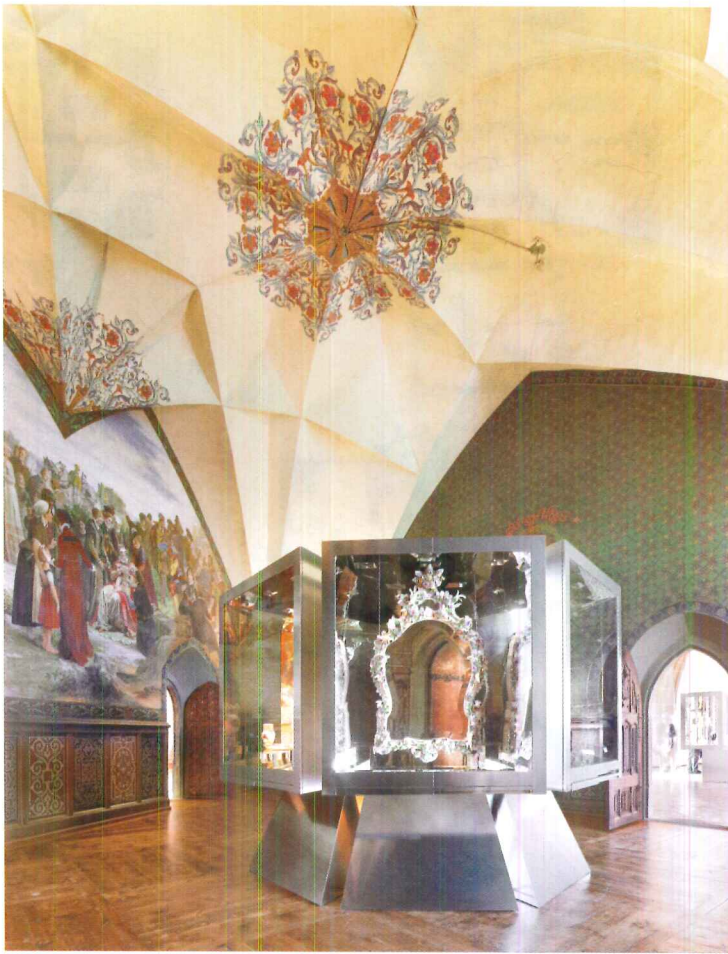
ABOVE: Daylight filters through the arched-stone windows of the middle room on the castle's second level, where exhibits include a long shiplike vitrine dubbed "New Living in Old Walls."

TOP RIGHT: A carousel display in the Kurfürst-August-Zimmer (Elector August Room) contains a mirror framed in porcelain. Although it doesn't rotate, the vitrine's heptagonal shape in the vaulted backdrop makes it appear as if it were spinning or bursting out toward the viewer.

BOTTOM RIGHT: The Tetris-piece-shaped display in this second-floor room showcases the work of rococo artist Johann Joachim Kändler. Its shape provides a solid counterpoint to the fluid sculpture of the room's fine stone benches and ornate flowering columns.



PHOTOGRAPHY: © WERNER HUTHMACHER

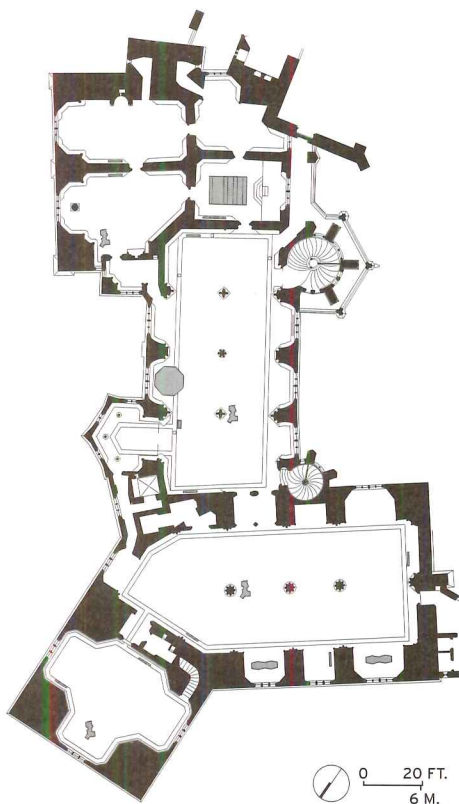


ONE LOOK lengthwise in a sun-speckled upper room is all it takes to see a spectrum of ideas at play in Gerhards & Glücker's exhibit pieces for the Saxon castle of Albrechtsburg, in eastern Germany.

Here the gaze is drawn into a long silvery vitrine hung soberly with coins and daggers, Latin inscriptions, and Saxon royal seals made from wax and animal hide. Move to one side, and suddenly the highly polished interior looks as if it's made of mirrors, reflecting objects previously hidden from view, picking up the expressions and movements of visitors nearby, and revealing the light, shadow, and shape of the room itself. Look away, and one snaps back into the austere space of a medieval antechamber.

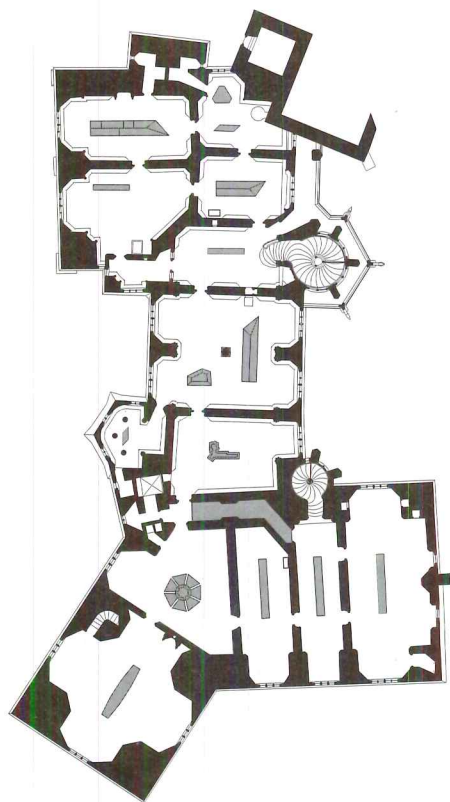
Albrechtsburg, a 540-year-old castle on a hill overlooking the small river town of Meissen, is a short journey from Dresden, an ancient seat of royalty and current capital of the German free state of Saxony. Restored by the former East Germans more than 40 years ago, the castle was open for touring, but there was no museum. So the challenge was twofold when Berlin-based interior architects Carsten Gerhards and Andreas Glücker were selected by Saxon state officials in 2008 to create an installation for the 300th-anniversary exhibition of Meissen's famous porcelain, with the condition that their design could transition into a permanent exhibition celebrating the area's history and architecture after it closed. It would be difficult to work within a medieval landmark. Moreover, the architects would have to be disciplined to display historic artifacts in a contemporary and creative way without tipping the scales into something jarring or farcical.

Specialists in working within the constraints of history—they had already completed interiors for the city museum in medieval Trier and for the house of composer Georg Friedrich Handel—the designers spent time learning the history of Albrechtsburg, its porcelain manufacture, and the physical presence of the building with its astounding vaulted ceilings and two spiral staircases, each looking like a string of seashells bound by lithe stone banisters. "Our strategy became dematerialization," Gerhards says. "Rather than materialize the objects on display, we made artifacts which reflect the presence of the building. And the form of those artifacts is informed by the objects, and by what is told in the room."

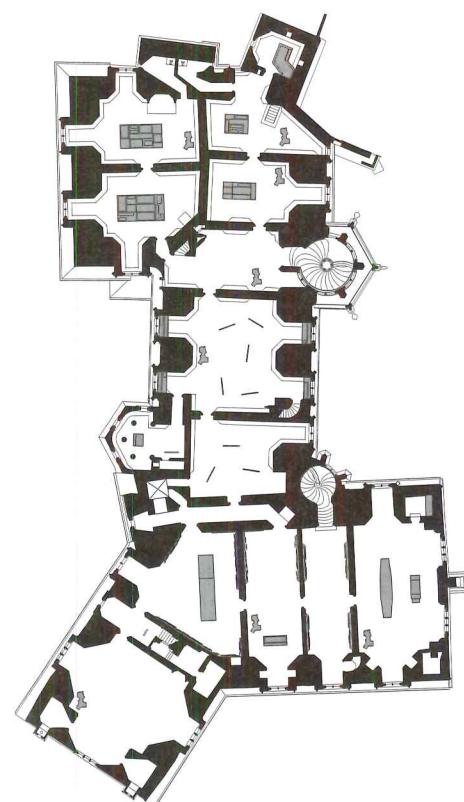


FIRST-FLOOR PLAN

DISPLAY VITRINES INDICATED IN GRAY



SECOND-FLOOR PLAN



THIRD-FLOOR PLAN

CREDITS

ARCHITECT: Gerhards & Glücker – Carsten Gerhards, Andreas Glücker, principals; Dirk Borchering, Christian Geisser, Jan Köpper, Giuseppe Vitucci, Lena Hanzel, Elisabeth Hinrichs, Ann-Kristina Simon, project team

CONSULTANTS: Barth (display fabricator); Eicher Werkstätten (environmental graphics); Lichtbau (lighting)

CLIENT: Staatliche Schlösser, Burgen und Gärten Sachsen (National Fortresses, Castles, and Gardens of Saxony)

SIZE: 53,820 square feet

COST: withheld

COMPLETION DATE: May 2011

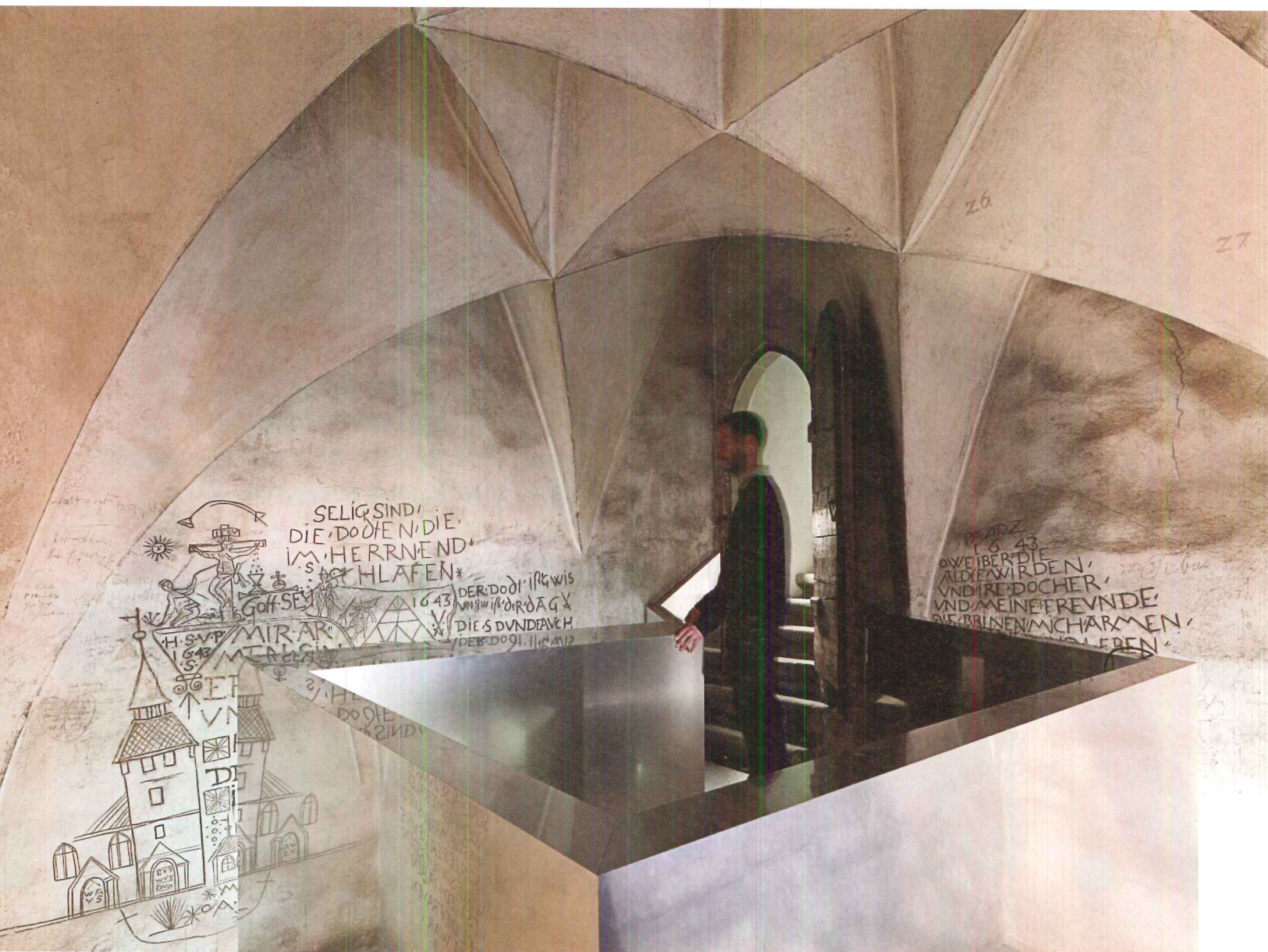
FIRST FLOOR: The first floor of the Albrechtsburg Castle contains the portraits of Saxon nobility; it's where the most ornate vaulting and deeply colored rooms are found. From the bottom to the top of the plan: the main parlor, main hall, and the entrances from the small and large spiral staircases. The main hall contains what G&G calls the "laser cannon," a large viewing device mounted on a swivel that turns 360 degrees, overlaying the images seen through the eyepiece with data on the architecture and construction techniques in use.

SECOND FLOOR: The second floor features many large vitrines with displays dedicated to an exhibition of the area's porcelain manufacturing industry, the "white gold" that put Meissen on the map. At the bottom of the plan: installations focusing on the history of the porcelain. At the top: installations on its production. Special exhibits include a sound installation in a corridor on a raised aluminum floor (see Introduction, page 55); a large carousel vitrine in the Elector Augustus Room; a feature on rival artists Johann Joachim Kändler and Johann Herold; and at the top of the plan, a long shiplike vitrine reflecting a spectacularly painted and tiled room.

THIRD FLOOR: The third floor displays focus on the politics of the Saxon nobility and the architecture of the castle itself. Vitrines indicated at the bottom of the plan contain architectural exhibits; moving toward the top of the plan, the displays transition to the castle as a living space, with big glass frames showing how people lived, often eating, sleeping, and working in single rooms. One of the side chambers has a periscope, going through the ceiling to the roof, that overlays viewed images with information. At the top right of the plan is a small tower prison cell with early 17th-century graffiti.

To do this, Gerhards and Glücker designed more than a dozen polygonal aluminum vitrines, some with angles, some emphasizing vertical lines, at different heights and shapes, engaging rooms without trying to match them. A matte finish on the outside of these display cases softly reflects the surrounding rooms and vaulted ceilings, while a polished interior creates bright exposition spaces and occasional kaleidoscopes.

There are three main levels in the sprawling building, begun in 1471 to eventually house Ernst, Elector of Saxony, and his brother Duke Albrecht the Bold. The permanent exhibit is also split into three sections. One is dedicated to the building designed by master architect Arnold of Westphalia. Another is devoted to politics, power, and life in the Saxon kingdom. And the third showcases the porcelain Meissen began producing in 1710, first within



Albrechtsburg itself and later at a nearby factory.

Even though the first level houses the Grand Hall, with the most complex archwork, it makes sense to begin a tour from the top, on the more austere third floor. This is where the building exhibits are located, as well as a model of the floor plan. The space itself is not linear, allowing visitors to flow from room to room, where they'll find such artifacts as a high-tech aluminum "periscope" that not only reveals the rafters but provides data overlay on the types of beams and joints the builders used to support the structure. Engaging multimedia and 3-D relief installations, also designed by the architects, complement the gleaming vitrines. "All the time we use these

materials as mirrors to show details on the ceiling or behind," Glücker says.

The new permanent exhibition does more than trade on the castle's architectural grandeur for awe. Gerhards & Glücker's displays for Albrechtsburg Meissen generate movement and living moments. There is a quiet conversation between the historic walls and sculptural quality of the 21st-century forms. And the mirrorlike finishes within the vitrines produce dazzling Modernist perspectives upon the centuries-old objects. A communion of time, the installation ultimately emphasizes the wonders of the existing surrounding structure, a model of innovative thinking that in its time set European standards for spatial structure, vaulting, windows, and staircase design. ■

Visitors to this tiny prison cell ascend a futuristic aluminum pulpit to get a close look at well-preserved graffiti from the year 1643 that says: "Death is certain; only uncertain is the day. Also the hour, no-one knows. So think on this and pay honor to the Lord; for each hour could be your last."

ELINOR BUNIN MUNROE FILM CENTER | NEW YORK CITY | ROCKWELL GROUP

READY FOR ITS CLOSE-UP

David Rockwell's new film center invigorates the Film Society of Lincoln Center with first-rate screening rooms, a café, and a cinema shop.

By Linda C. Lentz



ABOVE: The new film center fronts West Sixty-fifth Street with a vivid orange marquee, an LED carpet, and a welcoming transparency that reveals its community-friendly public areas as well as the central amphitheater, directly beyond.



JUST ONE YEAR shy of the 50th anniversary of its New York Film Festival, the Film Society of Lincoln Center (FSLC) can celebrate another milestone at this year's cinema fest, which takes place from September 30 through October 16. In addition to presenting films by such directors as Pedro Almodóvar, Roman Polanski, Martin Scorsese, Lars von Trier, and Wim Wenders, the FSLC is showcasing the state-of-the-art Elinor Bunin Munroe Film Center, recently completed by architect David Rockwell and his firm.

Part of the greater Lincoln Center revitalization, the 17,500-square-foot project is located at street level, under the Lincoln Restaurant Pavilion [RECORD, June 2011, page 46] by Diller Scofidio + Renfro (DS+R) and FXFOWLE, and pushes deep into the campus infrastructure beneath the Milstein Pool and Terrace and above the mechanical plant. The existing 1960s site had contained a garage and underutilized office spaces.

BELOW: Built on a floating slab over a mechanical plant and between the screening room entrance halls, the amphitheater has reflective glass walls and absorptive wood panels that create the right ambience for director chats and documentaries. When the garage-style door is open, it morphs into a friendly hangout.





FLOOR PLAN

The prominent frontage on West Sixty-fifth Street provides the community-friendly access that FSLC needs to grow. For years, the 42-year-old group had been limited to screenings and programs at one venue—the excellent but secluded 244-seat Walter Reade Theater, behind the Juilliard School—with occasional events at Alice Tully and Avery Fisher halls. The challenge, recalls Rockwell, was to carve out an area that was high enough for screening rooms with perfect sight lines and acoustics.

Working closely with the design and core-and-shell teams at DS+R and FXFOWLE, as well as acoustical consultant JaffeHolden, Rockwell and his crew burrowed south, away from the street, clearing the mechanical space and excavating behind it to create two sound-isolated screening rooms that share a rear projection booth: the 144-seat Francesca Beale and the 87-seat Howard Gilman theaters. Ever conscious of the primary objective—to make this a world-class film experience—Rockwell deftly integrated technical with decorative

elements, keeping the theater interiors visually quiet with a dark taupe color palette. Softly pleated perforated-steel walls absorb sound and flow into the vestibule to further buffer outside noise. Roomy custom seats are comfortable enough to enjoy the four-and-a-half-hour *Mysteries of Lisbon*, by Raoul Ruiz. And when the LED-backlit pilasters that frame the screens fade to black, the architecture disappears.

By contrast, the remainder of the film center is open, flexible, and bright, with polished concrete floors and exposed columns and ductwork—an homage to the roots of the space, says Rockwell. The entrance, too, is transparent. Here the architects fashioned an angular glazed “marquee” in vivid orange that mimics the roofline of DS+R’s restaurant pavilion above and beckons visitors to enter across a theatrical LED carpet.

Rockwell and his team split the house into public and programmatic areas with a smart, sit-down café and a diminutive film shop, for patrons and passersby, tucked to either side of

the lobby. A wood-lined amphitheater on a floating slab navigates the acoustically problematic mechanical room below. Central to the scheme, it backs onto the projection booth and serves as a transition between the lively front-of-house and rear screening zone. Although less quiet than the theaters, this congenial spot has a 152-inch plasma screen and cushion-topped bleachers that facilitate director chats, documentaries, and previews. “It’s a very ‘curatable’ space that can change based on the Film Society’s needs,” says Rockwell. To maintain this core room’s visibility, he enclosed it with partially frosted glass side walls and doors that flank a 16-foot-wide garage-style portal, which can be a fourth wall when closed.

Such thoughtful design strategies pay off. The Elinor Bunin Munroe Film Center has been busy, with all three theaters in use since opening in June. Now, says FSLC executive director Rose Kuo, “it’s allowing us to host more films at the New York Film Festival. It’s a great success and signifies a new era in our history.” ■



CREDITS

ARCHITECT: Rockwell Group – David Rockwell, founder and CEO; Shawn Sullivan, principal in charge; Michael Fischer, design lead

CORE & SHELL ARCHITECT: Diller Scofidio + Renfro – Elizabeth Diller, Ricardo Scofidio, Charles Renfro, principals; FXFWLE – Sylvia Smith, principal in charge

CONSULTANTS: Arup (structural, m/e/p, sprinkler); JaffeHolden (acoustical); Fisher Dachs (theater); Boyce Nemece Designs (a/v); Focus (lighting); Open (graphics)

GENERAL CONTRACTOR: Yorke Construction

CLIENT: Film Society of Lincoln Center

SIZE: 17,518 square feet

COST: withheld

COMPLETION DATE: June 2011

SOURCES

GLAZING: W&W Glass; VividGlass (amphitheater)

GARAGE DOOR: Belu Tec (amphitheater)

WALLS: GageMetal (perforated/theater); DKDI (wood/amphitheater); Aswoon, Seetin (wood/café)

SEATS: Series Seating (theater)

FLOORING: Milliken (carpet); Get Real Surfaces (concrete); Lanes Flooring (amphitheater)

PLASMA SCREEN: Panasonic (amphitheater)



ABOVE: A leap above the usual snack bar, the tony café features communal tables and custom curved-wood focus walls made from recycled column covers by Brooklyn-based artisan Susan Woods of Aswoon.

LEFT: Two screening rooms are isolated from each other by a thick concrete wall to prevent sound leakage. Absorptive perforated steel walls, non-reflective recessed screens framed by theatrical backlit pilasters, comfortable wide seats, and perfect sight lines all maximize the movie-viewing experience.

CARGAL GROUP OFFICES | LOD, ISRAEL | AXELROD DESIGN

EXECUTIVE SUITE

A modern retreat creates a quiet place to escape the noise of a cardboard factory.

By Clifford A. Pearson





A walkway overlooking the factory floor provides access to the office suite, while a 30-foot-long window connects the two sides of the company's business.

COMMISSIONED TO design a small suite of offices in a noisy cardboard factory near Ben Gurion Airport, in Israel, architect Irit Axelrod decided to create an interior that asserts a sense of “quiet power.” So she used materials like concrete, glass, and stainless steel in ways that emphasize both their industrial roots and their sophisticated finishes.

Visitors enter the new offices of the Cargal Group from an indoor walkway above the factory floor, where enormous machines crank out cardboard packaging and forklifts scurry from one place to another. To separate the 2,000-square-foot office space from the racket of the manufacturing facility, Axelrod erected a concrete-block wall that provides acoustical privacy and a rugged sense of enclosure.

“When the project was completed, I realized I had created a serene bubble in the middle of

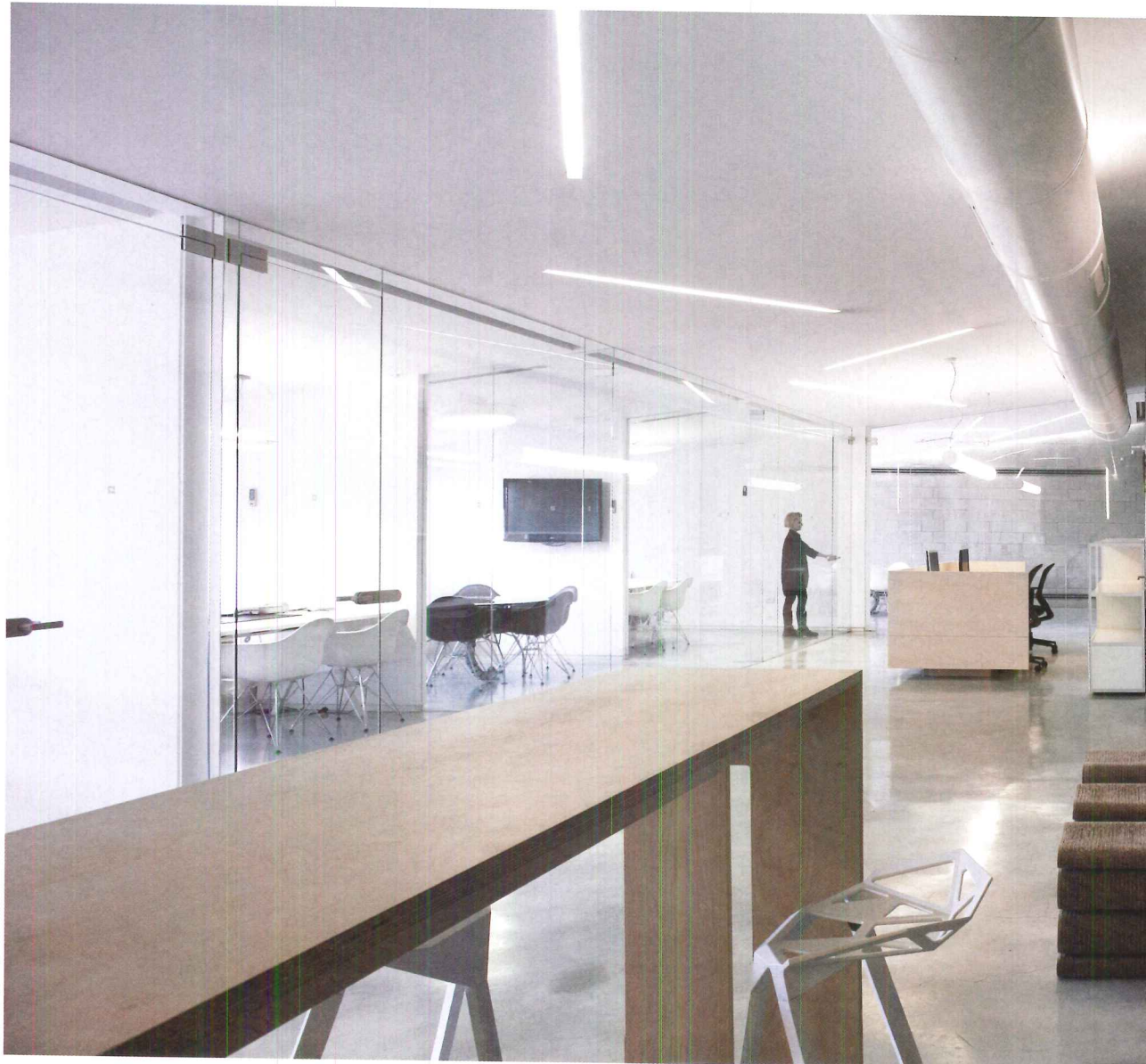
a factory,” she explains. But she connected the loud and quiet parts of the building with a 30-foot-long band of glass cut into the thick concrete wall just 3 feet above the office floor. At first the height of the horizontal window seems a bit odd, as if a Japanese aesthetic had somehow infiltrated the design. Then you sit in one of the offices on the opposite side of the lobby/reception area and understand the height is just right, providing an important visual link between executives and factory workers.

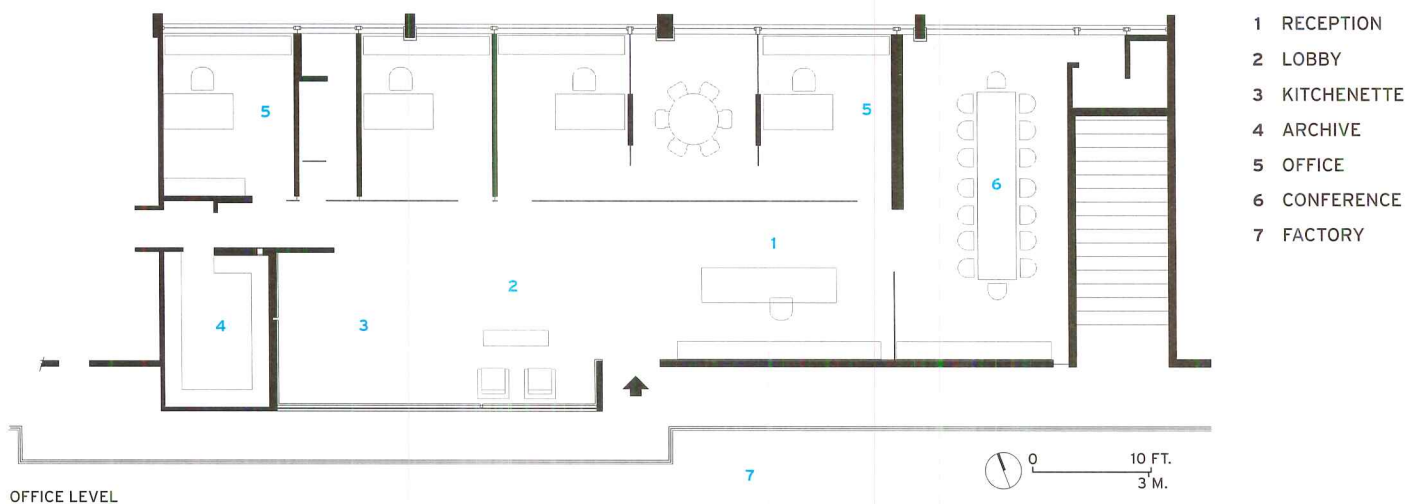
Axelrod, who splits her time between Israel and San Francisco, says that growing up in Tel Aviv, with all of its early 20th-century, International Style architecture, influenced her approach to design. “Tel Aviv’s origins are in the Bauhaus. As a child, these were the buildings I saw every day.” The rigor of the

buildings finds expression in the Cargal project’s floor plan, a straightforward set of squares and rectangles. Private offices line the building’s perimeter to take advantage of the daylight, while the long lobby/reception area flows into a kitchenette equipped with a free-standing plywood counter and metal stools. Floor-to-ceiling glass separates the private offices from the public areas while maintaining visual continuity and sharing daylight with the rest of the interior. Sustainability was not a major driver of the design, says Axelrod, but maximizing the use of daylight creates a more pleasant work environment and reduces operating costs.

While the plan and hard-edged materials express a sense of discipline, the architect loosened things up on the lobby’s angled ceiling, where long fluorescent tubes seem to

By keeping the 2,000-square-foot suite as open as possible and separating private offices with floor-to-ceiling glass, the architect made the space seem bigger than it actually is. A concrete-block wall provides acoustical privacy from the factory.





CREDITS

ARCHITECT: Axelrod Design – Irit Axelrod, principal in charge; Orit Tsabari, project architect
GENERAL CONTRACTOR: Perfection Construction
CLIENT: Cargal Group
SIZE: 2,000 square feet
COST: withheld by client
COMPLETION DATE: January 2010

SOURCES

FRAMELESS GLASS DOORS AND PANELS: All-Glass
LOCKSETS: Dorma
CABINETWORK AND CUSTOM WOODWORK: Eyal Cinary Woodwork
SOLID SURFACING: Corian
OFFICE FURNITURE: Vitra; Porro
RECEPTION FURNITURE: Wiggle Stool by Frank Gehry and Eames Bench, both from Vitra
OFFICE CHAIRS: Eames molded-plastic chair and Meda chair from Vitra; Aeron chair from Herman Miller
TABLES: Joyn from Vitra
KITCHENETTE FURNITURE: Alno
AMBIENT LIGHTING: Canyon from XAL
DOWNLIGHTS: Tubo system from XAL

be randomly placed. "I wanted the ceiling to be more playful to provide a contrast," explains Axelrod. "That's where I decided to break all the rules." She specified a fluorescent lighting system that offers custom lengths and can be used either horizontally (on the ceiling) or vertically (on the concrete-block wall and in the kitchenette).

To make the small project seem bigger, Axelrod carried views from one space to another. Although executives can pull down privacy shades in their offices, they rarely do, preferring instead to maximize their visual domain. The architect also designed particular elements to give them the illusion of floating. She set the wooden reception desk on a smaller base and placed lights on the underside to shine on the floor and make it levitate. In a conference room at one end of the suite, she inserted a thin vertical strip of glass between perpendicular walls so they don't quite touch. And she attached stainless steel handles and hardware directly onto glass doors so they seem suspended in space. Such instances of elements floating and sliding past one another provide a welcome contrast to the solidity of polished concrete floors and concrete-block walls. They work together to establish a balance between the muscular and the nimble.

For furnishings, Axelrod selected a simple

mix of molded-plastic Eames chairs, adjustable Meda chairs for the executives, and Joyn tables. She used a restrained color palette of whites, off-whites, and grays with occasional accents of black and clear-stained wood. In the lobby, three Gehry cardboard stools add a playful touch and remind everyone of the packaging material being produced in the adjacent factory.

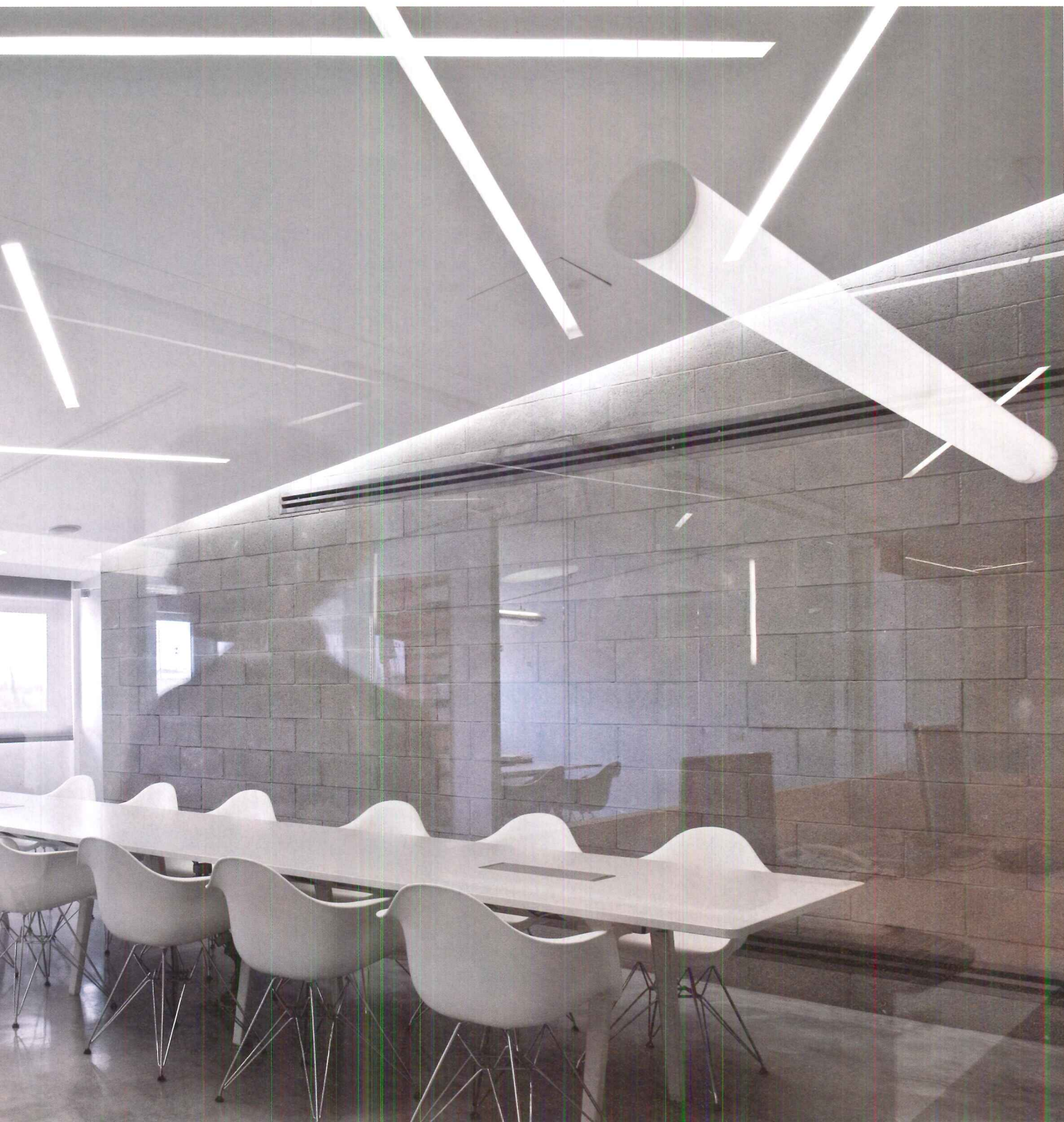
What gives this project much of its character is the intriguing dialogue between sophistication and bottom-line toughness. As soon as you walk in the office from the factory, you know you're in a different kind of place, one where aesthetics matter. But you never feel that anything is wasted or put here for show. You might admire the poured-concrete floors, which, like those in art galleries, have no expansion joints, so the material develops those lovely cracks. But you'll also notice the large ventilation duct running through the lobby/reception area, exposed in a no-nonsense manner. And the simple plywood cabinets built into the private offices. The people working here have good taste, but they aren't squandering money.

The subtle back-and-forth between the slick and the rugged speaks to the key challenge of this design: creating a white-collar place within a blue-collar world. ■



LEFT: Axelrod used a restrained palette of whites, off-whites, and grays for the offices, and then provided accents with artworks and a few black chairs.





ABOVE: With its sleek but tough materials and its hard edges, a conference room expresses the project's sense of discipline and aesthetic rigor, while randomly placed tube lights reflected in a glass partition hit a more whimsical design note.

L'OPERA RESTAURANT | PARIS | ODILE DECQ BENOIT CORNETTE ARCHITECTES

A FEAST FOR THE PHANTOM

A masterful insertion transforms the porte cochere of the Palais Garnier opera house into a seductive haunt worthy of its legendary specter.

By Naomi R. Pollock, AIA





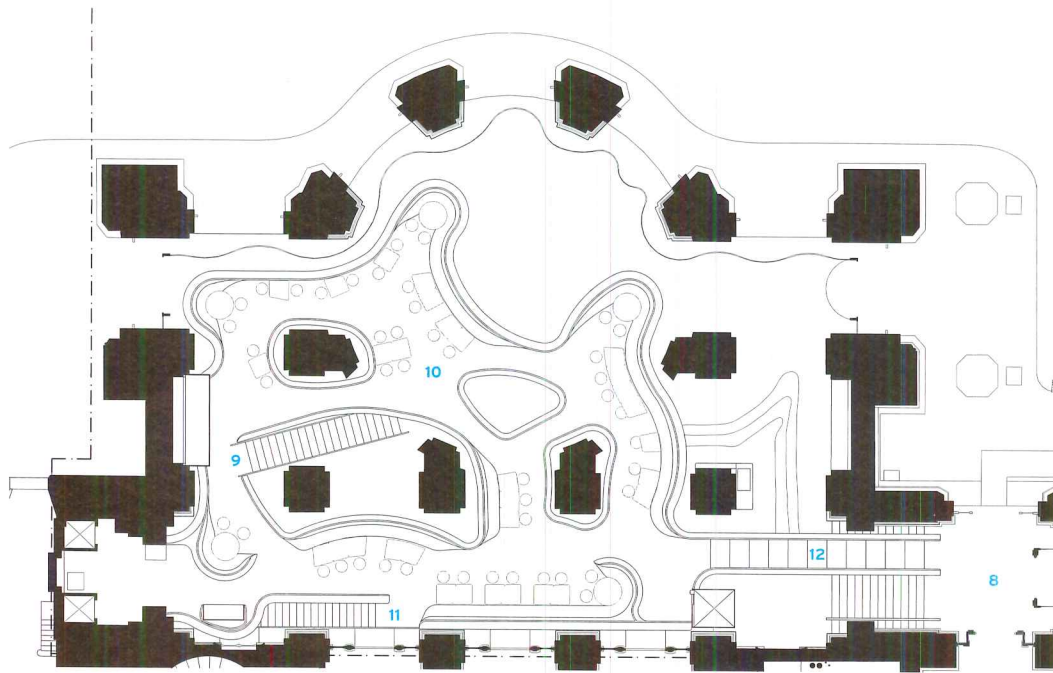
DESIGNING A NEW INTERIOR for a building as prominent as Charles Garnier's historic opera house isn't for the faint-hearted. Erected in 1875 under the auspices of Baron Haussmann's massive overhaul of Paris, the 121,000-square-foot Neo-Baroque edifice stands proudly at the intersection of Rue Scribe and Rue Auber in the middle of the city's ninth arrondissement. But these intimidating conditions did not spook architect Odile Decq. When invited to convert a cupola-covered porch into the building's first restaurant, the raven-haired designer deftly wrapped the space with a wavy curtain of glass and inserted a white mezzanine, whose sinuous form evokes the Paris Opera's infamous phantom.

Facing Place Jacques Rouche, Decq's L'Opera Restaurant is located at street level, where horse-drawn carriages once delivered their ticket-holding patrons. Today, diners approach L'Opera either from within the building or through the 170-seat restaurant's main entrance, on the building's east side. Inside, the bar and lounge area lie to the left and the main dining room is straight ahead, followed by the kitchen at the rear. Steps both in the center and at the side of the room (plus a ramp and an elevator) lead up to the mezzanine seating—mostly banquettes and semi-private dining areas sequestered by a low-lying wall.

Though it took 136 years to realize Garnier's intention for a restaurant on the opera premises, Decq had only two weeks to develop her idea. Initially, the client, a restaurant concessionaire with a 20-year contract for the Palais Garnier space, held a competition and actually

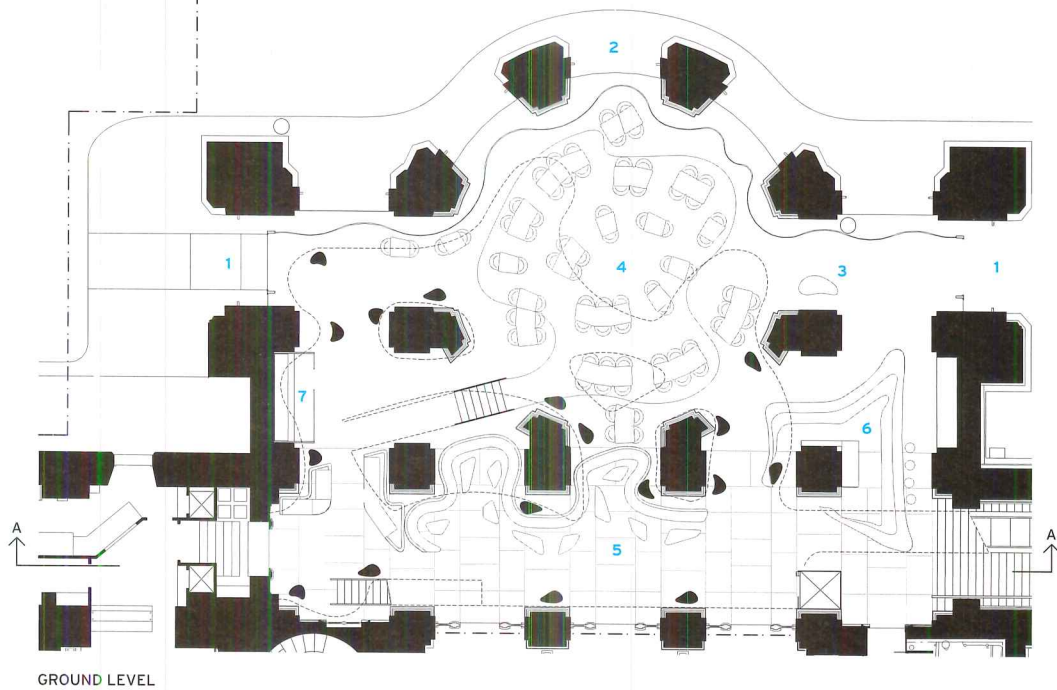
OPPOSITE: The ultimate "pop-up," L'Opera features a sweeping plaster-coated steel structure that wraps around and through the columns and vaults of the existing building without touching it.

ABOVE: Enclosed by a glass facade, L'Opera Restaurant was inserted in the porte cochere of the Opera Garnier built by French architect Charles Garnier in 1875.

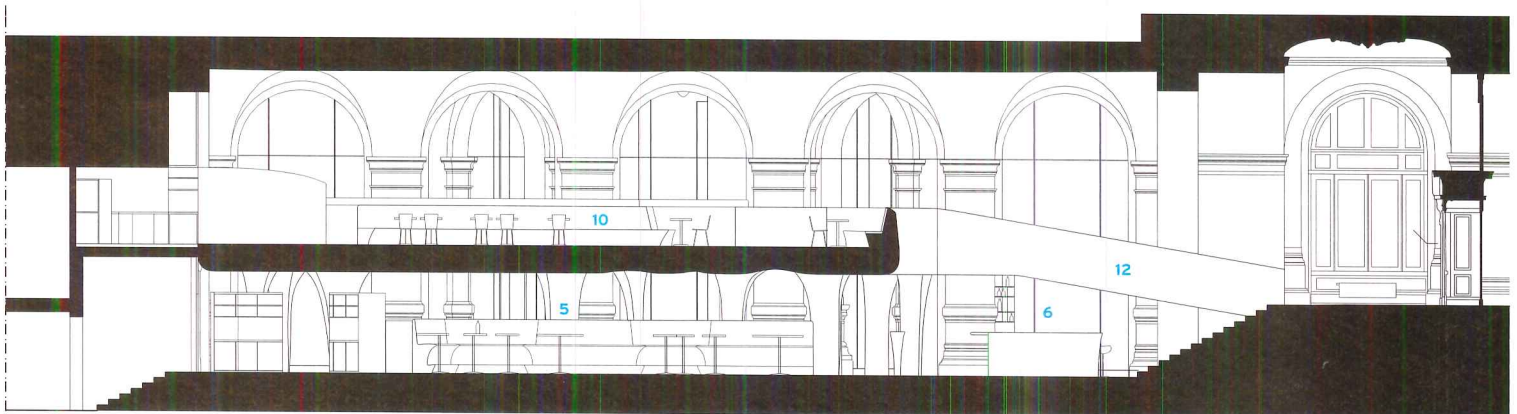


MEZZANINE LEVEL
 0 3 FT.
 1 M.

- 1 ENTRANCE
- 2 TERRACE STATION
- 3 HOST STATION
- 4 MAIN DINING ROOM
- 5 COCKTAIL LOUNGE
- 6 BAR
- 7 WINE STORAGE TOWER
- 8 RESTROOM/LOUNGE
- 9 PRINCIPAL STAIRCASE
- 10 DINING MEZZANINE
- 11 SERVICE STATION
- 12 RAMP

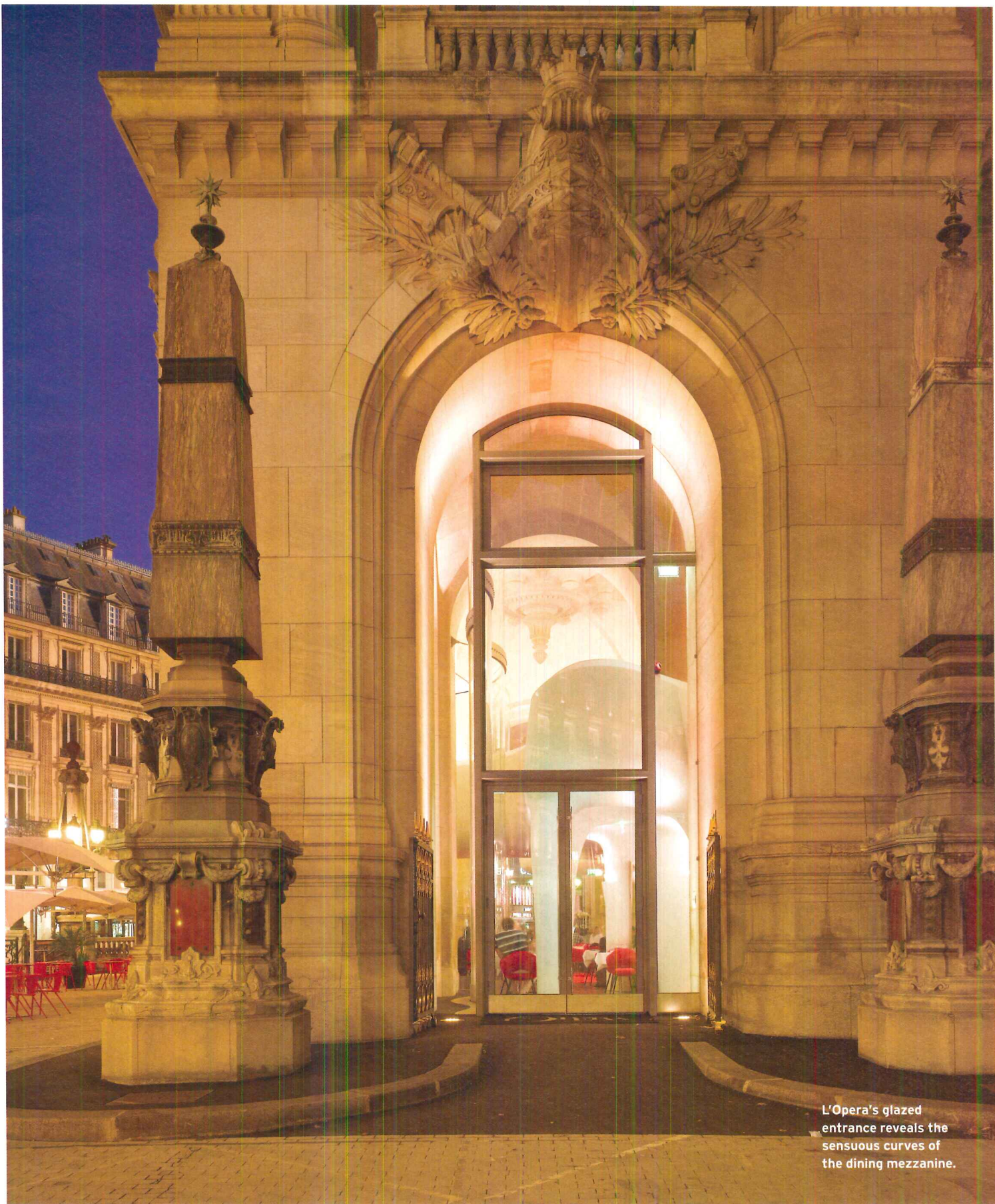


GROUND LEVEL



SECTION A-A

0 10 FT.
 3 M.



L'Opera's glazed entrance reveals the sensuous curves of the dining mezzanine.



Tailored to the existing building, the undulating glass facade wends its way around the stone columns and soars to the curved ceiling. A steel band embedded in the new floor secures the wall's base.



selected another designer (whose name was withheld). But when the Ministry of Culture nixed the winning scheme (for management reasons), the client made a cold call to Decq, who accepted the job despite its time schedule and myriad rigid restrictions.

Because of the building's heritage, Decq could not touch its stone surfaces or block the view of the ornate pendant suspended from the domed ceiling. And to enable the space to revert to its original state, every new element had to be removable at the end of the restaurant's limited term. "The only thing we could change was the floor," says Decq.

Working around these constraints, the architect created a mezzanine consisting of a steel skeleton covered with white plaster molded on-site by one of France's two remaining masons with the traditional know-how. It is like an apparition wafting through the air, its

Though it took 136 years to realize Garnier's intention for a restaurant, Decq had only two weeks to develop her idea.

mysterious form continually morphing. The mezzanine dodges or encircles the building's stone pillars, indents to keep the dome's apex visible, and tapers seamlessly down to the 15 unique columns supporting its bulk.

Contrasting sharply with its ghostly exterior, the hull-like mezzanine is startlingly bedecked entirely in red. Though partial to black, Decq agreed to cover the mezzanine's low walls, banquettes, chairs, and carpets with the bright color. "Opera red is darker," explains the architect. "My shade is between orange and red." Spilling down the stairs and pooling on the ground floor below, the carpet connects the two dining areas, stopping just short of the facade.

Tailored to the existing building, this undulating glass veil wends its way around the stone columns and soars to the curved ceiling. Ranging from 26 to 28 feet in height, it consists of two sheets of 0.4-inch-thick laminated glass. For maneuverability during construction, the wall divides vertically into two sections united by a bent steel band 20 feet above the floor. The band is invisibly anchored to the column tops by stainless steel tie rods, but the wall is practically self-supporting because of its wavy profile. "With no visible structure, the glass is held in place as if by magic," says Decq. While silicone joints affix the top of the glass to the



ceiling, a second steel band embedded in the floor secures the wall's base.

Replacing the original, exterior-grade brick pavers, Decq used black concrete dotted with small stones. Because of a slight level change between the restaurant's interior and adjacent outdoor terrace, the preservation authorities permitted the substitution. But they accepted only modest adjustments to the ground plane, as the technical spaces in the opera's basement lurk just 5 feet below grade.

Nonetheless, the architect had to excavate to accommodate the 2-inch-thick steel plates supporting the mezzanine's columns. Each

column consists of a hollow steel-mesh tube cloaked with plaster. While pockets in the masonry hold LED fixtures that cast light dramatically upward, the conduit contains ventilation shafts and electric cables. "This is exactly what Garnier was doing in the 19th century," explains Decq. "A modern architect in his time, he built the opera from stone but its main structure was steel."

Though the hollow columns can transmit sound to the stage above, ambient music was an important element befitting a restaurant in an opera house. To prevent interference with performances and offset the room's many hard



OPPOSITE: A rich red carpet links the two dining areas, spilling down the stairs and pooling on the ground floor, while trapezoidal tables align to form a single, snaking surface for flexible seating, banquettes, or buffets.

LEFT: The facade's metal band is invisibly anchored to the column tops by stainless steel tie rods, but the wall is practically self-supporting because of its wavy profile.

surfaces, a porous, acoustically absorbent plaster coats the mezzanine's low walls and concave underbelly. In addition, carefully placed speakers let restaurant personnel fine-tune sound levels throughout and prevent excessive noise from building up at any location.

L'Opera's Decq-designed upholstered furniture also dampens sound. Circular dining chairs ringed with supportive backs and sides answered the client request for comfortable seating. Decq paired them with trapezoidal tables that can align into a single, snaking surface for buffets or banquets. In the lounge,

where patrons gather at intermission, Decq introduced a squiggly continuous bench whose cushioned seat rises and falls along its length, enabling some to sit properly and others to perch. Meanwhile, a long bar made of black wood theatrically wraps itself around one of the building's big square columns.

Decq's interior harmonizes with the building's other voices—its rich history, its dramatic space, and its regal materials. At the same time, by choreographing movement and altering perceptions, it dynamically transforms a staid, centrally organized space into one with a strong contemporary character. ■

CREDITS

ARCHITECT: Odile Decq Benoit Cornette
Architectes Urbanistes – Odile Decq, design principal; Peter Baalman, project chief; Giuseppe Savarese, Amélie Marchiset, project architects

ENGINEERS: BATISERF (structural); MS Consulting (building services); SETEC (fire security)

CONSULTANTS: Hugh Dutton Associates (facade); Studio DAP (acoustics); C2A (kitchen)

CLIENT: GUMERY

SIZE: 11,840 square feet

COST: \$8 million

COMPLETION DATE: July 2011

SOURCES

FACADE: Simetal Formes

PLASTER: Werey Stenger

FLOOR: Grepì

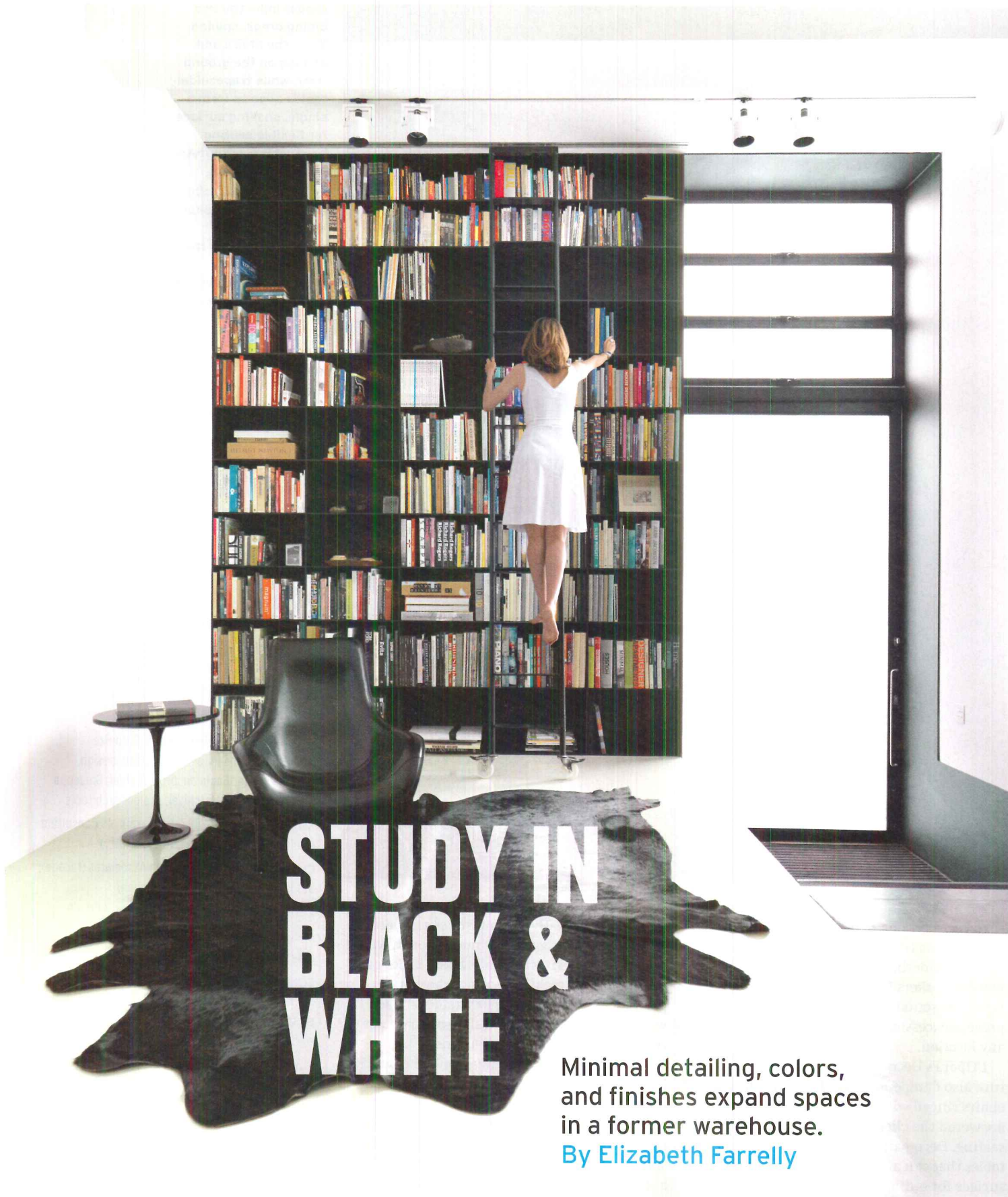
LIGHTING: iGuzzini

TABLES: Novifor

CHAIRS: Poltrona Frau

BANQUETTES: Besse

STRELEIN WAREHOUSE | SYDNEY, AUSTRALIA | IAN MOORE ARCHITECTS



STUDY IN BLACK & WHITE

Minimal detailing, colors, and finishes expand spaces in a former warehouse.

By Elizabeth Farrelly



OPPOSITE: The main entrance to the 19th-century warehouse leads into an office, and library for the owner.

LEFT: The garage, on the 882-square-foot site, opens onto a back street.

BELOW: The front door, a double-height steel portal, is at the end of a cul-de-sac.



“YOU ONCE WROTE THAT Modernists couldn’t do front doors, so I’ve tried to prove you wrong,” says architect Ian Moore, as he pivots the massive milk-glass front door to admit me from the street. And prove me wrong he resoundingly has, with a front entrance noticeably grander and more ceremonial than that of the Sydney Opera House (at which my original point was aimed).

The milk glass, within a fine, matte-black frame set into the rustic brick facade of a 19th-century warehouse, prefigures a super-rationalist interior where monochromatic minimalism reigns supreme.

The architect’s brief, as he explains it, was for “a black-and-white Ian Moore house with a large, very well-lit bathroom.” Moore, an engineer who became an architect after working with Foster + Partners on the HSBC headquarters in Hong Kong (1986), is known for his superslick white boxes. So this was something of a departure. The stark palette

accords well with the client’s collection of black-and-white photographs, a number of which—including Mervyn Bishop’s portraits of Roy Orbison and Mick Jagger—are prominently displayed on an upstairs wall.

Because of an earlier, 1970s residential conversion, relatively little structural intervention was required to turn this former grocery warehouse and subsequent engineering workshop into an ultrachic urban terrace house; much of the effort was an exercise in lining, finishing, and furnishing. A 5½-foot drop in grade between the two street entrances led to creating a split-level ground floor, with a tall living space entered directly from the street and overlooked by the kitchen on a mezzanine. It, in turn, is backed by a garage opening to a second street.

Moore colored everything that existed—walls, ceilings, and floors—white, while everything new—stairs, cupboards, the kitchen, furniture (and even the dog food)—is black. The upper-level bathroom, however, a black

anodized-aluminum glass-topped box, lit from the roof and dividing the bedroom and sitting area, stretches the rule. Because the bathroom existed there before, it should be white. But two new walls, plus a mirrored wall should be black. Here Moore departed from his conceit. “The bathroom was about space and light,” he says, “so I abandoned the strict regime in favor of its purity.”

The structure occupies about a 15-foot-wide terrace-house slot in the inner-urban Surry Hills neighborhood of Sydney. Subtracting from the 882-square-foot lot, the minimum widths for toilet, stair, and car left about ⅔ inch for a new semi-structural wall between the garage and stair. The only material that fit the bill was steel plate. Finished in a matte-black epoxy paint, then washed with vinegar and rubbed to a soft sheen with (of all things) baby oil, the steel plate became something of a motif. It forms not just the staircase slot—with its freestanding sheet-steel balustrade—but the



CREDITS

ARCHITECT: Ian Moore Architects – Ian Moore, principal and project architect; Ian Gorton, Danny Mathis, design team

ENGINEERS: Benvenuti SC (structural, m/e/p)

CONSULTANTS: Fast Feet (landscape); Urbis (heritage)

GENERAL CONTRACTOR: Seagull Construction

STEEL FABRICATOR: Marq Abela

CLIENT: Tess Strelein

SIZE: 1,615 gross square feet

COST: \$743,000

COMPLETION DATE: August 2010

SOURCES

GLASS LOUVERS: Breezway Altair Louvres

SLIDING DOOR TRACK: Häfele HAWA Junior 80

SUSPENDED CEILING SYSTEM: Rondo

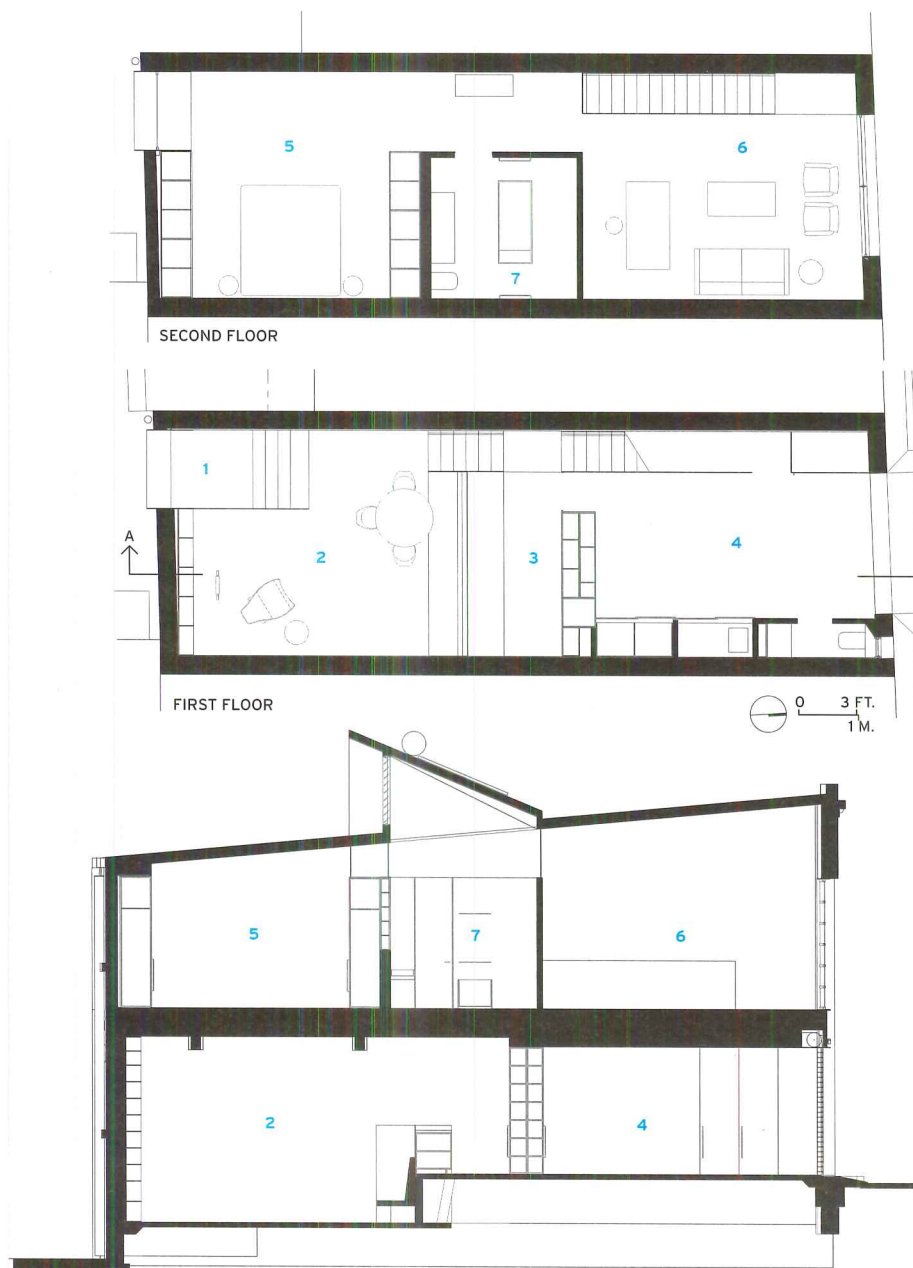
PAINT: Dulux (Vivid White acrylic); International Protective Coatings (black epoxy paint)

SOLID SURFACING: Corian

RUBBER FLOORING: Dalsouple DalUni

LIGHTING: Kreon (downlight, task, exterior); Serge Mouille (interior ambient)

FURNISHINGS: Piero Lissoni, Marc Krusin, Carlo Tamborini for Glas Italia (coffee table and desk); Antonio Citterio for B&B Italia (“Mart” side chair)



SECTION A-A

- | | |
|-----------------|---------------|
| 1 ENTRANCE | 5 BEDROOM |
| 2 OFFICE/DINING | 6 LIVING ROOM |
| 3 KITCHEN | 7 BATH |
| 4 GARAGE | |

full-height cupboard doors in the garage/utility room, the large built-in banquette that marks the level-change between kitchen and first-floor living space, and the floor-to-ceiling bookcase, which, slotted together in the manner of the Eames House of Cards, covers the living room's south wall.

The precise design called for immense devotion to detailing white plasterboard, black steel, white rubber (for the flooring), and glass. It's a brave thing to adopt such a strict a regime for a domestic environment. So, does it work?

For me, it's probably a little too brave—too demanding, too rigid for habitation. But architecture should be measured against its own brief, and it is clear that Moore's client, an art director and stylist, loves it. In fact, it passed the ultimate test, as Moore's client is now his fiancée, and he is already living there. That's got to be not one, but two, votes of confidence. ■

Elizabeth Farrelly, an architecture critic and columnist for the Sydney Morning Herald, wrote Blubberland: The Dangers of Happiness (2007).



OPPOSITE: A top-lit bathroom on the second floor is lined in white solid surfacing to emphasize its clarity and purity.

LEFT: A black anodized aluminum box encloses the upper-level bathroom, which divides the sitting room from the bedroom. The floor is surfaced in white rubber. The rectilinear-ity of the laminated glass desk and coffee table echoes the knife-edge profile of the steel-plate stair balustrade (right, foreground).

LEFT, BOTTOM: The architect painted the steel plate with matte-black epoxy, then washed it in vinegar and rubbed it with baby oil.

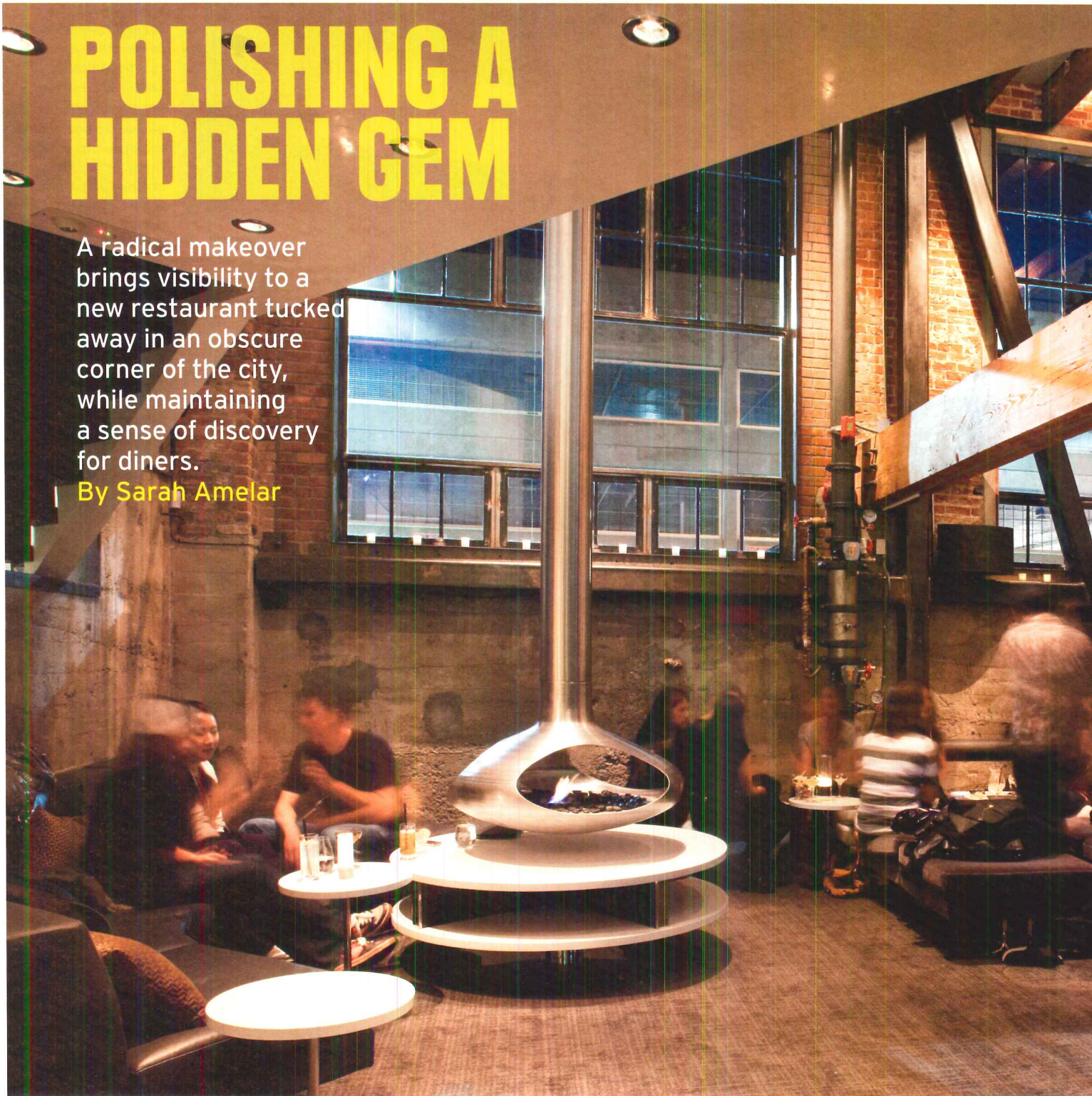


TWENTY FIVE LUSK | SAN FRANCISCO | CCS ARCHITECTURE

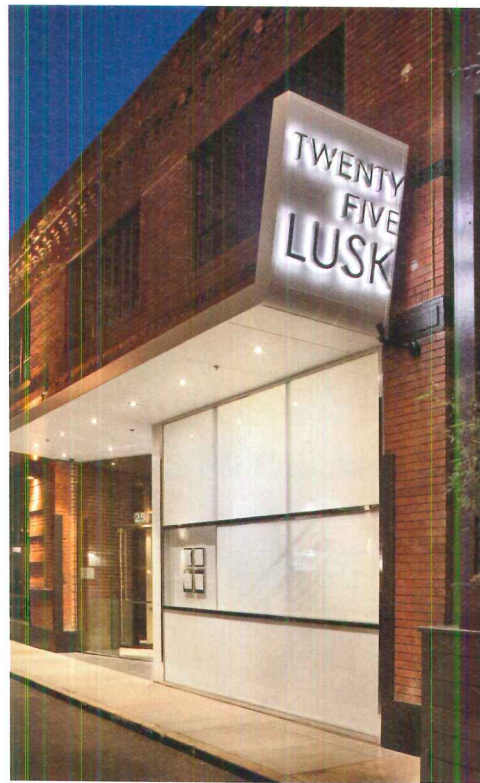
POLISHING A HIDDEN GEM

A radical makeover brings visibility to a new restaurant tucked away in an obscure corner of the city, while maintaining a sense of discovery for diners.

By Sarah Amelar



ABOVE: One floor below street level, the lounge has hanging, stainless steel fireplaces with openings on three sides. Two-tiered white "hearths" prevent mingling crowds from bumping into these hot orbs, while also providing perches for drinks.



JUST A FEW YEARS AGO, the idea of planting a hip, upscale restaurant on a sleepy alley in San Francisco's China Basin neighborhood might have seemed nuts. But the local scene is rapidly changing.

At the city's eastern edge, once dominated by fading industrial structures, China Basin and the adjacent community of Mission Bay are reemerging as two of San Francisco's fastest-growing sections. In 2000, the Giants' baseball stadium, now called AT&T Park, opened here. More recently, the new 43-acre Mission Bay campus for the University of California, San Francisco catalyzed the nearby proliferation of office buildings and luxury condos.

Into that bubbling mix came Twenty Five Lusk, a restaurant named for its otherwise obscure address. "Even 10 years ago, it wouldn't have been viable to open this sort of restaurant on this little alley, south of Market Street," says Cass Calder Smith, the architect who designed the venue and 60 other restaurants before it. The semi-hidden location presents both a challenge and a latent asset: the risk of burying the place versus the potential for invaluable cachet. "It needed visibility," he continues, "but we also knew people like discovering something hidden at the end of an alley."

The design of the 9,800-square-foot restaurant encourages further wandering and discovery. Its brick building, from 1917, was originally a meatpacking and -smoking plant (later dot-com offices). Working with the four owners to create Twenty Five Lusk, their first restaurant, the architect deftly exploited and opened up unexpected sequences: from the remains of vast carcass-handling halls to small meat-smoking chambers.

From outside, you get an initial taste of Smith's design strategies. Here, a glossy white-glass-and-metal storefront with a sleek canopy plays against the earthy existing redbrick shell. The counterpoint is clear: You would never mistake the new for the old. "Usually we have to warm up a place," he explains, "but this one was already so warm, with brick and wood columns and beams, we could actually insert flashes of coolness—sleek, sassy, modern elements—with an infusion of luxury."

Right over the threshold, you arrive at a glass balustrade overlooking a dramatic 20-foot-high space, rising from the bar and

TOP RIGHT: The canopy's upturned end gives it visibility from a major thoroughfare, perpendicular to Lusk Street. This new storefront, rendered in white and clear glass with accents of polished stainless steel, plays against the existing building's vintage redbrick shell.

ABOVE: Obliquely spanning the restaurant, the mezzanine is a long bridgelike element with walls finished in smooth white Venetian plaster. This top level offers tables for fine dining, near the glassed-in kitchen and a small bar.

lounge below. Orblike hanging fireplaces of stainless steel with tall, gleaming flues punctuate the scene. Cocktail-clinking men in crisp shirts with collars open and women in stylish little dresses hover about the bar and hearths. But it's not obvious how to get down to that cozy "den" level. To your left, between planes of smooth white Venetian plaster, stairs go up—but not down. The idea, says the architect, is for guests to meander upstairs, through the main dining zone, before descending two levels. Curiously indirect, this circulation evokes a house party, where you have the run of the place. (Further investigation near the entrance reveals a discreet elevator and a "speakeasy" back stair to the lower level.) As you soon discover, low walls throughout the restaurant open up lines of sight—most strikingly, the overview from the fine-dining area, on the mezzanine level. Twenty Five Lusk is clearly a place to see and be seen.

The milieu is "a cross between Studio 54 and a ski lodge," as a writer for the *San Francisco Bay Guardian* characterized the industrial-chic aesthetic. Smith plays modern against vintage not merely by giving his insertions a cool palette and sleek surfaces (featuring white or gray glass and the ubiquitous stainless steel) but by skewing or tilting them off the existing structural grid. The entire mezzanine level—with seating for 110 diners, plus a small bar and an intimate, private-dining room—is essentially a long white bridge, obliquely spanning the interior. Rhythmic horizontal fins poke through the bridge's walls. Once in the dining area, above the din of the jostling cocktail crowd, you recognize these projections as the ends of tabletops, luxuriously and whimsically rendered in bold black-and-orange-striated Macassar ebony, finished in high-gloss resin. Here, chef Michael Dolan, one of the four owners, serves up seasonal American cuisine. Views into the glassed-in kitchen, as well as to the lounge below, lend this area expansiveness, despite relatively low ceilings. And the seemingly casual separation and interpenetration of space give the owners flexibility to offer all, or parts, of the restaurant for parties, weddings, and other events—a successful side business.

Tinted mirrors, skillfully positioned throughout the interior, amplify the already generous space. Some even bear translucent images of smoke, recalling the building's meat-curing history. The shadowy colors and imagery, along with sofas around the fireplaces

The architect cut through a series of former meat-smoking chambers to create intimate lounge areas (below) behind the main bar (right). Gray slate, proportioned like wood planks, covers the floor in these spaces, as well as in many of the restaurant's other well-traveled areas.



MEZZANINE LEVEL

0 10 FT.
3 M.



- 1 MAIN ENTRY
- 2 STAIR TO MAIN DINING
- 3 MAIN STAIR BETWEEN DINING/LOUNGE
- 4 BACK STAIR BETWEEN DINING/LOUNGE
- 5 STAIR TO OFFICE
- 6 HOST STATION
- 7 BAR SEATING
- 8 BAR
- 9 LOUNGE SEATING
- 10 PRIVATE DINING
- 11 MAIN DINING
- 12 GLASS-ENCLOSED KITCHEN
- 13 FIRE ORB
- 14 "MAKE-OUT" ROOM
- 15 WARE WASH
- 16 RESTROOM
- 17 EXIT STAIR
- 18 BACK OF HOUSE/ STORAGE

BASEMENT



(though fuel-fed and smokeless), create the illusion of a seductively smoky ambience—in a city where lighting up in bars and restaurants has been illegal for more than a decade.

The laid-back-luxe setting has generated an impressive happy-hour buzz. For a chance to gather around mod campfires, lounge on buttery leather cushions, and sip Red Monkeys, customers sometimes line up down the block—discovering just the sort of out-front mingling ideally suited to an undiscovered alley. ■

Sarah Amelar is a contributing editor to ARCHITECTURAL RECORD.

CREDITS

ARCHITECT: CCS Architecture – Cass Calder Smith, design principal; Bryan Southwick, project architect; Barbara Turpin-Vickroy, director of interior design; Melissa Werner, artwork

ENGINEERS: Peoples Associates (structural); ACIES Engineering (m/e/p)

CONSULTANTS: Luminesce Design (lighting); Federighi Design (food service)

GENERAL CONTRACTOR: Teutonic

CLIENTS: Matthew Dolan; Chad Bourdan; Chris Dolan; Jamie McGrath

SIZE: 15,000 square feet (restaurant/commercial)

COST: \$3.5 million

COMPLETION DATE: October 2010

SOURCES

WINDOWS/GLAZING: Oldcastle Building Envelope

SKYLIGHTS: O'Keefe's

PAINTS AND STAINS: Benjamin Moore

SOLID SURFACING: Caesarstone

CARPET: Shaw Carpet

FIREPLACES: Fireorb

LIGHTING: Niche Modern (pendants); WAC (track); Lutron (controls)



The ends of tables (above), made of Macassar ebony, poke through the mezzanine walls. Diners can glance over these partitions to catch the action below. A band of blue-gray mirrors (top right), bearing images of smoke, cuts across a brick wall in the dining area. Nearby, the kitchen's glass enclosure (bottom right) extends that horizontal rhythm.

EARL'S GOURMET GRUB | LOS ANGELES | FREELANDBUCK

FAST FOOD CULTURE

Digital design is combined with traditional craft to create a fresh and casual atmosphere for a new Los Angeles eatery.

By Russell Fortmeyer





LOS ANGELES may be the first city to have taken plywood seriously as a finished material, a fact that was not lost on architects David Freeland and Brennan Buck when they designed the interior for Earl's Gourmet Grub. Opened in May 2010 in an empty 1,500-square-foot storefront on an otherwise nondescript section of Venice Boulevard about three miles northwest of the beach, Earl's is the kind of casual restaurant that Los Angeles does so well. Polished ground-concrete floors and plywood mix with glass and marble and organic comfort food, all to fresh effect.

The two architects met as graduate students at the University of California, Los Angeles, and then worked separately for a few years before founding their firm, FreelandBuck, in 2009. So they readily acknowledge debts to the Los Angeles school, particularly to the use of plywood in the early projects of Frank Gehry and Thom Mayne. But there are nuances evident in the design of Earl's that distinguish Freeland and Buck as part of the digitally connected, theory-based generation of young architect-academics behind a small-scale

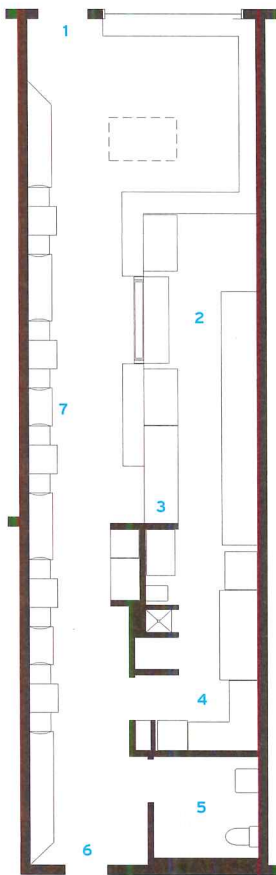
revival of craft. If allusions to the Los Angeles school occur—Freeland previously worked for Michael Maltzan, while Buck taught with Greg Lynn—they certainly don't dominate.

At Earl's, the architects responded to a client interest in Alpine imagery and rustic food with an environment made by bending, warping, and fusing planes in subtle ways and with hints of restrained color. "We are interested in finding a set of material effects and details that, through their method of fabrication and construction, produce atmosphere," Freeland says of the abstract Alpine landscape mural in wood that covers the long west wall of the restaurant. To extend the flat surface of the white maple veneer wall into low relief, the architects depended on Rhino and Grasshopper software and a computer numerical controlled (CNC) mill (see related story, page 99). Buck describes this surface interest as part of a wider investigation into what digital technology and fabrication can contribute to architecture, rather than a fascination with technology for its own sake.

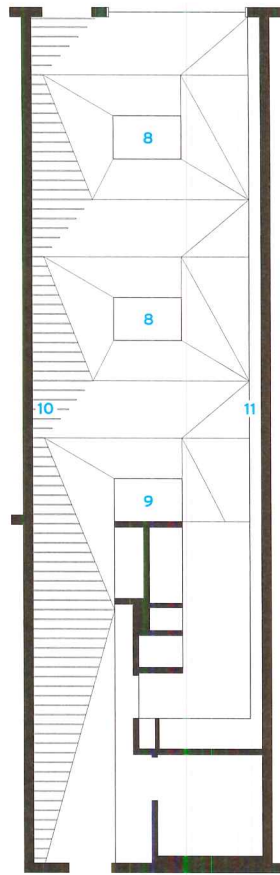
The mural plays against a white gypsum-

OPPOSITE: The architects developed the maple veneer mural by digitally translating an image of an Alpine landscape into a gridlike pattern. The mural's low relief was cut with a CNC mill.

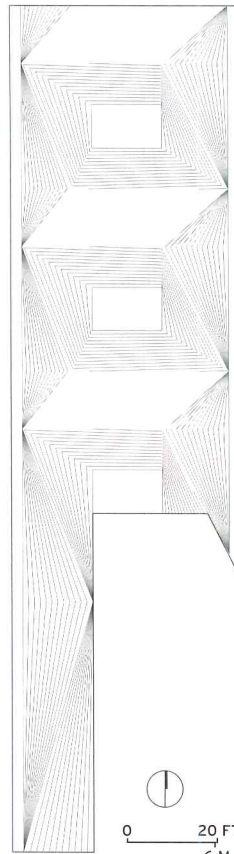
ABOVE: Unadorned plywood forms the backside of counter seating just inside Earl's storefront and serves as the backdrop for the eatery's neon sign.



FLOOR PLAN



REFLECTED CEILING PLAN



CEILING CONTOUR PLAN

- 1 STREET ENTRANCE
- 2 OPEN KITCHEN
- 3 REGISTER
- 4 BACK KITCHEN
- 5 RESTROOM
- 6 BACK DOOR
- 7 SEATING/DISPLAY
- 8 LIGHT SCOOP
- 9 SKYLIGHT
- 10 BAFFLE LIGHTING
- 11 SOFFIT LIGHTING

CREDITS

ARCHITECT: FreelandBuck – David Freeland, Brennan Buck, partners
CONSULTANTS: Joe Cooper (CNC milling)
GENERAL CONTRACTOR: Vandermeer General Contractors
CLIENT: Yvonne McDonald and Dean Harada
SIZE: 1,000 square feet
COST: \$220,000
COMPLETION DATE: May 2010

SOURCES
PANELING: CNC-milled white maple veneer
MILLWORK: ABX fir plywood
PAINTS: Dunn-Edwards
INTERIOR AMBIENT LIGHTING: Texas Fluorescents
DOWNLIGHTS: Lightolier
LOCKSETS: Schlage

board wall on the east that bends up into baffles at the ceiling over the kitchen. Two layers of warped ¼-inch gypsum board in semi-gloss white form three large, central light scoops over the open kitchen’s bar—two with electric light and one, above the cash register, with an actual skylight. The scoops contribute to a sense of scale, bringing the ceiling down to a human size and subdividing the space. They also provide some acoustic softening to the open kitchen area. The bar’s mitered marble corner details blur the panels into a single monolithic block, so that the kitchen more effectively dominates the restaurant. The bathroom has its own surface effects where a painted mural depicts a tree. But it is only recognizable when viewed from one angle. When looked at from other vantage points, the tree appears more like a random pattern.

As for that Gehry-style plywood, the architects used it in several ways, including in the street-side sign that forms the underside of an eating bar in the front window and along the east wall. In the ceiling above the mural, the architects designed a series of plywood baffles that conceal T5 fluorescent strip lights installed along the wall like a continuous light fixture. At floor level, built-in plywood millwork for displaying packaged food and for casual seating lines the west wall. In all cases, Buck and Freeland specified a bleaching process to minimize contrasts between growth rings in the plywood, while a white stain softens the sheets further and relates more closely to the white maple mural.

It appears the plywood has been taken seriously: The architects won a restaurant design

“We are interested in finding a set of material effects and details that, through their method of fabrication and construction, produce atmosphere,” says Freeland.

award from the AIA Los Angeles chapter in July and are at work on two other restaurants in the region. With each new project, the firm has developed a better understanding of the tools of fabrication, particularly CNC mills, says Freeland. Or as Buck says, “I think we’re developing a weird hybrid between the physicality of materials and the digital processes we use to manipulate them.” ■

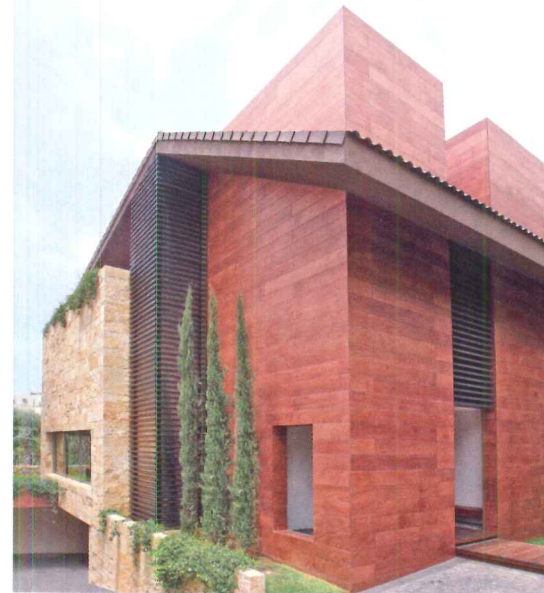
Russell Fortmeyer is an engineer, sustainability consultant, and journalist based in Los Angeles.



Three sculptural light scoops—two illuminated by electric light and one that is an actual skylight—give the restaurant's long and tall volume a sense of scale and help modulate the space.

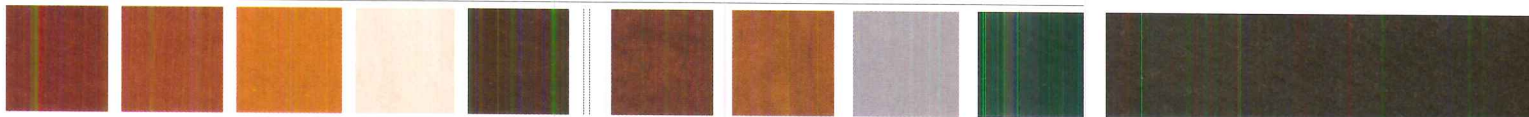
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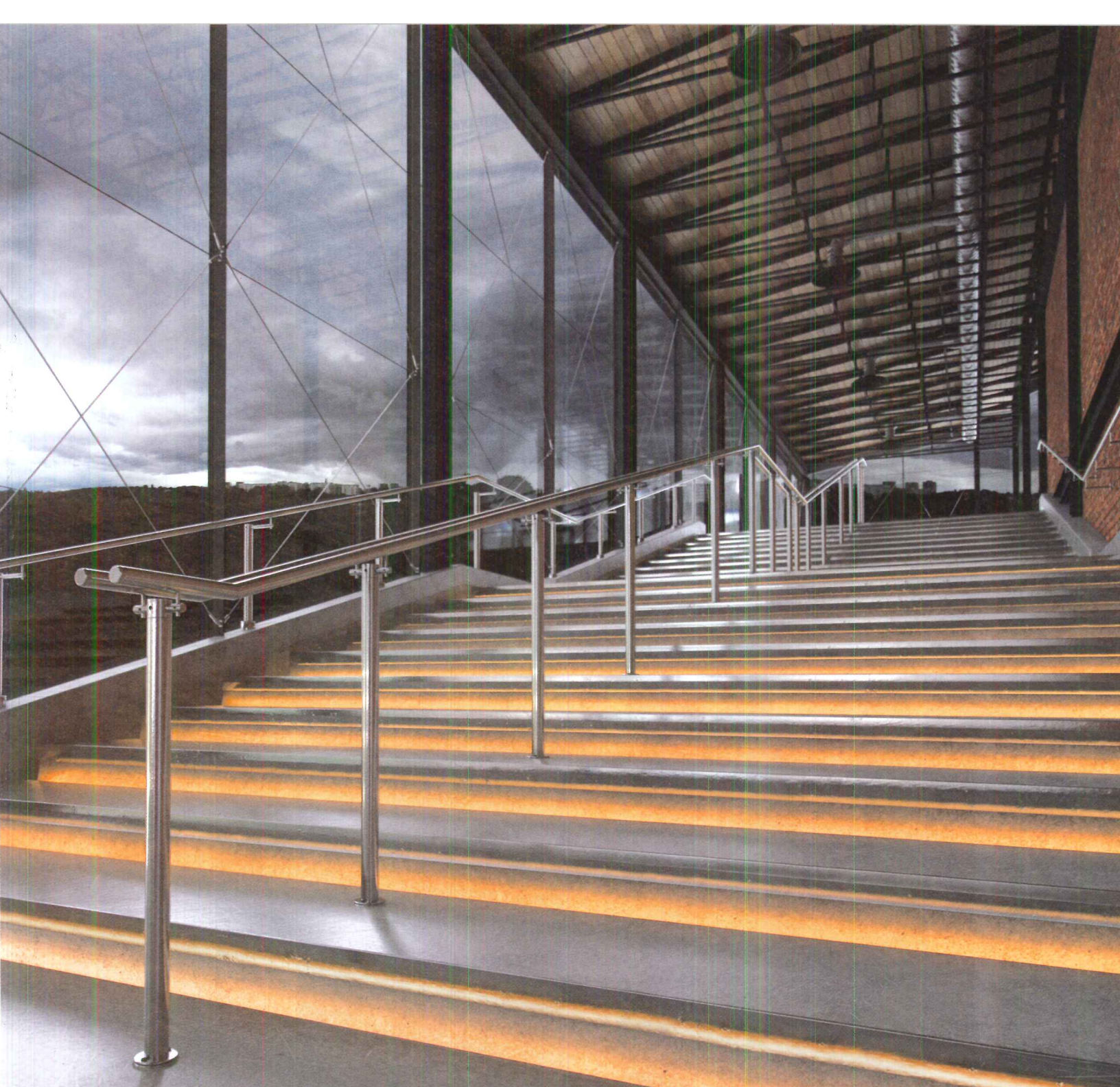
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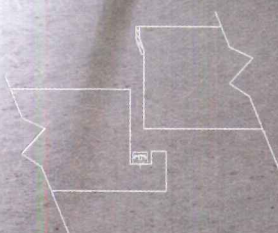
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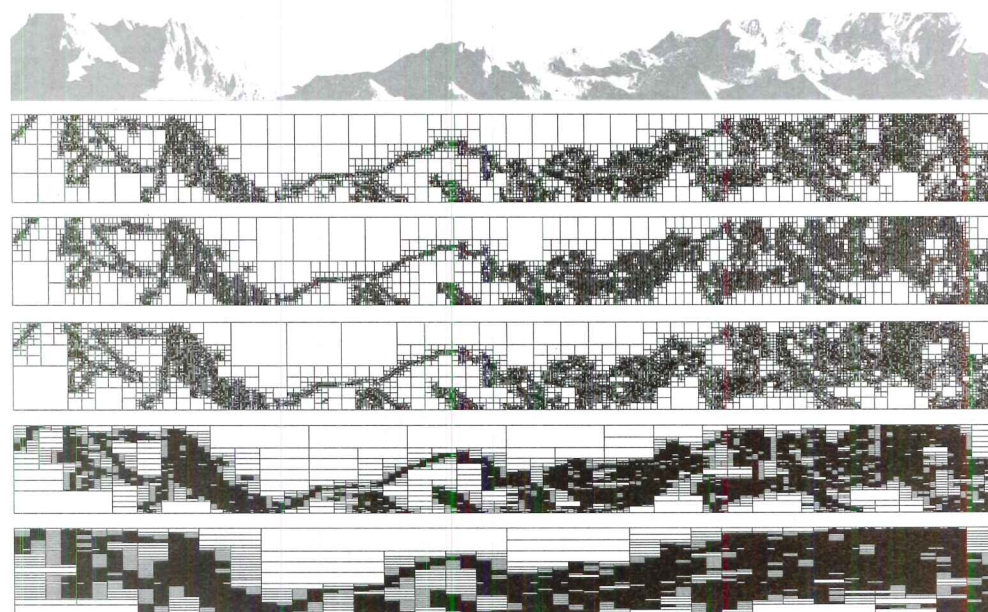
In digitally sophisticated Los Angeles, the Southern California Institute of Architecture's new Robot House ups the ante. **By Russell Fortmeyer**

THE ARCHITECTS PETER TESTA and Devyn Weiser like to point out that the robotic Stäubli instruments installed last spring in the new Robot House at the Southern California Institute of Architecture (SCI-Arc), in Los Angeles, are not people. For that matter, the Robot House is not a house, but rather a converted double-height space at the south end of SCI-Arc's main building. The room has two glass walls and a catwalk overhead, which allow students to view the robots in action.

Testa and Weiser, partners in the firm Testa/Weiser and faculty members at SCI-Arc, initiated the school's partnership with Stäubli and oversaw the Robot House's design and construction. The five robots in the facility, along with a sixth, much smaller one in an adjacent classroom, range in weight from 60 to 550 pounds and can handle loads of up to 75 pounds, moving as fast as 35 feet per second. They might not be people, but they may well populate the next frontier of digital design.

Similar models of robots build cars, process pharmaceuticals, and perform surgery, guaranteeing precision and consistency. In architecture, robots have mostly been used individually to "pick and place" materials, such as bricks. But with multiple robots, designers can investigate movement, choreography, and collaboration, providing an alternative to the typical linear sequence of design and programming, followed by fabrication and construction. "We consider the robots a real-time design and construction platform," explains Testa. Robots offer a way of getting beyond the computer screen, which doesn't account for gravity or material properties. "We wanted to move on to something more tangible and interactive," he says. Robots could also enable free-form fabrication, minimizing or eliminating the use of molds. This summer, Weiser taught the first seminar using the robots, called Robotic Confections and Confabulations, or RoCoCo, while Testa's earlier XLab studios at SCI-Arc had speculated on their potential use.

Contractors and other schools have robots as part of fabrication shops. Machineous, a Los Angeles-based fabricator, has a six-axis robot in its stable of equipment that was used to cut the tri-lobe-shaped plastic "bricks" for architect Greg Lynn's Blobwall for Panelite in 2007.



For the eatery Earl's Gourmet Grub, FreelandBuck created a mural made of white maple veneer laminated onto standard sheets of medium-density fiberboard. To develop the mural's low relief, the architects digitally translated a photograph of an Alpine landscape into a gridlike pattern. They then worked with fabricator Joe Cooper to set the tool path for the CNC machine. They programmed it to make cuts in the direction of the grain first, to avoid chipping or splintering the veneer.



A six-axis robot can move in the typical X-Y-Z planes but also rotate 360 degrees around an object. If robots are not new, they represent the next phase in the fascination with digital design and fabrication that has defined some of Los Angeles' most progressive architectural practices. Twenty years ago, computer numerical control (CNC) milling machines, which typically consist of large beds with a vertical spindle that can cut material based on programming input, were not common in architecture schools, let alone in commercial practice. High-profile local projects such as Gehry Partners' Walt Disney Concert Hall, which opened in 2003, helped change the situation. The approximately 8,000 wood panels and components inside the hall were fabricated using a CNC mill with digital files created by the architects.

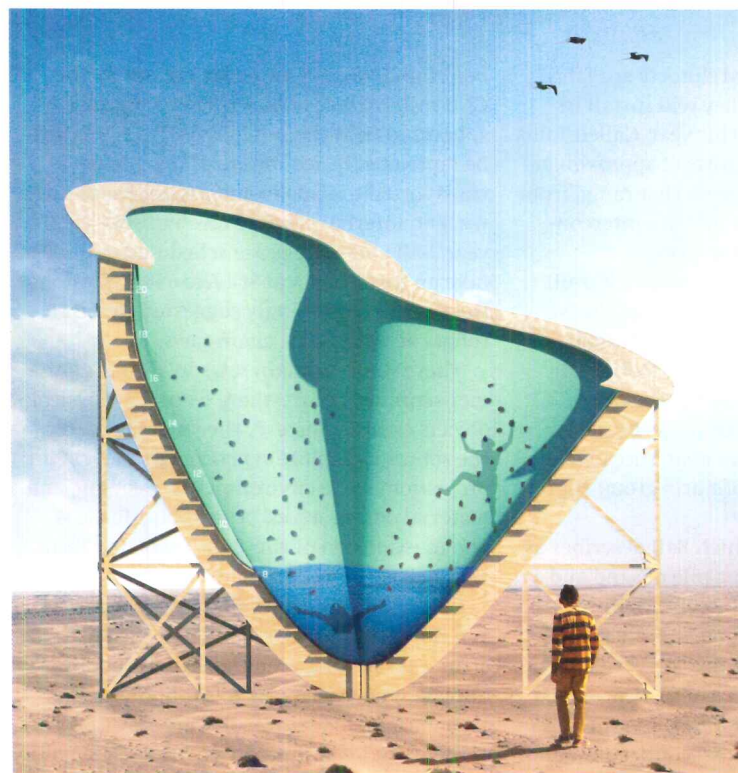
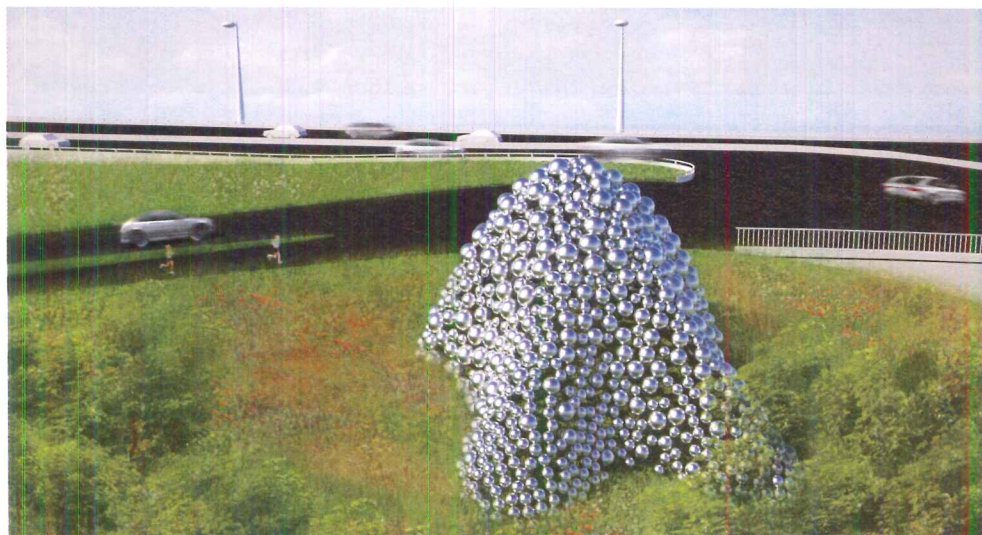
Although some architecture offices have their own CNC equipment, most work with a fabrication shop. The Los Angeles- and New York-based practice FreelandBuck collaborated with Los Angeles fabricator Joe Cooper for a mural installed in Earl's Gourmet Grub on Venice Boulevard (see story, page 88). Cooper's first step with any project is to clean up architectural CAD files, connecting lines or deleting offsets, as mills require exact instructions. He then converts them into a Mastercam file, which he uses to produce the so-called "G code" that runs the mill's controller. "There's no room for mistakes," Cooper says. "Whatever I

program is exactly what it will do." He then sets up a tool path that directs where and how fast the mill will cut.

For Earl's, FreelandBuck created the design for the mural, which consists of maple veneer laminated onto standard sheets of medium-density fiberboard, based on a photograph the client had provided showing a mountain landscape. With the software Maya, the architects translated the image into a grid that resembled a topographic map, with darker tones indicating a denser grid. They then translated this into a Rhino file to send to Cooper. The architects worked with Cooper to set the tool path, programming the mill

to make cuts in the direction of the veneer's grain first in order to minimize chipping or splintering. It took less than four days to mill the 60-foot-long mural.

If FreelandBuck's work in digitized architectural surfaces represents one mode of practice in Los Angeles, the art installations of the Ball-Nogues Studio represent another. Architects Benjamin Ball and Gaston Nogues, two SCI-Arc graduates, started working together in 2004. Ball had worked for Gehry before pursuing set design for film productions, while Nogues had spent much of his career working in digital design for Gehry. (Ball says "everyone in L.A. is standing on



Ball-Nogues Studio is building a CNC-milled plywood frame (opposite) that will mold 2,000 stainless steel spheres into Talus Dome—a public art piece for the City of Edmonton, Alberta (above). After the dome's fabrication, the studio plans to install the frame at a site near Yucca Valley and convert it into an elevated "crater" filled with water (left).



Continuing Education

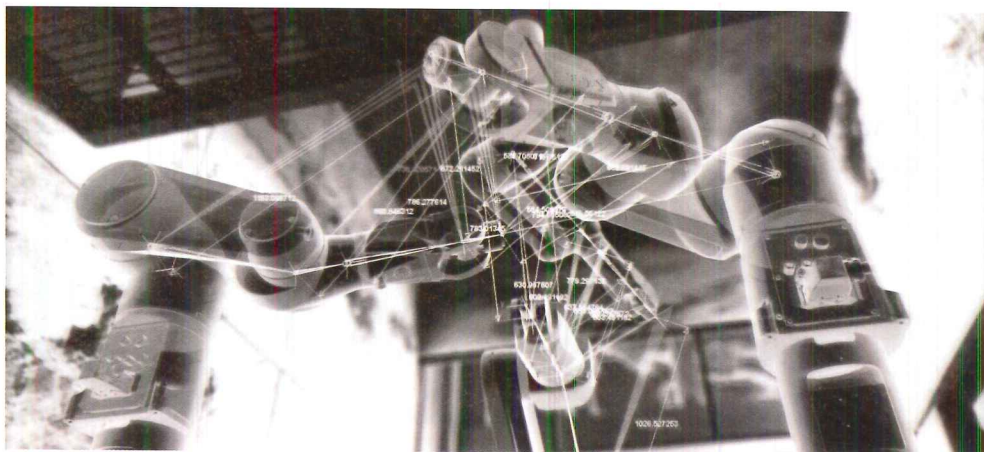
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Learning Objectives

- 1 Identify methods for digital form finding and fabrication.
- 2 Outline fabricators' processes for working with architects' digital files.
- 3 Discuss applications for robotics in architectural design and fabrication.
- 4 Identify some of the programming languages that support robotic fabrication.

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In a seminar held this past summer in SCI-Arc's Robot House (above), students conducted various activities with robots, including deforming materials (above, left). In preparation for one final group demonstration, they created an algorithm that calculates the distance between the robots' arms, helping coordinate movement (left).

Gehry's shoulders.") The architects are fabricating a public art piece they will install in Edmonton, Alberta, later this year. Called Talus Dome, the installation consists of approximately 2,000 stainless steel spheres that range from 8 to 30 inches in diameter and are interconnected and self-supported in place.

Ball and Nogues used their own CNC mill to fabricate the timber frame that will serve as the dome's mold. If all goes as planned, the freestanding, self-supported 30-foot-tall mold will then be reused as an elevated aquatic basin for a proposed project called Yucca Crater to be installed near Yucca Valley, California, for the nonprofit arts group High Desert Test Sites.

To create the dome—which Ball describes as a happy medium between a pile of sand and a parabolic sphere—the architects are lining the frame with thin plywood and stacking the spheres along the interior surface. "We have not been able to find a piece of software to predict with any accuracy how these spheres will stack," says Nogues. Steel connector plates,

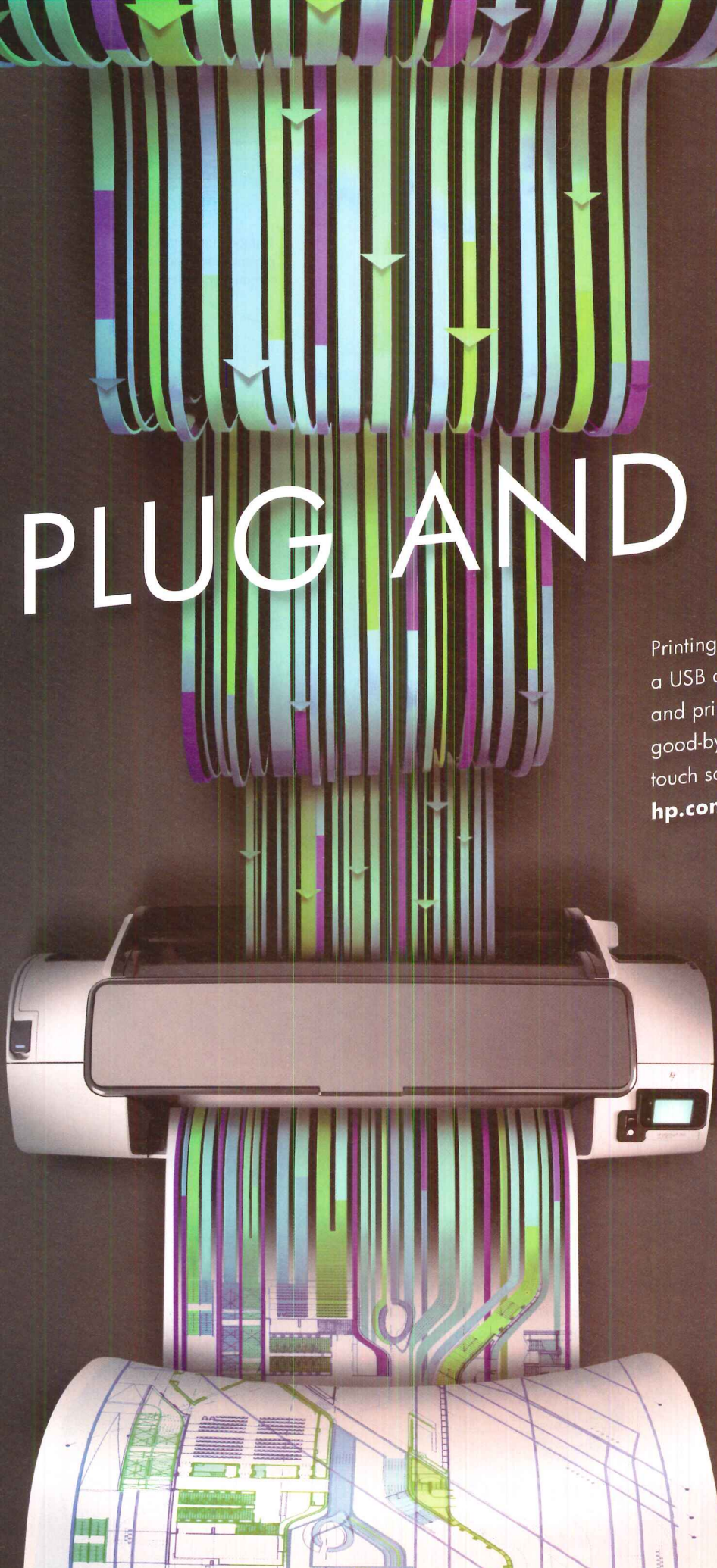
bent into U-shapes on molds cut out by the CNC mill, will then be welded to adjacent spheres to hold them in place. The dome will be fabricated in sections to allow it to be transported to Canada and assembled on-site, with no internal support mechanisms. Next year, Ball and Nogues are scheduled to undertake an installation at SCI-Arc using the Robot House. Ball has jokingly suggested that the robots be fitted with chain saws.

There were no chain saws in Weiser's summer seminar. In fact, there were few physical objects created. Instead, the students used the robots to explore synchronous movement, projection, sonic environments, weaving, and material deformation. "The Robot House is not an extension of the shop," explains Testa. "It is a design environment."

One of the key achievements of the seminar and the prior SCI-Arc studios was the creation of an interface between the VAL-3 programming language that controls robots and the architectural modeling software Maya. As part of their final presentation, M.Arch students

Brandon Kruysman, Jonathan Proto, and Curime Batliner used this software platform to produce a choreographed demonstration with three synchronously moving robots, attempting to coordinate movement, sound, and other variables. Two robots held projectors displaying video on the walls, while the third robot filmed the event. The students created an algorithm-based program that determined the distance between the two projection robots to modulate the tone and frequency of an ambient sound track. Each student manually controlled the preprogrammed sequence of an individual robot, resulting in a few near-collisions.

Testa expects that the tools will eventually be sophisticated enough to enable designers to tightly control the work spheres of multiple robots in complex spatial conditions. This would set the stage for robots moving out of the factory and onto the construction site, ultimately allowing a much more adaptive and responsive design environment, where both architect and client can evaluate outcomes in real time. ■



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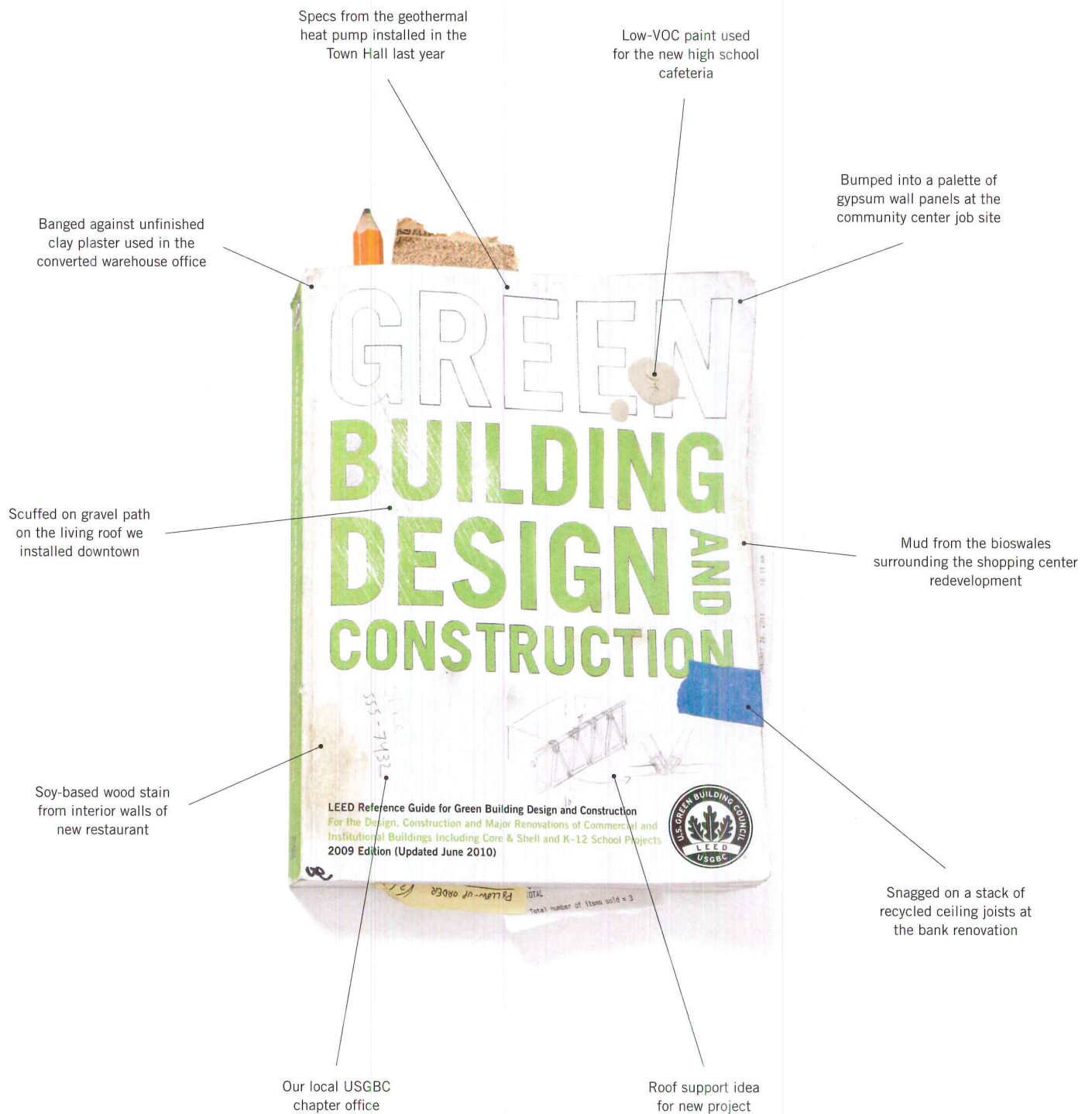
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Water-Conserving Appliances

SPONSORED BY: **Electrolux**

Advances in water conservation look beyond plumbing fixtures to address water and energy use in buildings. This course explores the opportunities resting in built-in water-using kitchen and laundry appliances designed for residential projects.



CREDIT: 1.00 HSW/SD

page 105



Photo courtesy of Resilient Floor Covering Institute

Assessing Resilient Flooring for Sustainability

SPONSORED BY: **Resilient Floor Covering Institute (RFCI)**

The new NSF/ANSI Standard 332-2010 provides the basis for reviewing resilient floor coverings using multiple attributes to determine sustainability. Learn about this new national assessment standard and the criteria used to evaluate the sustainability profile of resilient flooring products.



CREDIT: 1.00 HSW/SD

page 111

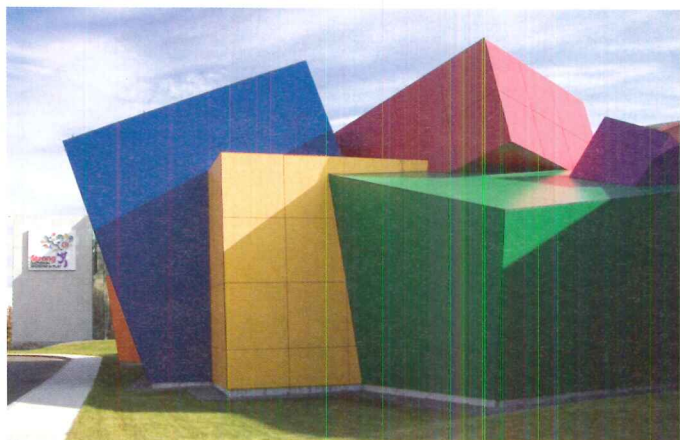


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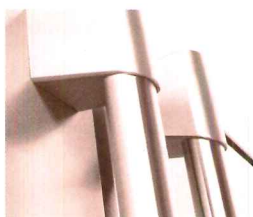
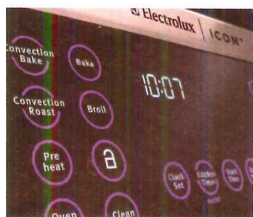


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page 117



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WATER-CONSERVING APPLIANCES

SAVING WATER SAVES ENERGY

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 Use the learning objectives below to focus your study as you read **Water-Conserving Appliances**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit and sustainable design, answer the questions on page 109, then follow the reporting instructions or go to ce.architecturalrecord.com and follow the reporting instructions.

Learning Objectives

After reading this article, you should be able to:

- Identify and recognize the attributes and features of water-conserving performance in built-in appliances.
- Determine the applicable water-saving criteria and standards for built-in appliances.
- Investigate and compare the differences between different types of water-using appliances.
- Specify and design appropriate water-saving built-in appliance installations for new construction and renovation projects.

Photo courtesy of Electrolux



Green and sustainable building design usually includes an integrated approach to reducing not only energy consumption but also water consumption. The reason for this seems readily apparent; water is an increasingly precious commodity with competition emerging among many communities, cities and states to secure adequate water supplies for their growing populations. But there is also a significant use of energy involved in the movement and processing of water. As a result, architects and engineers involved in green building design are already quite familiar with how to address water consumption in bathroom fixtures such as sinks, toilets and showers, since these are covered in most green building rating systems and codes. However, there is another opportunity to help control water consumption, particularly in residential buildings of all types—multi-family as well as single family. That opportunity rests in the appliances that use water and are designed and specified into kitchen and laundry situations in a manner that efficiently promotes water and energy conservation rather than consumption.

WATER USE, ENERGY AND SUSTAINABILITY

Looking at the big picture, there are several ways to think about water use in this country. According to the U.S. Environmental Protection Agency (EPA) more than 240 million people in the U.S. (approximately 85 percent of households) depend on public water supply systems, requiring the withdrawal of more than 43 billion gallons of water every day. This is quite dramatic when compared to the approximately 15 percent of households that are self supplied (i.e., from private wells) and use only 4 billion gallons of water per day. Historically, nearly 60 percent of the public supply is delivered to households while the rest goes to other buildings or public uses such as street cleaning, swimming pools, etc. Not to be overlooked is the additional water used by electric power plants which typically use 136 billion gallons of fresh water per day across the country during the production of energy from fossil fuels, nuclear or geothermal sources. Generally,



More efficient mixing of detergent, water and clothing cleans more effectively while using less water.

water withdrawn for power plants is used for cooling purposes within the plant and obviously would be needed less if less energy were being generated.

The EPA notes that with the U.S. population doubling over the past 50 years, our thirst for water tripling, and at least 36 states facing water shortages by 2013, the need to conserve water is becoming more and more critical. From an environmental standpoint, this increasing demand for water in the United States creates the need to build more dams, dig more wells and make more withdrawals from natural water bodies. This trend and the failure to use water efficiently can hurt our natural water supply by altering water flows due to excessive withdrawals, causing contaminants to intrude into freshwater aquifers and wells due to excessive withdrawals, and creating the need to build additional dams. Dams generate nonpoint source pollution by trapping sediment and other pollutants, affecting water quality both upstream and downstream. Conversely,

some of the environmental benefits that are aided by water efficiency include the reduced need to construct additional dams and reservoirs, fewer sewage system failures from overwhelming input, and the reduced need to construct additional water and wastewater treatment facilities.

When it comes to water use in buildings, it is widely held that water conservation measures are one of the most immediate and cost-effective sustainable choices that can be implemented. There are several reasons for this. First, as soon as water consumption is reduced in a building, the effects for the building owner and the water supply systems are immediate. Similarly, the effects on the wastewater treatment system associated with that water use also decrease immediately. Second, there is typically very little if any cost increase for water systems, fixtures and appliances that use less water to accomplish the same task or function as less efficient ones, all else being equal. Certainly there are choices among any water-using item that

range in cost depending on other features and characteristics. However, comparing just the cost of the water-conservation features between similar items is usually found to be very favorable. Since the average household spends as much as \$500 per year on its water and sewer bill, making a few simple changes to use water more efficiently could readily save about one third or \$170 per year. The EPA estimates that if all U.S. households installed water-efficient appliances, the country would save more than 3 trillion gallons of water and more than \$18 billion per year.



Photo courtesy of Electrolux

Making some informed choices about water-using fixtures and appliances can yield notable savings in water and energy use.

Beyond basic water conservation measures, it is important to realize that it takes a significant amount of energy to deliver, treat and process water. Most people realize that hot water uses up energy, but supplying and treating cold water requires a significant amount of energy too. Any given building needs to access and acquire potable water from someplace, even if it is on-site. That will usually involve energy for pumping and storing water. To assure good health, that stored water will be treated in some fashion, usually with energy intensive chemicals to either remove unwanted material or address organic concerns. Once treated, the water again requires some energy to move it to a higher or pressurized location to service the building. Experts tell us that anywhere between 5 and 25 BTUs of energy are required per gallon just to bring the water

into a building. But the process doesn't end there. Once inside the building, the water is used in bathroom or kitchen fixtures and also in appliances such as dishwashers and clothes washing machines. After that use is complete, the water then needs to drain and/or be pumped to an appropriate water treatment facility. In most cases, that is a central or municipal sewage treatment plant which is commonly very energy intensive by nature. This is due to the raw energy needed to operate the plant effectively plus the fact that it is in constant use, 24 hours a day, 7 days a week, 52 weeks a year, every year. Recognizing all of the aspects of this process, the U.S. Department of Energy has noted that roughly 80 percent of water costs are associated with the energy used in the process. To be more specific, they note that American public water supply and treatment facilities consume about 56 billion kilowatt-hours (kWh) per year—enough electricity to power more than 5 million homes for an entire year. As an illustration, it is noted that letting a faucet run for only five minutes uses about the same amount of energy as turning on a 60-watt light bulb for a full 14 hours. Further, if only 1 percent of all American households reduced their water use appreciably, then about 100 million kWh of electricity could be saved per year. That level alone would avoid 80,000 tons of greenhouse gas emissions—equivalent to removing nearly 15,000 automobiles from the road for one year.

PROGRAMS AND STANDARDS FOR ENERGY AND WATER EFFICIENCY IN APPLIANCES

Since water conservation is so clearly significant in all buildings, it is easy to see why programs, codes and standards have emerged to address implementation of water conservation measures. Some of these are discussed below:

U.S. Green Building Council (USGBC). The USGBC Leadership in Energy and Environmental Design (LEED®) program states that the intent of the Water Efficiency credit is to “increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater

systems.” The LEED scoring system directly addresses only bathroom fixtures. Although appliances aren't specifically considered, it is possible that a building that has a significant water use for laundry or dishwashing could be a candidate for an innovative green building strategy and resulting LEED points if enough water savings can be shown.

American Council for an Energy-Efficient Economy (ACEEE). This nonprofit organization is dedicated to advancing energy efficiency and promoting economic prosperity, energy security and environmental protection. ACEEE carries out its mission by conducting in-depth technical and policy analyses plus working collaboratively with businesses, government officials, public interest groups and other organizations. It also educates businesses and consumers through reports, books, conference proceedings, media outreach and a fairly comprehensive web site. ACEEE's technical work is widely relied upon by policymakers, business and industry decision-makers, consumers, the media, and other energy professionals.

ENERGY STAR® is a government-backed program through the U.S. Department of Energy (DOE) that is helping businesses and individuals protect the environment through superior energy efficiency. The ENERGY STAR® label is granted to products and appliances that are shown to meet specific reductions in energy and water use compared to standard products and appliances. They have produced a list of typical electricity use, for example, for appliances including those shown for clothes washers and dishwashers as shown in the table below. ENERGY STAR also provides a summary of the most efficient clothes washers for 2011 on their website.¹

Typical Household Electricity Usage Related to Water-Using Appliances

Appliance	Electricity kWh/yr	Cost\$/yr	CO ² lbs/yr
Clothes Washer (incl. hot water)	1,080	\$86	1,544
Clothes Washer (excl. hot water)	99	\$8	142
Demand water heater (electric)	350	\$28	501
Dishwasher (incl. hot water)	935	\$75	1,337
Dishwasher (excl. hot water)	330	\$26	472

Source: U.S. Department of Energy – ENERGY STAR® Program.

The Consortium for Energy Efficiency (CEE). This nonprofit public benefit corporation develops initiatives for its North American members to promote the manufacture and purchase of energy-efficient products and services. Their stated goal is to induce lasting structural and behavioral changes in the marketplace, resulting in the increased adoption of energy-efficient technologies. CEE members include utilities, statewide and regional market transformation administrators, environmental groups, research organizations and state energy offices in the U.S. and Canada. Also contributing to the collaborative process are CEE partners—manufacturers, retailers and government agencies. The U.S. Department of Energy and Environmental Protection Agency both provide support through active participation as well as funding. CEE has established the Super-Efficient Home Appliance Initiative (SEHA) as a national program designed to stimulate manufacturer and consumer interest in highly efficient home appliances. Launched in 1997, it provides a nationally recognized definition of “super-efficiency” through the establishment of performance tiers that utilities can voluntarily adopt for use in local programs. As such, SEHA seeks to provide early markets for the most energy-saving home appliances.

The Multi-housing Laundry Association (MLA). This professional group of laundry service providers, manufacturers and affiliated companies is dedicated to making multi-housing laundry service an attractive, profitable and responsible alternative for property owners and managers. They point out that saving water is just the beginning. MLA member companies can help make laundry rooms an amenity that actually attracts new residents and helps with the retention of current residents. The MLA maintains a website at www.laundrywise.com that offers

information and support on efficient and attractive design of common laundry rooms.

Each of these organizations have contributed to the understanding and application of water conservation and energy reduction in appliances and they are referenced further in the discussion on specific appliance types below.

EFFICIENCY IN DISHWASHERS

According to CEE, approximately 60 percent of American homes have dishwashers and account for 2.5 percent of total residential energy use or 24,000 gigawatt hours (GWh) of energy per year. They go on to point out that a majority of the energy usage in dishwashers occurs



Water use in a dishwasher is heavily dependent on its design while energy use has a lot to do with cycle selection. Manufacturers can maximize the wash and rinse temperatures in order to reduce energy used in each cycle.

during the hot water and the dry cycle, with the hot water cycle providing the most significant portion. Typically, a domestic water heater supplies the initial hot water to the dishwasher. However, all dishwashers manufactured in the U.S. have a booster heater that further raises and maintains the water temperature. That is actually a good thing, because it allows domestic hot water heater temperatures to be turned down to around 120 degrees, instead of the higher temperatures usually desired for dish washing. The lower water heater

temperatures mean less energy is used on an ongoing basis with the higher temperature created only for the intermittent needs of the dishwasher. Specifying a dishwasher that requires less water to be heated and used will result in more efficient operation. ENERGY STAR dishwashers use about 4 gallons or less of water per load, compared to standard machines that use about 6 gallons or more. By comparison, hand washing generally uses about 20 gallons of water.

The ACEEE explains that dishwashers for residential use fall into two basic categories—food-disposing where particles are drained with the rinse water and non-food disposing models where particles are collected in a strainer that must be emptied and rinsed manually. The

majority of American manufacturers make food-disposing machines. Machines in both categories may or may not have a filter, which generally comes in two types—coarse or fine. With coarse filters, food particles stay in suspension and can be re-deposited onto dishes after washing. As a result, a larger amount of rinse water is typically needed than in fine filtered models. Fine filter models generally have less food re-deposited, as most particles are filtered out prior to re-circulation in the wash cycle.

Approximately half of the dishwashers sold are fine-filtered models and half have coarse filters or none at all.

Continues at ce.architecturalrecord.com

Peter J. Arsenault, FAIA, NCARB, LEED-AP, is a practicing architect, sustainability consultant and freelance writer based in New York State.

See Quiz on the Next Page or
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Program title: “Water-Conserving Appliances” (10/11, page 105). AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare/sustainable design (HSW/SD) credit. (Valid for credit through October 2013). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online and avoid handling charge, go to ce.architecturalrecord.com**

1. It is widely held that one of the most immediate and cost-effective sustainable choices that can be implemented in buildings is:

- a. site improvements.
- b. equipment replacement.
- c. water conservation measures.
- d. solar systems.

2. Energy use related to cold water is found in the way we:

- a. construct water treatment plants.
- b. deliver, treat and process water.
- c. install piping systems.
- d. specify appliances and fixtures.

3. Which of the following organizations do NOT directly address water use and conservation in appliances as part of their programs?

- a. ENERGY STAR® through the U.S. DOE
- b. The CEE SEHA program
- c. MLA
- d. USGBC through the LEED® program

4. The most significant portion of the energy usage in dishwashers occurs during:

- a. the hot water cycle.
- b. the manufacture of dishwashers.
- c. the delivery of electricity.
- d. the drying cycle.

5. About 60 percent of the energy used by a dishwasher goes toward heating the water, so models that use less water also use less energy.

- a. True
- b. False

6. ENERGY STAR®-qualified clothes washers use:

- a. the least amount of energy and water than any other designation.
- b. the same amount of energy and water as the federal standards.
- c. 37 percent less energy and 50 percent less water than regular washers.
- d. 10 percent less energy and 10 percent less water than regular washers.

7. Most high-efficiency washers utilize a horizontal-axis design which saves energy and water because they:

- a. have better controls.
- b. load from the front and tumble clothes through a much smaller pool of water.
- c. don't require an agitator.
- d. are smaller than traditional washers.

8. The MLA has determined that centralized common laundry rooms are actually more water and energy efficient for people who live in apartment communities.

- a. True
- b. False

9. In specifying clothes washers, the highest performance standard is:

- a. SEHA TIER 3
- b. SEHA Tier 2
- c. SEHA Tier 1
- d. ENERGY STAR-labeled

10. The best dryers have this type of control to turn off the machine:

- a. a timer to limit the time the dryer is on.
- b. a temperature sensor.
- c. moisture sensors inside the drum for sensing dryness.
- d. All of the above

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Durable



Stylish



Sustainable



Affordable



Versatile



Unexpected



Safe



The Resilient Floor Covering Institute (RFCI) is a North American industry trade association whose members are the leading resilient flooring manufacturers and suppliers of raw materials, additives, and sundry flooring products for the North American market. Resilient flooring manufactured by RFCI members is all about sustainability, durability, affordability, and style, encompassing a surprisingly wide variety of hard surface flooring products – from vinyl and linoleum to rubber and cork.

Resilient flooring is not only a great choice for versatile, cost effective flooring solutions – it’s also a great choice for the environment. RFCI is leading the way in sustainability with our third-party certification programs and standards including the popular FloorScore® program and the new NSF 332 Sustainability Assessment for Resilient Flooring, a multi-attribute, Life Cycle Assessment based program. Visit our website at www.RFCI.com to learn more about the sustainability of resilient flooring.



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Learning Objectives

After reading this article, you should be able to:

- Identify the criteria used to define sustainability in resilient flooring under the standard.
- Differentiate and distinguish among different levels of sustainability for resilient flooring using the new standard.
- Investigate different approaches that manufacturers and suppliers of resilient flooring can take toward creating sustainable resilient flooring products.
- Analyze and assess the sustainability of specific resilient flooring products based on their score under the standard.

Photo courtesy of Resilient Floor Covering Institute



Photo courtesy of Resilient Floor Covering Institute

Within Standard 332, resilient flooring is specifically defined as “a floor surfacing material made in sheet or tile form, or formed in place as a seamless material that has a wearing surface that is not textile.” The resilient flooring above has the appearance of stone, but is not.

In the last decade, building products with claims by their manufacturers of being “green” or “sustainable” have become increasingly common. Some of these claims have been readily discernable and verifiable while others have been more difficult to evaluate. In certain cases, controversy has arisen between those making the claims, such as manufacturers, and those trying to make objective, informed, design decisions such as architects and interior designers. In the case of resilient flooring, in particular, there has been a need to gain clarity on how to determine the relative sustainability of different products, particularly since there are numerous choices in materials, manufacturing processes, suppliers and applications. Manufacturers of many building products have needed to be careful that claims on their green characteristics have not been misleading in order to remain legally and ethically appropriate. In response to the need for an objective way for designers, specifiers and purchasers of resilient flooring products to make better decisions when

selecting floor coverings for green and sustainable buildings, a new national standard has been developed.

NSF/ANSI STANDARD 332-2010 SUSTAINABILITY ASSESSMENT

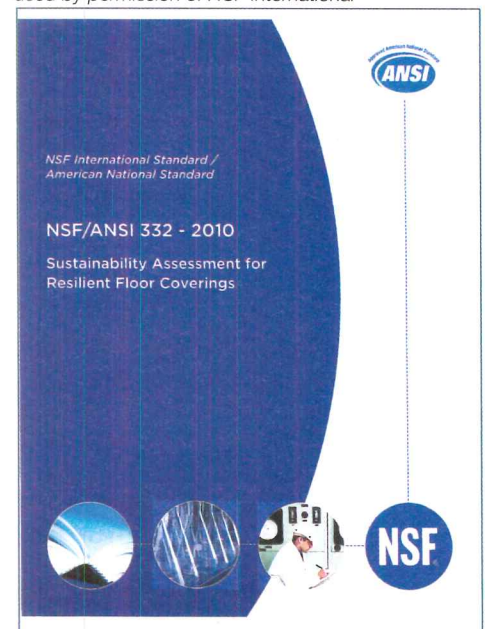
NSF International (formerly the National Sanitation Foundation) is an independent, not-for-profit standards developer that has developed a new sustainability assessment standard for resilient floor coverings that has also been approved by the American National Standards Institute (ANSI) as meeting the ANSI standard-setting requirements. The new NSF American National Standard 332-2010: “Sustainability Assessment Standard for Resilient Floor Coverings” (NSF 332) can now be used by architects, designers, owners, facility managers and end users to determine for themselves the reliability of the sustainability attributes of a range of resilient flooring products. While the standard is offered as a self-assessment for manufacturers, its credibility is derived from having been developed through the open, consensus-based ANSI process with public

review and input. Further, optional third-party certification under this standard offers specifiers the highest level of confidence and credibility in a market that has no shortage of green claims. The goal is to make it easier to evaluate the sustainability profile of resilient floor coverings, and to enable the resilient floor covering industry to offer flooring products with increased sustainability.

In the broadest sense, resilient flooring is usually defined as a hard surface flooring material but with some “give” or “resilience” when walked on that bounces right back to its original configuration. Within Standard 332, resilient flooring is specifically defined as “a floor surfacing material made in sheet or tile form, or formed in place as a seamless material that has a wearing surface that is not textile.” A key distinction is that the wearing surface is non-textile such as would be found in carpets and covered under other standards. Examples of resilient floor coverings include vinyl tile, vinyl composition tile, sheet vinyl, luxury vinyl tiles and planks, cork, rubber, polymeric, and linoleum flooring products. Also included are accessories such as wall base, moldings and stair treads.

NSF 332 is based on providing “a thorough communication of information that is verifiable, accurate and not misleading about environmental and social aspects associated with the production

Image courtesy of Resilient Floor Covering Institute; used by permission of NSF International



and use of resilient floor coverings.” The standard is “intended to be science based, provide transparency, and offer credibility for manufacturers in making claims of environmental preferability and sustainability, and to harmonize the principles and procedures used to support such claims.” While the standard is intended to be used primarily by product manufacturers, it is expected that it will also be used by independent auditors, certification bodies and environmental labeling organizations, architects, designers, and purchasers in determining market-based environmental and sustainability claims. Overall, the standard offers a consistent approach to the evaluation and determination of environmentally preferable and sustainable resilient floor coverings and includes relevant criteria across the product’s full life cycle from product design, through manufacturing, use and end-of-life management. In addition to all of the above, the standard is deemed applicable to products manufactured in one facility or multiple facilities, one country or multiple countries.

Under NSF leadership NSF 332 was developed using the ANSI consensus-based process that included architects, academia, environmental program managers, the U.S. Environmental Protection Agency (EPA), state and federal agencies responsible for procurement practices, and flooring manufacturers. The standard is built upon scientific principles including the International Standards Organization (ISO) 14000 series Environmental Standards. It took over three years to complete the process that included a two-year public comment and voting period. NSF 332 was first released as a draft standard and ultimately received final ANSI approval in 2010.

The development committee included representatives from the Resilient Floor Covering Institute (RFCI). RFCI is a nonprofit industry trade association representing the major manufacturers of resilient flooring, raw material suppliers and sundry product producers (e.g. adhesives). RFCI currently works with Scientific Certification Systems (SCS) to administer FloorScore®, which certifies hard-surface flooring complying with the indoor air quality program for VOC emissions under California Section 01350

Photos courtesy of Resilient Floor Covering Institute; used by permission of NSF International



The new NSF/ANSI Standard 332-2010 looks at all types of resilient flooring (e.g. vinyl tile, VCT, sheet vinyl, polymeric, rubber, cork, linoleum flooring).

(CDPH/EHLB Standard method VI.1-February 2010) and LEED IEQ 4.1 and 4.3. Hundreds of hard-surface flooring materials and adhesives currently bear the FloorScore® seal.

UNDERSTANDING NSF/ANSI STANDARD 332

From the outset, the intent was to develop a comprehensive standard that looked at multiple criteria so that products could be assessed based on multiple attributes of that product, not just a single attribute. Single-attribute standards serve a purpose but multi-attribute standards are regarded as more indicative of determining such things as an Environmentally Preferable Product (EPP) as mandated by many government agencies. NSF 332, which uses the multi-attribute approach, is responsive to market requests for a more comprehensive tool just as FloorScore® responded to market demands for measuring VOC emissions which impact indoor air quality.

Criteria Category Groupings

Six categories of potential environmental impact to be evaluated are included in NSF 332. The criteria are grouped in general conformance with a product’s life cycle, from design (including raw material selection and their production) to manufacturing, use and end of life. Additionally, criteria related to corporate governance are included to address issues of

social responsibility. The six categories are as follows:

- 1) Product design that encourages manufacturers to integrate environmental and life-cycle thinking into the product’s design process
- 2) Product manufacturing processes that encourages manufacturers to quantify the environmental impacts from their manufacturing, and then act to reduce or remove those impacts
- 3) Long-term value encouraging manufacturers to maximize product longevity
- 4) End-of-life management encouraging existing and new resilient flooring products to be collected, processed, recycled, and/or composted within the existing material’s recycling infrastructure
- 5) Corporate governance encouraging corporate social responsibility in the form of providing a desirable workplace, being involved in the local community, and demonstrating financial health
- 6) Innovation (optional) to give manufacturers the opportunity to be awarded points for exceptional performance above the requirements set forth in NSF 332

Scoring Methodology

For resilient flooring manufacturers that choose to assess the sustainability performance of their products in accordance with this standard, a point-based scoring system

has been developed. The system is based on a 90-point scale with a varying number of points assigned to accomplishing each of the assessment categories. Note that the Innovation category is optional and allows for 10 bonus points beyond the 90 available in the other categories for a total maximum potential score of up to 100 points. The category point breakdown is as follows:

- 1) Product Design – up to 30 points
- 2) Product Manufacturing – up to 29 points
- 3) Long-Term Value – up to 9 points
- 4) End-of-Life Management – up to 10 points
- 5) Corporate Governance – up to 12 points
- 6) Innovation – up to 10 points

Labeling, Reporting and Certification

The methodology for assessing whether a product conforms to the environmental and social responsibility criteria and for verifying ongoing conformance begins with the manufacturer. Each manufacturer self-certifying under NSF 332 is responsible for creating appropriate documentation in sufficient detail to ensure confidence that the requirements in the standard have been met. Product manufacturers making a declaration of conformance with the standard (i.e. a substantiated claim of sustainability for the product(s) assessed) should report this in a publicly available document (e.g., available on manufacturer's website).

Achievement of conformance with all of the prerequisites and additional criteria allows manufacturers to declare Sustainable Product(s) Achievement declarations based on the specific point score achieved for each individual product assessed as follows:

- Conformant: 25 points minimum
- Silver: 35 points minimum
- Gold: 45 points minimum
- Platinum: 60 points minimum

When architects are preparing specifications for sustainable resilient floor coverings, the NSF/ANSI Standard 332-2010 can be identified at the Conformant level (25 points) as a minimum. For buildings and designs seeking higher levels of sustainability, Silver, Gold or Platinum levels can be specified. Note that the availability of manufacturer's products

at those levels must be determined for a coordinated design. It is also important to note that these levels of sustainability can be specified independently of any other sustainability goals for the project such as LEED certification through the U.S. Green Building Council and GREEN GLOBES green building certification. This approach using defined levels of conformance was developed so that sustainability principals could be attainable by companies regardless of size or number of manufacturing plants. Note, however, that certification is for specific products made at specific plants. The same product made at a different plant which is not part of the certification process cannot bear the standard's certification.

Photos courtesy of Resilient Floor Covering Institute



Prerequisites within the NSF/ANSI Standard 332-2010 must be met, along with optional sustainability criteria, for resilient flooring to achieve one of four levels of Sustainable Product Achievement.

PREREQUISITES REQUIRED TO CONDUCT AN ASSESSMENT

Four of the six assessment categories in NSF 332 contain a total of 11 specific prerequisites that are minimum threshold requirements under the standard. Manufacturers using the standard to demonstrate sustainability of their product must first meet all of the prerequisites in each category in order to proceed any further. Once all 11 prerequisites are met, they may then seek points toward the Sustainable Product(s) Achievement levels (Conformant, Silver, Gold or Platinum) by meeting the additional specified scoring criteria within the six categories. Note that the prerequisites as described below do not carry any points, rather they are intended to establish the minimum qualifying

baseline criteria from which a product can then be judged further for sustainability under NSF 332.

The first three prerequisites are in the Product Design Category as follows:

Environmental considerations in design.

The manufacturer must implement an environmental assessment program within the product(s) design and development system. The program shall consider the environmental attributes and impacts of its products and packaging, including issues such as designing for longevity, designing for reusability, and designing for recyclability and/or compostability. The environmental assessment program shall consider environmental

attributes and impacts of products and packaging across the entire product's life cycle (e.g., raw material extraction, manufacturing, use and end of life).

Inventory of material inputs. The manufacturer must complete an inventory of material inputs for the product(s) undergoing assessment including packaging and recommended adhesive systems. At a minimum, the inventory shall report inputs by using Chemical Abstract Service (CAS) nomenclature, with inputs classified as hazardous declared to a minimum 1000 ppm (0.1 percent) threshold and other inputs to 10,000 ppm (1.0 percent) threshold.

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Program title: "Assessing Resilient Flooring for Sustainability" (10/11, page 111). AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare/sustainable design (HSW/SD) credit. (Valid for credit through October 2013). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online and avoid handling charge, go to ce.architecturalrecord.com**

1. **NSF 332 was developed using the ANSI consensus-based process that included:**
 - a. state and federal agencies responsible for procurement practices.
 - b. architects, designers and specifiers.
 - c. flooring manufacturers.
 - d. all of the above
2. **Each manufacturer self-certifying under NSF 332 is responsible for:**
 - a. being an ISO 14000 company.
 - b. creating appropriate documentation in sufficient detail to ensure confidence that the requirements in the standard have been met.
 - c. obtaining a third-party certification.
 - d. being a member of NSF or ANSI.
3. **Prerequisites under NSF 332 are intended to establish the minimum qualifying baseline criteria from which a product can then be judged further for sustainability and:**
 - a. fall outside of the 6 categories of assessment.
 - b. are the last step in the process of assessment.
 - c. do not carry any points.
 - d. focus on only one category.
4. **The actions associated with prerequisites include:**
 - a. remediation actions of environmental deficiencies.
 - b. inventory, identification and policy actions.
 - c. elimination actions of chemicals of concern.
 - d. efficiency actions.
5. **The stated purpose of the Product Design category is to encourage manufacturers to integrate environmental and life-cycle thinking into the product design process.**
 - a. True
 - b. False
6. **The criteria under the Product Manufacturing category are intended to:**
 - a. encourage manufacturers to quantify the environmental impacts from their manufacturing and then act on reducing those impacts.
 - b. encourage color and aesthetic changes in product.
 - c. mandate specified water usage measures.
 - d. require elimination of pallets in resilient flooring shipments.
7. **The criteria under the Long-Term Value category focus on:**
 - a. only the durability of resilient flooring products.
 - b. eliminating all air quality emissions.
 - c. using only green cleaning products on the flooring.
 - d. encouraging manufacturers to maximize product longevity which is dependent on its durability and performance characteristics.
8. **Up to 10 points are available under the End-of-Product-Life Management category for:**
 - a. only creating new uses for resilient flooring products.
 - b. contributing to local recycling efforts.
 - c. several defined product reclamation and recycling options.
 - d. only for investing in cradle-to-grave processes.
9. **The criteria in the Corporate Governance category provide a total of 12 points that include:**
 - a. providing a desirable workplace.
 - b. being involved in the local community.
 - c. demonstrating financial health.
 - d. all of the above
10. **The number of points awarded under the Innovation Category is determined on a case-by-case basis with a maximum of 10 points (in addition to the 90 point scale) available.**
 - a. True
 - b. False

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 Use the learning objectives below to focus your study as you read **Innovations in Color and Texture**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 122, then follow the reporting instructions or go to ce.architecturalrecord.com and follow the reporting instructions.

Learning Objectives

After reading this article, you should be able to:

- Discuss the general effects of color and texture on architecture in both aesthetic and functional terms.
- Describe trends in the application of color and texture to typical architectural materials, surfaces and finishes.
- List methods for applying color and texture to such surfaces as laminates and glass.
- Apply trends in end-user needs, building uses, and color/texture selection to building design situations.

Panels of resin and wood fiber rendered in powerful, simple primary colors were selected for a feature facade on The Strong, also known as the National Museum of Play, in Rochester, New York.

Photo courtesy of Trespa®

INNOVATIONS IN COLOR AND TEXTURE

EXPRESSIVE CAPABILITIES FOR ARCHITECTURAL SURFACES

By C.C. Sullivan

After space and structure, materiality is the essence of architecture. Surfaces play a large role in articulating materiality, with equal contributions of light, color and texture giving buildings their unique character. Louis Kahn poetically described these intertwined relationships: “All material in nature, the mountains and the streams and the air and we, are made of Light which has been spent, and this crumpled mass called material casts a shadow, and the shadow belongs to Light.”

Applied as architecture, that material is essential to the result. “Colors and textures cannot be seen independently of design intent,” says Jack Diamond, principal at Diamond and Schmitt Architects of Toronto. “Once the objectives for a building project are established, colors and textures become an integral means of achieving design ends.”

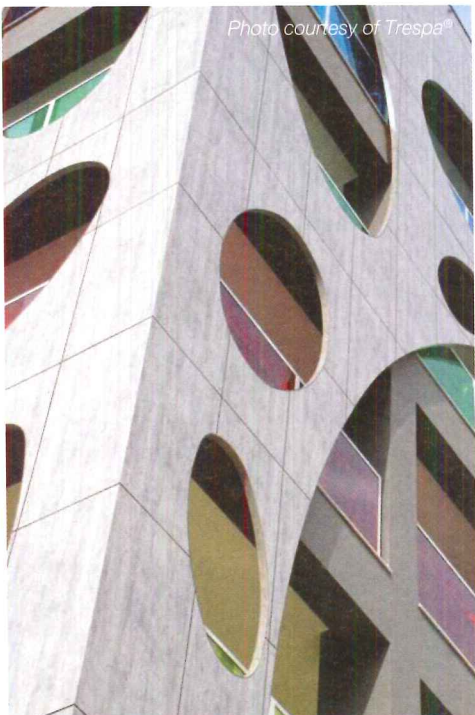


Photo courtesy of Trespa®

A dramatic residential building in Barletta, Italy, employs a double-layered rainscreen of durable panels to add texture and color. Architect: Michele Sfregola.

Color is inherent to materiality and can also be applied as architectural surface or finish. In either case, it makes a significant contribution—one lost on too many minimalist architects of late. “Color makes visible the spatial effect toward which architecture tends,” said Theo Van Doesburg, the Dutch artist, architect and De Stijl pioneer. “Color is an expressive material equivalent to other materials like stone, iron, or glass.”

Even more, “Color is a major element in scale,” wrote Van Day Truex, the influential Parsons president and Tiffany’s design director from 1955 to 1962. “A small room can have a larger look by the use of closely related values, hues, and intensity. A large room can be made to look smaller by marked contrasts of color and value, hue, and intensity.”

When architects select surface material, color and texture, much more is at stake than a mere stylistic choice. Fortunately, new techniques and technologies make almost any type of expression possible. What follows is a brief examination of some of the latest advances and underlying principles for their use in architecture.

SELECTING HUES

For practical reasons, both architects and material suppliers limit the number of colors considered for a given architectural application. One of the primary delimiters is the surrounding condition. “Color and texture choices are highly context-driven,” notes Steven Wright, AIA, LEED AP, a project manager with Rafael Viñoly Architects. “Largely they are influenced by the regional and specific locale. And, of course, the client may have certain requirements, such as brand colors.”

Combinations of colors may also be similarly limited, by considering the effects

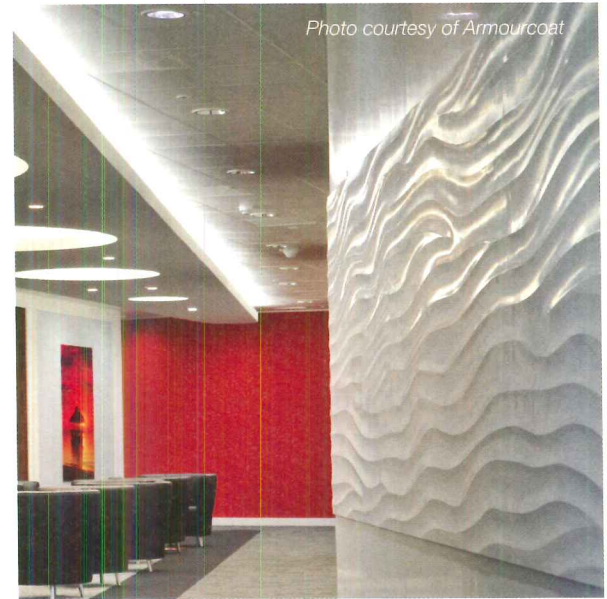


Photo courtesy of Armourcoat

In addition to hand-applied polished plaster wall finishes, a new pre-cast, panelized approach can be used to create seamless sculptural wall textures. This muted textured wall is offset by a vibrant jolt of color.

of color mixing. “Value is one of the most important elements. Whether light or dark, little value contrast makes for unity, and sharper contrast makes for stronger punctuation,” said the *Mad Men*-era designer, Truex.

Looking to the existing context offers a backdrop for the new color choice, says Viñoly’s Wright. “Depending on the situation and the design goals, the designer will seek to align the new colors and textures to the old, or she may wish to contrast and play off the old. Sometimes the introduction of a new and startling color or texture serves to bring a heightened appreciation of the existing,” he says.

Manufacturers restrict their color palettes for practical reasons. Pigmentation and dyes are costly (see “Color Prognosticators” sidebar in the online version of this course), and experience shows that specifiers and end-users prefer to choose from a pre-edited palette or have matching hues made to order.

“Five thousand colors is simply too many to choose from. We’ve focused on a standard color range of about 350 hues, but recognize that custom color-matching is always needed,” says Shawn Tweedy, chief operating officer for Armourcoat, a distributor of decorative finishes including polished plaster, a historical wall treatment technique still used widely today. “A critical issue is being able to offer a custom solution: to provide the exact color, hue and texture.”

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In addition to focusing on bespoke solutions, leading design teams and their suppliers shortlist colors and textures using an iterative process of surveying market feedback. “Based on external research in architecture and adjacent fields such as design and fashion—clothing, furniture, interior, automotive—and through specific discussions with global trend watchers, we identify a selection of possible future trends,” says Remon Veraart, director—Americas for Trespa, which makes exterior claddings. “The trends are discussed in workshops with architects in Europe, Asia and the USA to identify the most captivating currently on the market.” The company’s in-house designers then translate the selected trends into product colors, textures and full façade design systems, adds Veraart.

COLOR TRENDS: RICH NEUTRALS

The investment in market research and expert advice pays off, say those in the building materials supply chain. “We must follow the palette of the times, and fit within what’s happening in the market,” says Stephanie Goudreau, marketing manager for Lamin-Art, a supplier of decorative high-pressure laminate (HPL). Recently Goudreau has noted a trend back towards neutral colors, “But very interesting neutrals such as greys and beiges, with undertones or hints of colorations such

as taupes, blues or mauves. Abstract prints and wood grains also tend to combine warm and cool tones in the same design, making them suitable for both cool and warm color palettes.”

Warm neutrals primarily include beiges and tans, while the most common cool neutral is gray. Other cool neutrals include white and green.

“We’ve seen an overall shift in the neutral base color palette,” confirms Marybeth Orlando, interior design director with the firm The Architectural Team. “Instead of cooler, minimalist grays, clients are opting for classic warmer beiges for both interior and exterior materials.” These warmer tones tend to work well with wood finishes and other natural palettes that have a biophilic effect, exploiting the connection that humans have with nature and natural forms.

“Earth tones never go out of style, particularly given our culture’s concern today with natural materials, the environment and the out-of-doors,” says Katie Grimwood, an interior designer with TowerPinkster Architects Engineers. “Particularly in colder climates, bringing the outside in becomes a strong design concept. In fact, brown has really become the new black in many settings.”

Yet many of the predictors of trendy, fashionable colors cut against this naturalist, neutral grain. “Right

now, according to the September issue of *Vogue*, color is in: bright mix-and-match,” says Jill Pilaroscia, IACC, a color expert and principal of Colour Studio, Inc. “Red pants with yellow shoes, with an emerald green accessory or blouse, is acceptable. This trend will result in more colorful interior environments, but it will not translate well into functional environments like healthcare or schools as trends will not support the specific behaviors and tasks that should drive public spaces.”

“Color is an expressive material equivalent to other materials like stone, iron, or glass.”

—*Theo Van Doesburg*

So while mainstream architecture may not favor such Fauvist fancy, the mixing of colors and textures is now tending toward the higher value contrasts described by Truex. “Along with warmer neutrals, we are injecting bolder accents of color. Our once timid, muted accents are coming alive with more daring expressions of color and texture,” says Orlando. Examples include wood finishes with more pop, says Trespa’s Veraart, such as zebra wood.

As for texture, the latest consumer trends point to more variety and daring, adds Pilaroscia, an accredited color consultant who lectures frequently on theory and application. “For example, West Elm is offering accessory pillows in fur, textured felt and printed satin this season—the full range at hand,” she explains. “Contract finishes include carpet tiles in a variety of neutrals with bold accents that pattern in unconventional ways. Some look like EKG tests or stock market fluctuations.”

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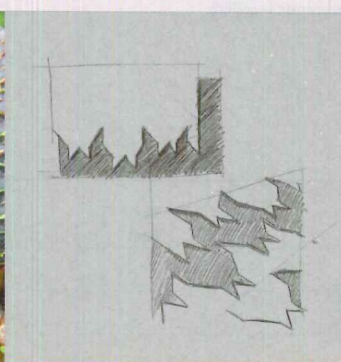
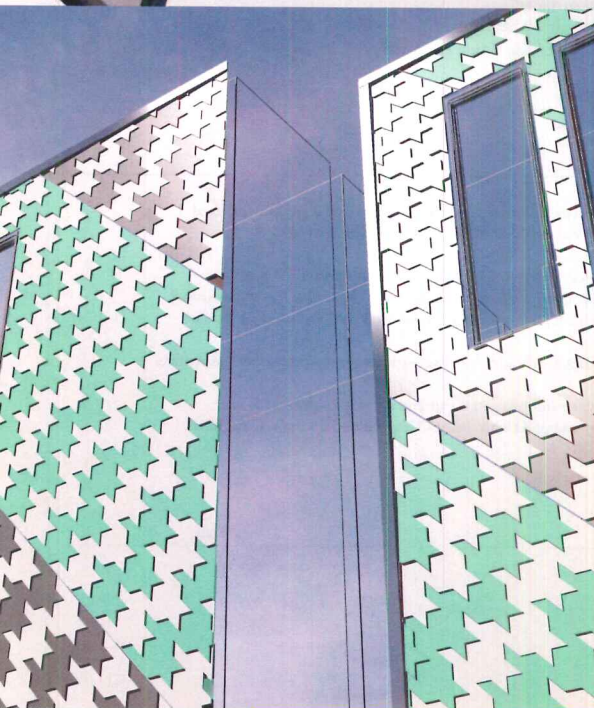
C.C. Sullivan is a marketing consultant specializing in the architecture, design and construction segments.

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Novel textured interior finishes include laminates made with embossing techniques and the use of “inclusion materials,” such as burlap cloth or banana fibers, which are pressed into the material’s melamine face layer.

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- | | |
|---|--|
| <p>1. In general, higher contrasts of colors and hues used in an interior space will make the space look relatively:</p> <p><input type="checkbox"/> a. about the same size.</p> <p><input type="checkbox"/> b. larger.</p> <p><input type="checkbox"/> c. smaller.</p> <p><input type="checkbox"/> d. None of the above</p> <p>2. Manufacturers restrict their color palettes for practical reasons, including the fact that specifiers and end-users prefer working from a limited palette, and because:</p> <p><input type="checkbox"/> a. custom matching colors are not appealing.</p> <p><input type="checkbox"/> b. pigmentation and dyes are expensive.</p> <p><input type="checkbox"/> c. only certain colors are allowed by building code.</p> <p><input type="checkbox"/> d. None of the above</p> <p>3. Warm neutrals primarily include beiges and tans, while an example of a common cool color is:</p> <p><input type="checkbox"/> a. white.</p> <p><input type="checkbox"/> b. gray.</p> <p><input type="checkbox"/> c. green.</p> <p><input type="checkbox"/> d. All of the above</p> <p>4. Warmer colors and wood finishes tend to connect humans to nature and natural forms, an effect known as:</p> <p><input type="checkbox"/> a. biophilia.</p> <p><input type="checkbox"/> b. environmental sustainability.</p> <p><input type="checkbox"/> c. inclusion materials.</p> <p><input type="checkbox"/> d. kinesthesia.</p> <p>5. High-pressure laminates (HPL) can be treated to have additional texture by embedding banana fibers or burlap in the melamine face layers of the HPL during manufacture. This technique is called:</p> <p><input type="checkbox"/> a. embossing.</p> <p><input type="checkbox"/> b. inclusion materials.</p> <p><input type="checkbox"/> c. postforming.</p> <p><input type="checkbox"/> d. texturizing.</p> | <p>6. Tactile texture describes actual surface variation as found in wood grain, sand, metal and the like, which can be felt by the hand. Optical texture can be applied to smooth materials through the repetition of graphic shapes and lines, often to imitate surface characteristics that exist in nature.</p> <p><input type="checkbox"/> a. True</p> <p><input type="checkbox"/> b. False</p> <p>7. The term which describes the dominant direction of pattern or irregularities on a textured surface is called:</p> <p><input type="checkbox"/> a. topography.</p> <p><input type="checkbox"/> b. lay.</p> <p><input type="checkbox"/> c. waviness.</p> <p><input type="checkbox"/> d. surface finish.</p> <p>8. Colored glass is produced by adding metal oxides or sulfides to molten glass material while it is molten. What colors do manganese dioxide and sodium nitrate impart in the resulting glass?</p> <p><input type="checkbox"/> a. Yellows and reds</p> <p><input type="checkbox"/> b. Bluish-green tints</p> <p><input type="checkbox"/> c. None. They are decoloring agents.</p> <p><input type="checkbox"/> d. It depends on the quantity added to otherwise clear glass.</p> <p>9. Kiln-formed, heat-molded or cast glass, typically reserved for interior applications such as feature walls and flooring, is in what category?</p> <p><input type="checkbox"/> a. <i>Martelé</i> glass</p> <p><input type="checkbox"/> b. Ceramic fritting</p> <p><input type="checkbox"/> c. Dichroic glazing</p> <p><input type="checkbox"/> d. Dimensional glazing</p> <p>10. Which of the following characteristics are important for specifying colorfast, durable exterior building surfaces?</p> <p><input type="checkbox"/> a. Resistance to ultraviolet light</p> <p><input type="checkbox"/> b. Resistance to chemical or salt corrosion</p> <p><input type="checkbox"/> c. Resistance to graffiti</p> <p><input type="checkbox"/> d. All of the above</p> |
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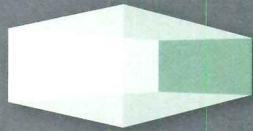
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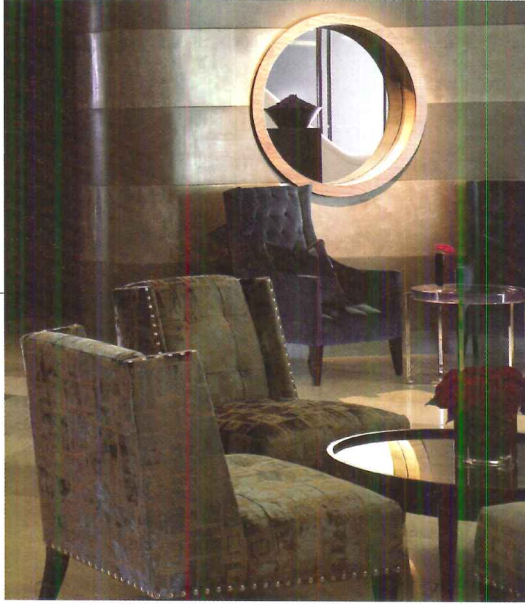
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PRODUCT REVIEW



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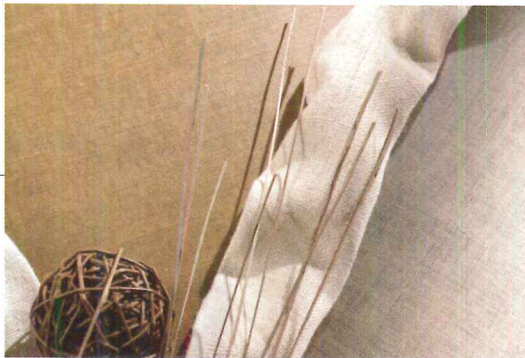
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www.usa.armorcoat.com

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www.laminart.com/textures

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MEET THE GREEN EXPERTS AND THE GREENSOURCE AND ARCHITECTURAL RECORD EDITORS

WEDNESDAY, OCTOBER 5TH

- 10:30AM **Stephen Teeple, Teeple Architects**
Downtown and waterfront green development in Toronto

- 11:00AM **Say it in a SNAP**
Leading manufacturers pitch their latest green products

- 12:00PM **Bill Valentine, Chairman of HOK**
Less is more

- 12:30PM **Robert Watson, CEO and Chief Scientist, EcoTech Int'l**
Market transformation

- 1:30PM **Dennis Wilde, Gerding Edlen Development Company**
The Oregon Sustainability Center, a living building

- 2:00PM **Bill Browning, founder of Terrapin Bright Green**
Biophilia: Using nature in design

- 2:30PM **Jason McLennan, CEO Cascadia Green Building Council & Living Buildings founder**
How the living building challenge is being incorporated into LEED

- 3:30PM **Cathleen McGuigan, Editorial Director**
Moderating a panel of *GreenSource*, *Architectural Record* and *ENR* editors

*SCHEDULE SUBJECT TO CHANGE

THURSDAY, OCTOBER 6TH

- 9:30AM **Dan Rockhill, Rockhill Associates and Studio 804**
Sustainable design and the next generation of architects

- 10:00AM **Cathleen McGuigan, Editorial Director**
Moderating a panel of *GreenSource*, *Architectural Record* and *ENR* editors

- 11:00AM **Robert Hull, The Miller Hull Partnership**
The Cascadia Center for Sustainable Design, a Living Building

- 11:30AM **Bob Berkebile, BNIM Architects**
The greening of post-tornado Greensburg, Kansas

- 12:00PM **Bill Leddy, Leddy Maytum Stacy Architects**
Mission-Driven Design: linking environmental and social sustainability

- 12:30PM **Steve Seikowitz, Lawrence Berkley National Labs**
The new test facility for low energy integrated building systems

- 1:30PM **Ilana Judah, FxFowle Architects**
Creating a green firm culture

- 2:00PM **Henry Siegel, Siegel and Strain Architects**
Sustainability in the design process

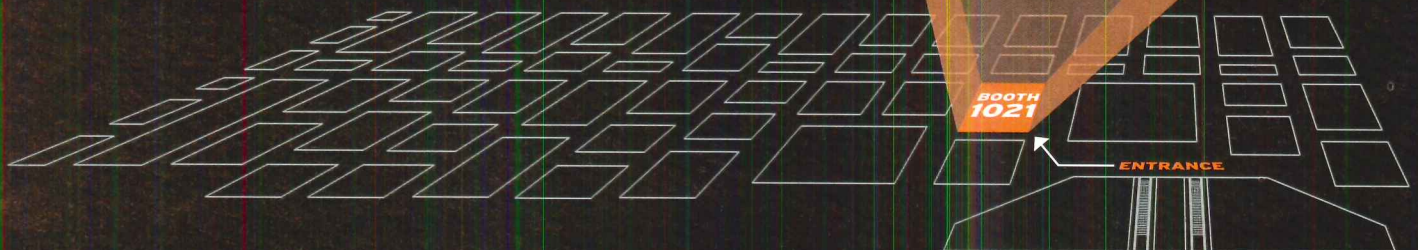
- 2:30PM **Robert Harris, Lake Flato Architects**
Combining high performance with aesthetic excellence

- 4:30PM **Alex Wilson, Founder, Executive Editor, BuildingGreen LLC**
GreenSpec Directory's Top Ten Products for 2011

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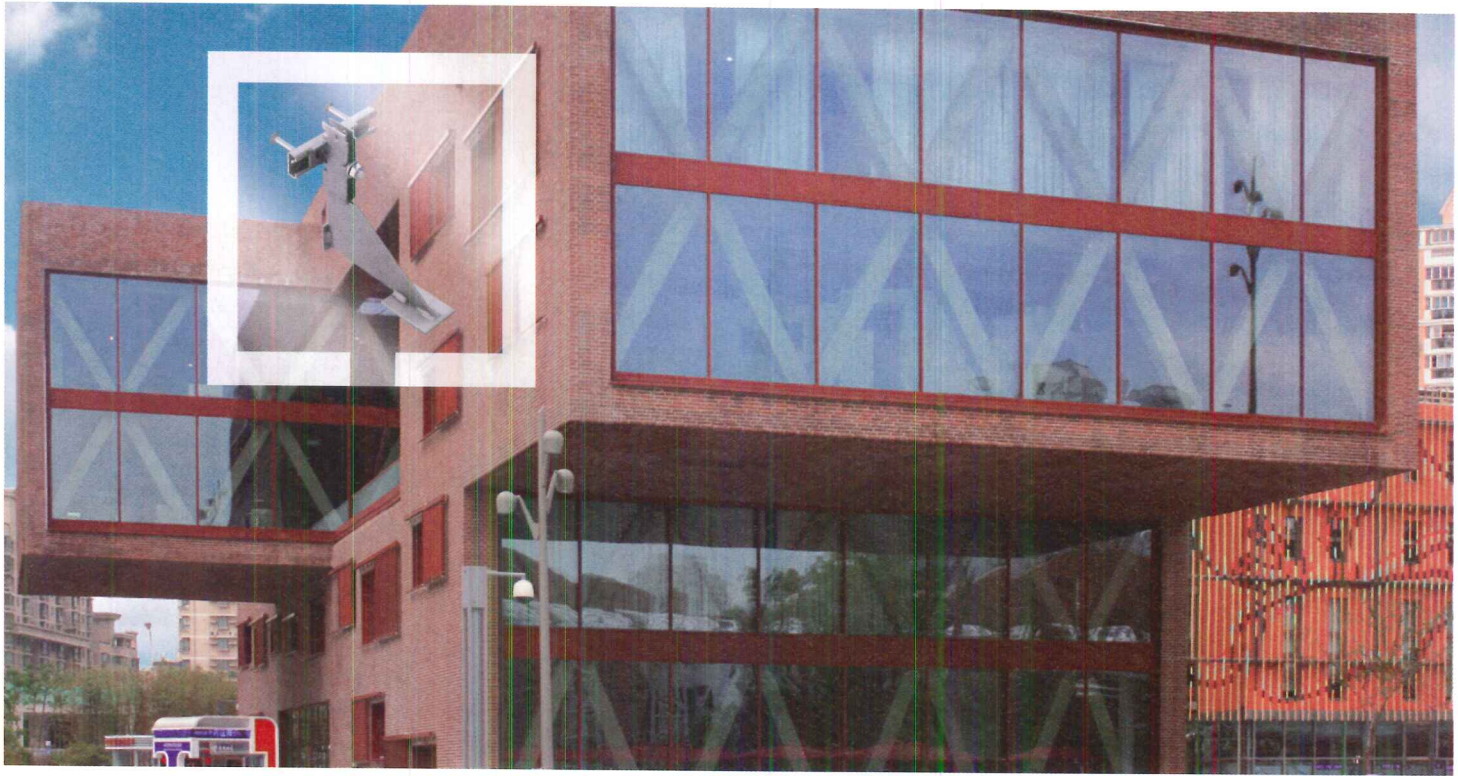
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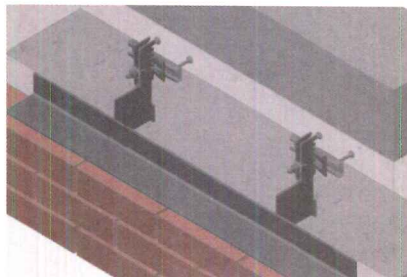
As the demand for higher energy efficiency in commercial buildings continues to increase, the cavity between the brick veneer and the substrate is getting larger to allow for more insulation and air space. Along with this increased cavity size, the traditional masonry shelf angle, used to support the brick veneer at the slab edge, is also getting larger and subsequently heavier and more expensive to install. Architects & Engineer are looking for a more efficient support solution. The HALFEN FK4 brickwork supports use a thinner light weight shelf angle, eliminating brick notching while also providing a wider cavity.

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KITCHEN & BATH REVIEW

OUR ANNUAL REVIEW OF KITCHEN AND BATH DESIGN INCLUDES A MANHATTAN APARTMENT FINISHED IN LOCAL MATERIALS, A CHALLENGING KITCHEN RENOVATION IN MONTREAL'S HABITAT 67, AND A LAND-WORTHY KITCHEN AND MASTER BATH FOR A PRIVATE YACHT. RITA CATINELLA ORRELL

Madison Square Apartment New York City
Architect **David Bucovy Architect**

AS PART OF HIS close collaboration, Brooklyn-based architect David Bucovy helped scout an apartment for his client, a Swedish businessman in love with New York City. The windows in the carefully chosen pied-à-terre at Five East Twenty-second Street overlook Madison Square Park, with its lush greenery, Shake Shack burger stand, and changing public art installations. Once the cinematic Flatiron district was chosen, Bucovy stripped the 1980s co-op apartment down to the slabs and oversaw a gut renovation. He kept the palette spare but included small, meaningful details and locally sourced materials.

New bleached and pickled white oak floors and whitewashed walls complement the owner's bright artwork, like Woody Allen movie posters with Swedish titles. "The white palette gives primacy to the views and the light," says Bucovy. The three-bedroom, three-bathroom unit has an open kitchen that dissolves into the shared living space. Custom cabinetry sprayed with a catalyzed lacquer hides under a recycled glass and concrete countertop manufactured in Brooklyn. Behind the stove, Bucovy added a glass backsplash and a minimal hood. The kitchen island nods to New York City's history, making use of reclaimed yellow pine beams from the Putnam Rolling Ladder Company (in operation since 1905).

The client travels to the city often on business and wanted a comfortable place for his family to stay. A child's bedroom and bath off the kitchen allowed Bucovy to experiment. He installed fiber-optic lights in a starry sky pattern on the shower ceiling, referencing the family's cottage on the water in Sweden. "I like to put these special touches in for people," he says. A desk sits in an office alcove that

acts as a light box when an aqua-colored sliding acrylic door closes it off from the living room.

Crossing the threshold of the master bathroom, made of the blue mineral sodalite, is akin to being transported to the bottom of a swimming pool. Blue glass mosaic tiles line the walls and floor. LEDs around the perimeter of the room enhance the watery shimmer. As in the kitchen, lacquered, custom-milled cabinetry keeps toiletries and towels hidden away to maintain the quiet. *Laura Raskin*



1., 2. Blue glass mosaics and LEDs give the apartment's master bath a poollike aura.
3. A sweeping modern vent hood and a glass backsplash are surrounded by a concrete and recycled glass countertop.
4. Bleached white oak floors contrast with a kitchen island made of local, reclaimed yellow pine.

CREDITS

ARCHITECT: David Bucovy Architect
GENERAL CONTRACTOR: SM Construction

SOURCES

KITCHEN FLOOR: Flynn Custom Wood Floors
COUNTERTOP: IceStone
VENT HOOD: Zephyr

COOKTOP, OVEN, DRAWER, MICROWAVE: Viking
MILLWORKER: South Slope Woodworks
KITCHEN SINK: Blanco
TOILETS: Duravit
MASTER LAV: Wetstyle
PAINT: Benjamin Moore
MASTER BATH MOSAICS: Trend USA

Sky Yacht Oss, the Netherlands Architect **Mojo Stumer Associates**

CREATING A FUNCTIONAL, attractive living space is hard enough on terra firma. So when a former client approached Mojo Stumer Associates Architects to provide the interiors of a new, 165-foot yacht, the firm, which frequently does high-end residential work, knew it would face a unique challenge. Add to that the client's desire for an open, Modernist aesthetic in their four-bedroom, four-bathroom retreat on the high seas, and you have a veritable architectural koan.

According to the architects, weight and size restrictions, and a need for things to be safely secured, presented major challenges in the project's planning stage. "Everything had to have a home, so to speak, where it could be safely stored while the boat was moving from port to port," says firm cofounder Mark Stumer.

To achieve the desired streamlined look and address the limitations the project presented, the duo teamed up with the Netherlands-based company Heesen Yachts. Acquiescing to limitations sometimes proved

advantageous, the architects explain. "By specifying thin gauge steel, rather than the originally specified sheet metal," for example, including for surfaces in the kitchen and bathrooms, "we were able to accommodate a lot more natural stone throughout the boat to meet the design intent," says Stumer. The countertop in the master bathroom is one such place where the luxury of stone is afforded; a single slab of limestone nestles the his-and-hers sinks there. Panels of backlit sandblasted glass beneath these sinks—and in the ceiling—provide the master bathroom's main source of light.

In addition to these touches, the ship features an uncharacteristically open floor plan. The kitchen is demarcated from other common spaces by recessed overhead lighting and strategically placed ledges on the floor plane. Removing walls typically found on yachts created a "loftlike feeling," say the architects. "It allowed for more flexibility," says Stumer. "We learned quite a bit on this project." *Asad Syrkett*



ABOVE: Backlit fritted glass in the ceiling and under the his-and-hers sinks provides light in the master bathroom. **LEFT:** All millwork and cabinetry in the kitchen have safety closures. A full-time chef uses the spacious kitchen, which is also equipped for catering staff.

CREDITS

ARCHITECT: Mojo Stumer Associates

YACHT ENGINEER: Heesen Yachts

SOURCES

KITCHEN COUNTER: Corian

APPLIANCES: Gaggenau, Sub-Zero

RECESSED LIGHTING: Palagi

TUB: WS Bath Collections

Habitat 67 Condo Kitchen Montreal

Architect **Antje Bulthaup**

THE 354 STACKED and interlocking concrete modules of Moshe Safdie's landmark Habitat 67 housing project in Montreal have transformed it into a Mid-Century modern icon. Built for approximately \$14 million U.S., the 238,000-square-foot project is a permanent symbol of the successful Expo 67 world's fair.

For two businessmen who divide their time between New York and Montreal, living at Habitat 67 is part of an overall lifestyle; they collect Expo 67 souvenirs, and most of their furnishings and art are Mid-Century. When they purchased their condo in 2010, it had been stripped to its concrete shell for a renovation the previous residents had abandoned. "We always envisaged taking on a completely 'modern' renovation regardless of the property we found," says owner Byron Peart. Working with architects Antje Bulthaup and Richard Keyes (of kitchen systems supplier bulthaup Toronto) and interior designer Maria di Ioia, the owners wanted to restore and preserve any original features of the historic building, including niches in the walls, exposed concrete ceilings, pocket doors, and in-wall cabinet overhead lighting.

The center of the apartment (made of three interlocked cubes of 624 square feet each) is a white laminate kitchen system in a double-height space that connects to an upstairs living room. A kitchen counter floats in front of a floor-to-ceiling window with views of the Saint Lawrence River and Montreal's old port. Under the reinstated concrete ceiling, a floating *passerelle* of slatted European white oak gives access to a feature wall of books in the second-level living space. Combined with the stairwell, it frames the kitchen, and its slatted floor filters light from the windows above.

Respecting Safdie's design and working within the constraints of a heritage building posed some challenges. "Due to the stacked nature of the cubes, the plumbing



and exhaust was an issue, as it was not possible to feed them under the floor," says Bulthaup. "This dictated that the sink and the fridge needed to be against the wall and that the air extractor had to be integrated into the island and then ducted through a raised floor." For Peart and his partner, it was just part of the process. "One of the greatest attributes of Habitat 67 is that each homeowner can truly make it his own."

Rita Catinella Orrell

CREDITS

ARCHITECT: bulthaup Toronto – Antje Bulthaup, principal; Richard Keyes, designer

INTERIOR DESIGN: Maria di Ioia, Idea Design

SOURCES

CABINETS, COUNTERTOPS, SINK, RECESSED LIGHTING, TAP: bulthaup

PENDANT LIGHTING: Tom Dixon

DISHWASHER: Miele

OVENS, INDUCTION COOKTOP: Gaggenau

DOWNDRAFT EXHAUST: Wolf

FRIDGE/FREEZER: Liebherr

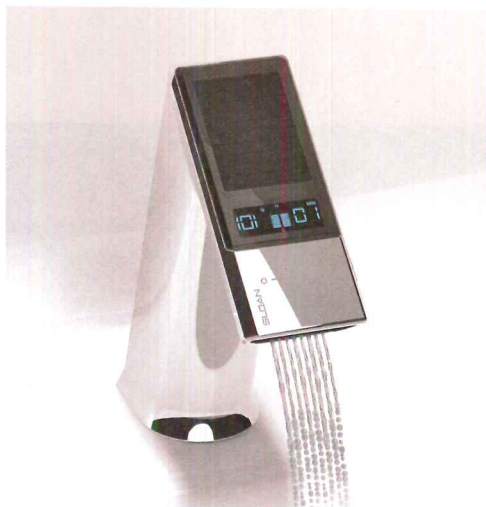
WOODWORK: Standard Marc Company

1. The center of the apartment is a double-height kitchen framed by a staircase and floating *passerelle* of slatted European white oak.

2. Three of the stacked concrete modules of Moshe Safdie's landmark Habitat 67 project make up the apartment.

3. A photo of the interior of a similar apartment in Habitat 67, circa 1967.

WATER-CONSERVING BATHROOM PRODUCTS

**BASYS Sensor Faucets**

Sloan Valve Company sloanvalve.com

The BASYS sensor-activated commercial faucet line includes five deck-mounted and one wall-mounted model with three spray-module options, two sensing-technology options, and four power choices, including battery, hard-wire, solar, and turbine. An interchangeable crown offers advanced features such as solar panels or an LCD display that provides wash times and water temperatures. **CIRCLE 204**

Architec Urinal

Duravit duravit.us

Architec is one of the first urinals to receive the U.S. Environmental Protection Agency's WaterSense label. Designed by Frank Huster, the urinal's intelligent flush technology registers temperature changes in the siphon (when liquid enters the chamber) and then activates a flush. A small magnetic key held up to a sensor on the urinal's side programs the system. The Eco flush program, for example, activates the main flush after 15 minutes of use. **CIRCLE 205**

Katalyst Spray Technology

Kohler us.kohler.com

The WaterSense-certified single-function showerheads with Katalyst technology provide a steady flow of water at 2.0 gallons per minute. Kohler's Purist, Forté, and Bancroft single-function showerheads are all now available with the technology and are compliant with the requirements of CALGreen. A new spray face optimizes the water pattern and droplet size for superior intensity and rinsing. **CIRCLE 206**

Flow Showerhead

Caroma caromausa.com

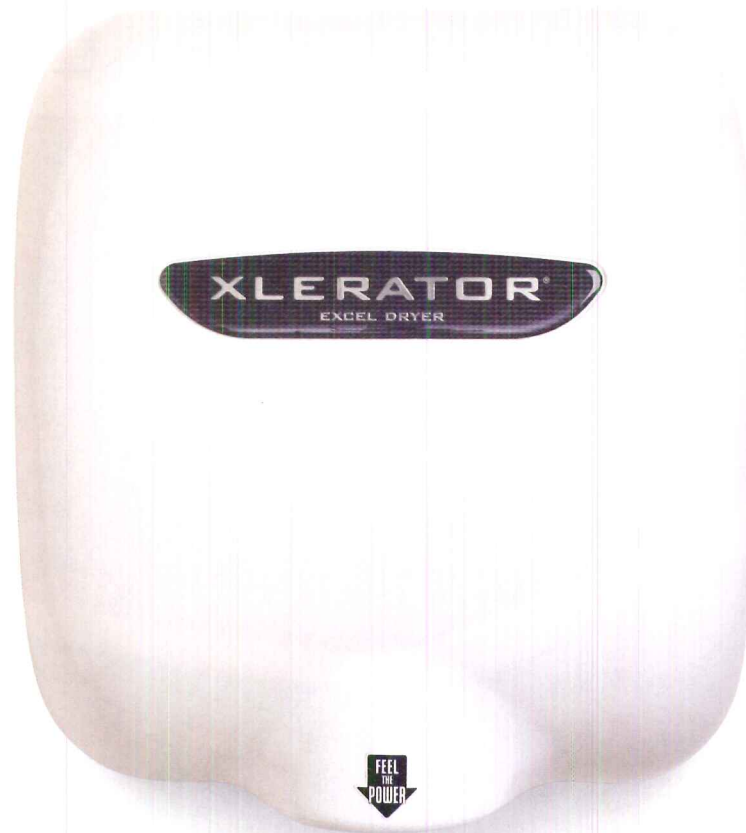
Caroma's Flow high-efficiency showerhead has a nominal flow rate of 1.5 gpm at 80 psi and features a precision-engineered nozzle that pressurizes water to produce a uniform and powerful spray that can save up to 10 gallons more water than the standard 2.5-gpm showerhead for a 10-minute shower. The showerhead incorporates an easy-slide spray adjustment, ranging from a wide-coverage bathing spray to a concentrated rinse flow. **CIRCLE 207**

Integrated EcoPower Faucet & Aquia Wall-Hung HET

TOTO totousa.com

TOTO introduced an extensive range of new water-efficient products to the market this year, including additions to the EcoPower faucet and Aquia high-efficiency toilet lines. The Integrated EcoPower sensor faucet for commercial spaces harnesses the kinetic energy of flowing water to power its electronics, eliminating batteries or hard-wiring. The WaterSense-certified Integrated EcoPower model includes temperature and operational controls above the counter for easier use. Also new is a wall-hung option for the Aquia line of dual-flush HETs for the residential market. The toilet's dual-button flush actuator is available in three finishes and gives the option for a 1.6 gpf for bulk waste to 0.9 gpf or light waste. **CIRCLE 208**

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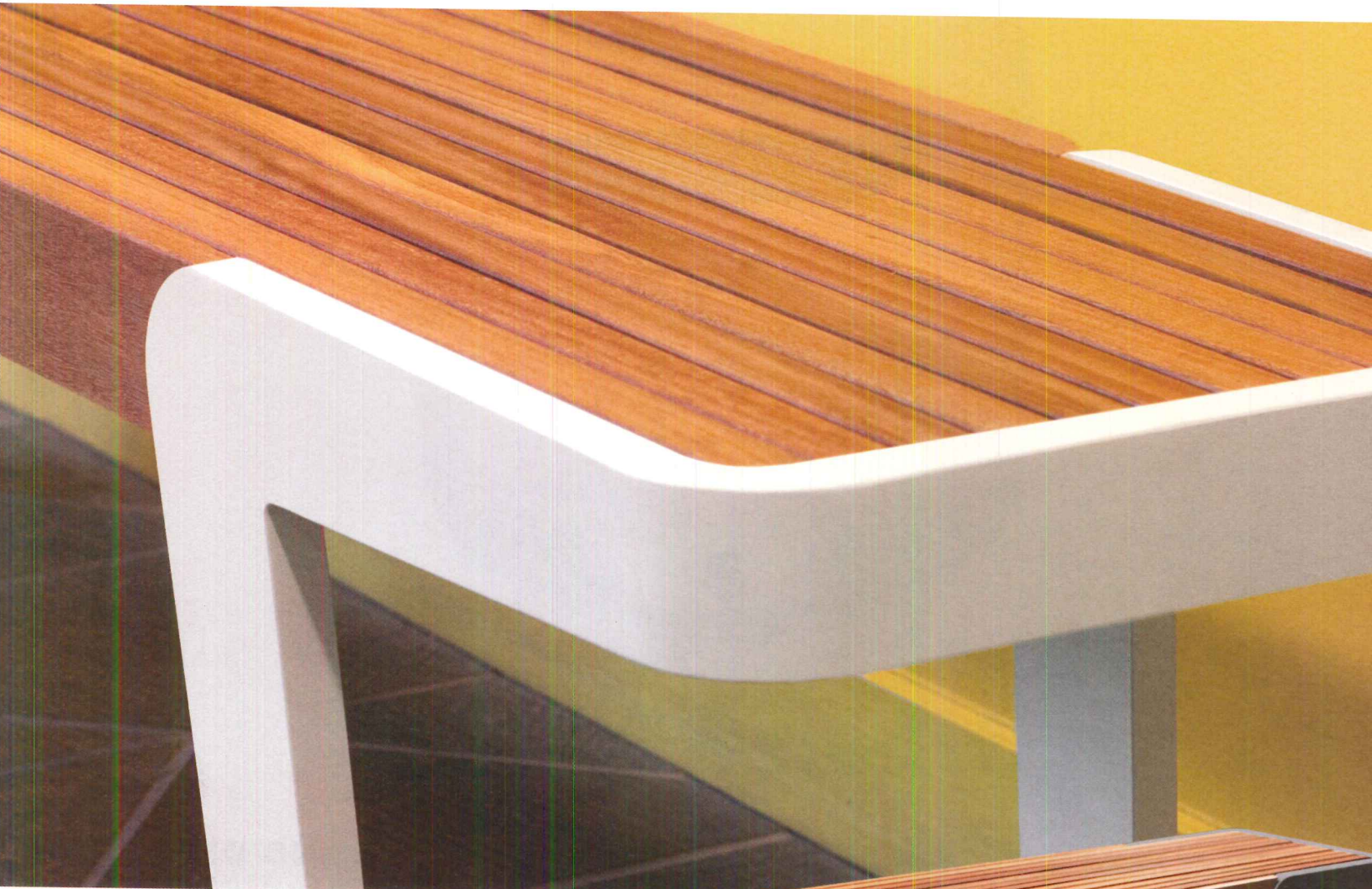
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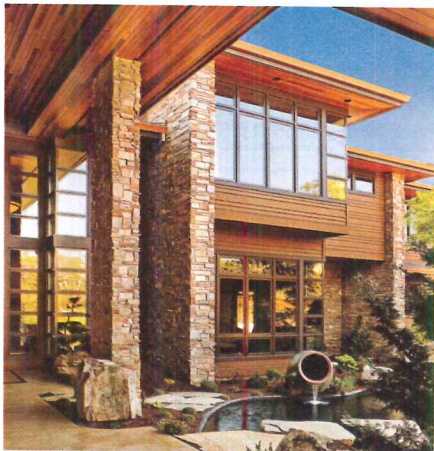


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DATES & EVENTS

New and Upcoming Exhibitions

Pacific Standard Time: Art in L.A. 1945–1980 Los Angeles

October 1, 2011–April 1, 2012

Set to be the largest cultural collaboration in Southern California's history, Pacific Standard Time features exhibitions and programs that encompass a broad range of developments, including Modernist architecture and design, African American artistic networks, and Mexican American and Chicano artists and movements. At various venues. For more information, visit pacificstandardtime.org.

Design with the Other 90%: CITIES

New York City

October 15, 2011–January 9, 2011

This is the second in a series of themed exhibitions that demonstrate how design can be a dynamic force in transforming lives. The exhibition will explore design solutions to the challenges created by rapid urban growth. At the United Nations. For more information, visit cooperhewitt.org.

Ongoing Exhibitions

Breaking Borders: New Latin American Architecture

Brooklyn

Through November 30, 2011

Held at the Hazel and Robert H. Siegel Gallery, this exhibition highlights contemporary architecture of the past 10 years from 45 firms representing more than 10 countries in Latin America, and includes both built and proposed projects in which scope has been influenced by a history of political and social instability, invasive use of environmentally sensitive regions, rapid urbanization, social displacement, and unique climate conditions. Visit latinpratt.org/breakingborders.html.

Lectures, Conferences, and Symposia

Firsts

Portland, Oregon

October 6, 2011–May 7, 2012

The Department of Architecture at Portland State University inaugurates this lecture series, which includes presentations by notable academics, artists, and professionals in architectural practice worldwide: Petra Kempf, John Ochsendorf, Gilles Saucier, Jeremy Till, Sarah Wigglesworth, and Paul Pfeiffer. The concepts

of origins and beginnings, long a subject of interest among architects, will be explored. Visit pdx.edu/architecture.

The Waterfront—A Brooklyn Model for Preservation and Change

Brooklyn

October 26, 2011

This conference at Brooklyn Borough Hall will explore the tensions between the architectural preservation and change that are playing out along Brooklyn's waterfront, from Greenpoint to Coney Island. Topics include whether or not the waterfront's historical past can be preserved in the face of change, as well as whether it's possible to preserve not only the physical architecture of the area, but also the way of life associated with it. Visit baruch.cuny.edu/realestate/events.

Competitions

IDP Firm Award and IDP Outstanding Firm Award

Registration Deadline: October 12, 2011

Hosted by the American Institute of Architects; the Firm Award recipient must meet 12 essential criteria in the categories of mentoring, supervising, commitment to the Intern Development Program, and others. The Outstanding Firm Award is reserved for firms that meet the criteria for the Firm Award and can demonstrate innovation and outstanding best practices in their efforts to support participation in the IDP. Visit aia.org.

Fentress Global Challenge 2011: Airport of the Future

Registration Deadline: October 31, 2011

Fentress Architects' first-ever Global Challenge is an international idea competition inviting architecture and engineering students to present their visions for the airport of the future. Visit fentressarchitects.com/aof.

inNatur Open Ideas Competition

Registration Deadline: November 11, 2011

This open ideas competition seeks innovative proposals committed to a strategy of implementing architecture in a protected natural environment. Approaches should point to finding synergies between nature and the building itself. Projects must lead to sensitivity and commitment to the natural environment. For more information, visit opengap.net.

E-mail information two months in advance to recordevents@mcgraw-hill.com. For more listings, visit architecturalrecord.com/news/events.



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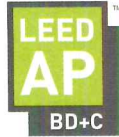


Todd Evans

LEED AP BD+C

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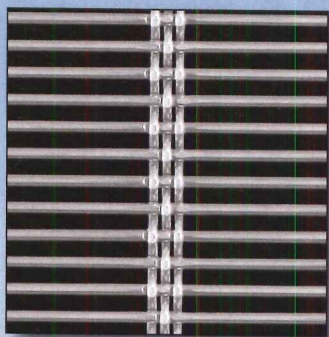


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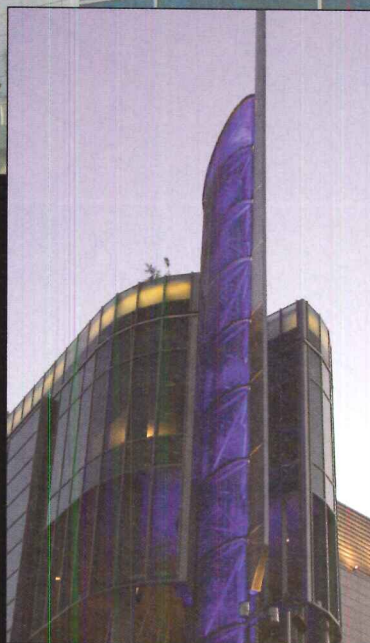
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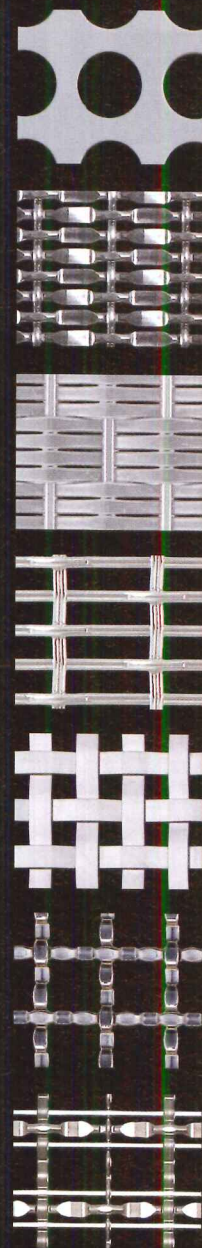
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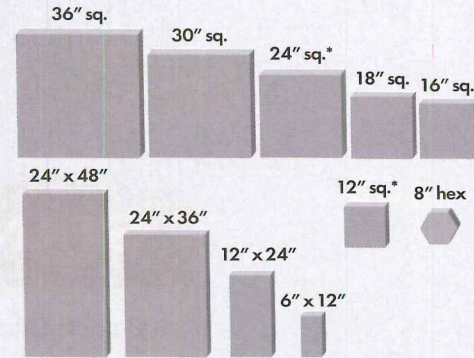
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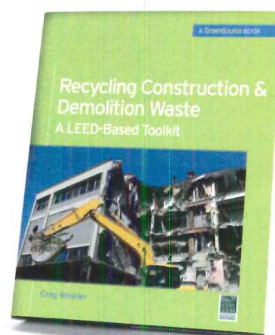
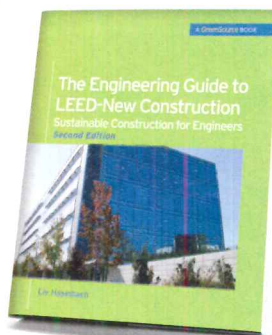
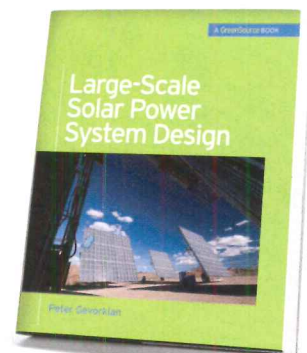
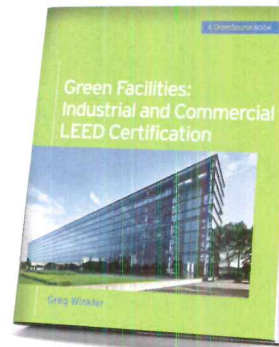
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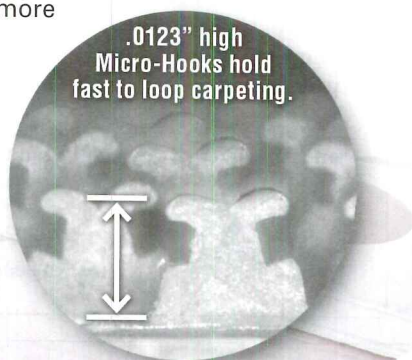
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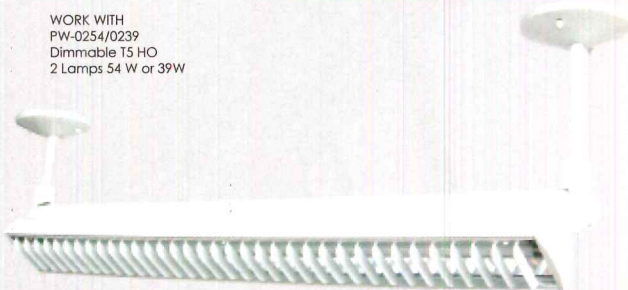
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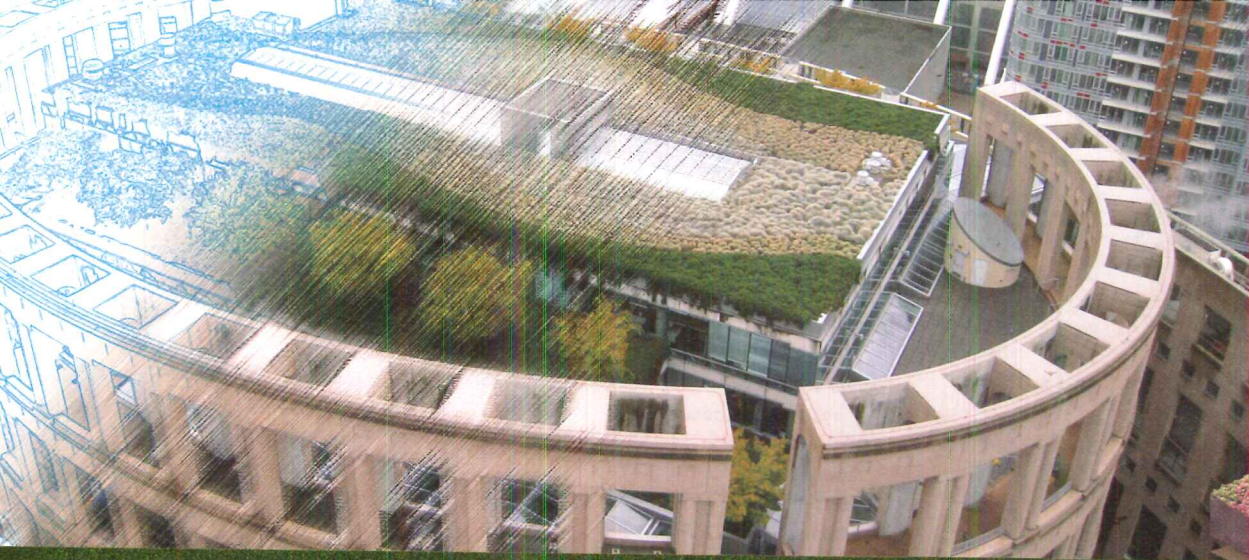
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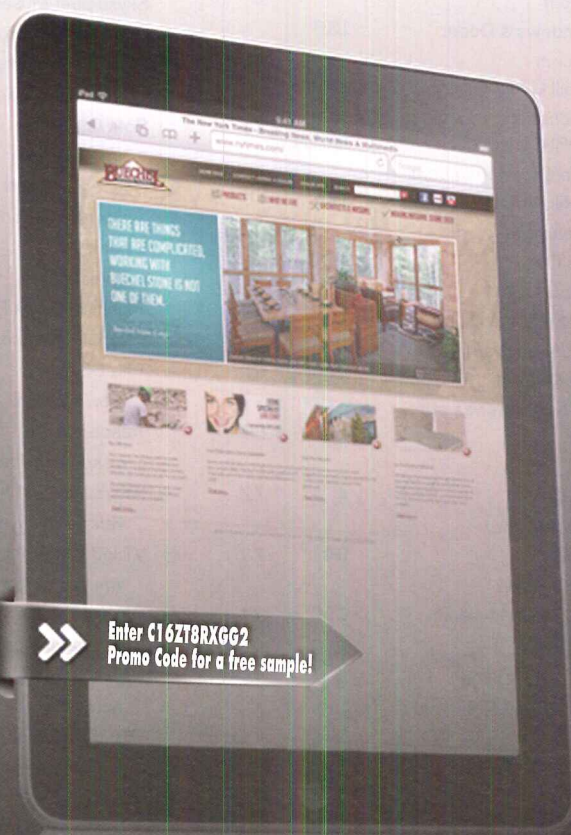
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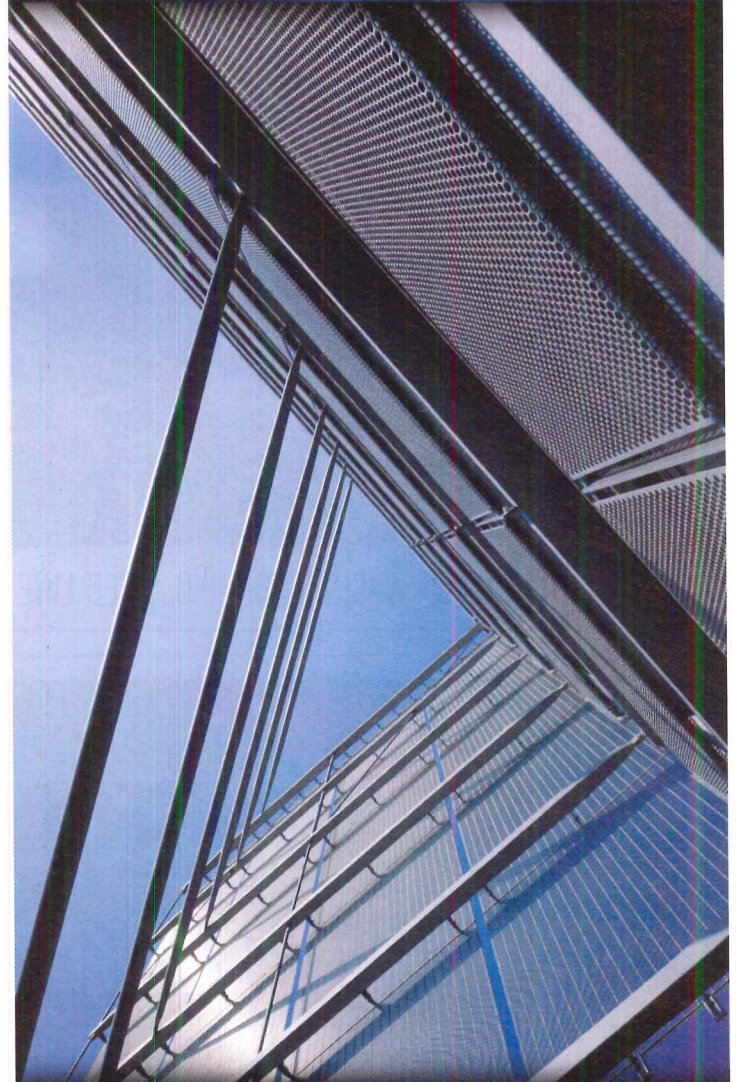
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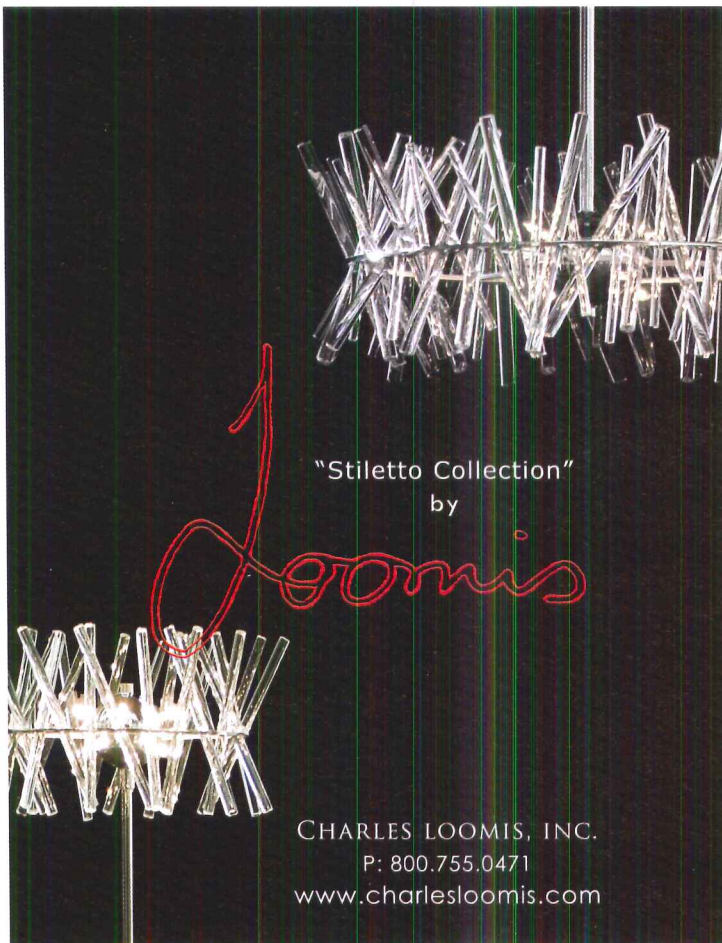
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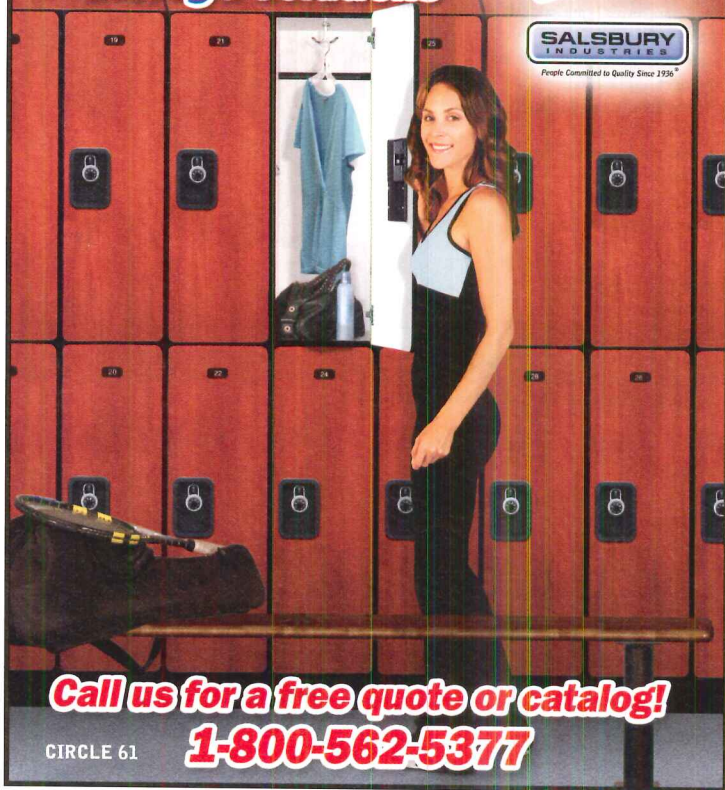
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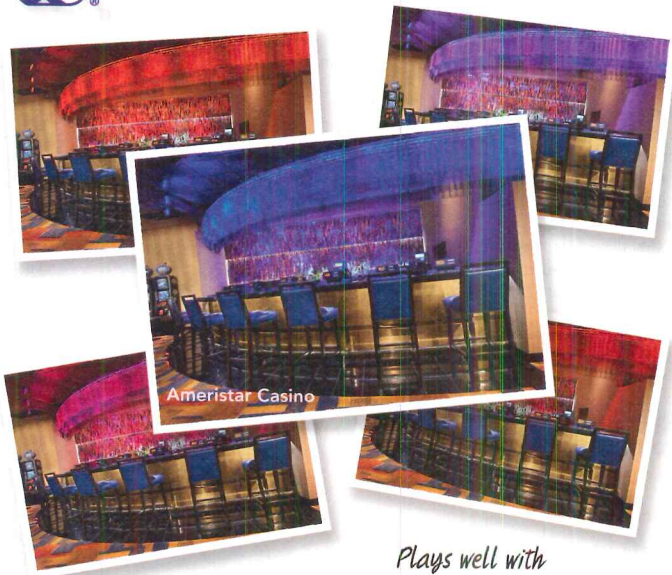
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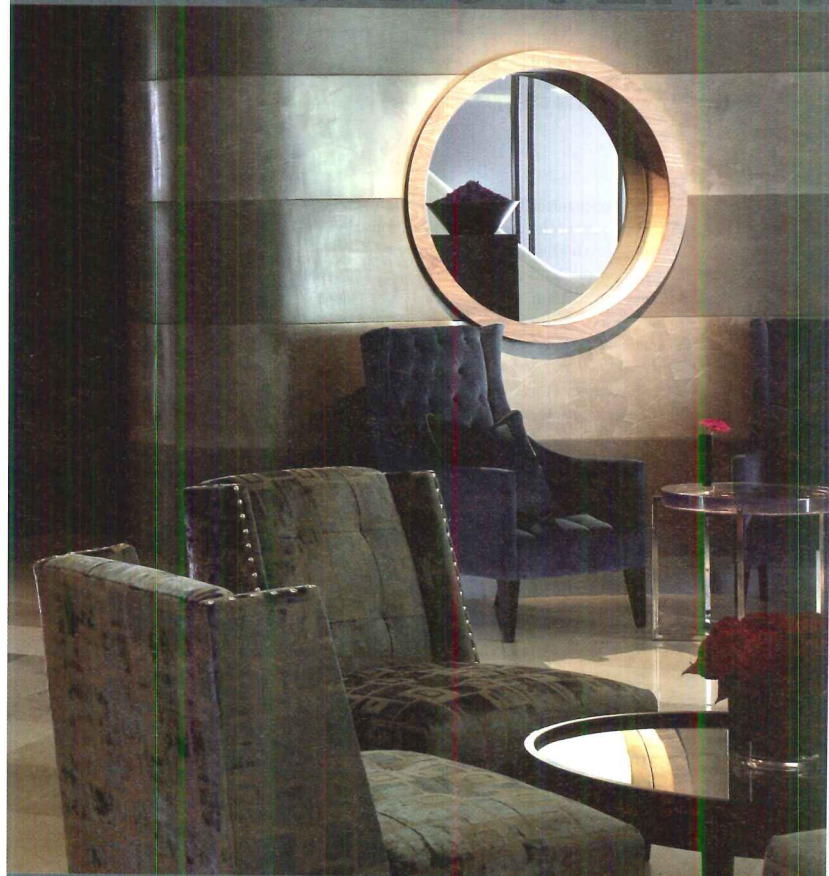
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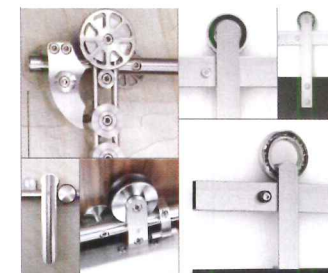
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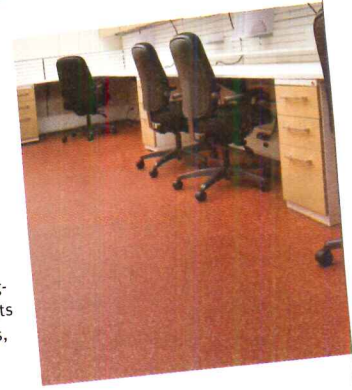
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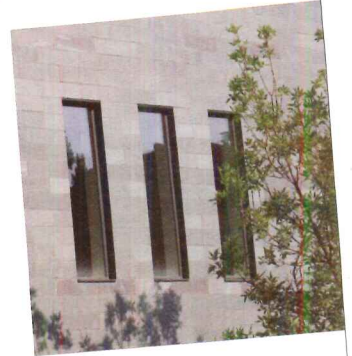
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 - Seattle-Tacoma International Airport, Seattle, WA
 - Headquarters, Pleasanton, CA



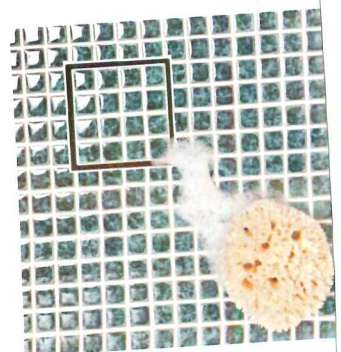
MAKE THE DRAIN DISAPPEAR

WR | NEW

Infinity Drain

▲ Made to obscure centrally placed waste outlets, the TileDrain makes the drain virtually disappear with a tile-inside frame.

- Product Application:**
- Incorporate tile into the grate frame
 - Use with traditional four-way pitched floor
 - Any type waterproofing, including hot mop
- Performance Data:**
- Stainless steel frame and channel
 - Complete assembly kit in three sizes



MECHANICAL SYSTEMS, HVAC, PLUMBING

Lutron® — Save Energy with Daylight Control

NEW Lutron Venetian blinds offer precision control of daylight for beauty, comfort, and energy savings.



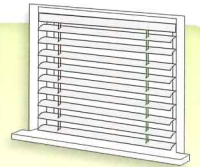
Lutron Venetian blinds

Beauty and performance

- Convenient, precise control of blind position **independent from tilt angle**
- Silent, smooth performance at the touch of a button
- Choose from more than 50 hardwoods or 14 aluminum finishes to complement your décor

Save Energy

Save 10%–30% on HVAC

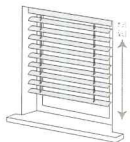


Summer Days: angle blinds to keep heat out while providing soft, even light, for visual comfort

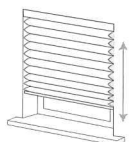
Winter Days: open blinds to let sunlight warm the room, saving heating costs

Winter Nights: close blinds to keep heat in

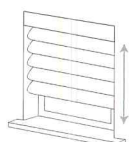
Lutron offers the most complete line of precision controlled window coverings.



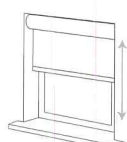
Venetian Blinds



Cellular Shades



Roman Shades



Roller Shades



Drapery Systems



Kirbé® Vertical Drapery



Skylight Shades

For a personal consultation—or to find a dealer in your area—call **1.888.LUTRON1** or visit **www.lutron.com**.

Please visit us at **GREENBUILD**, booth # **1631N**



24/7 Technical Support Center 1.800.523.9466

