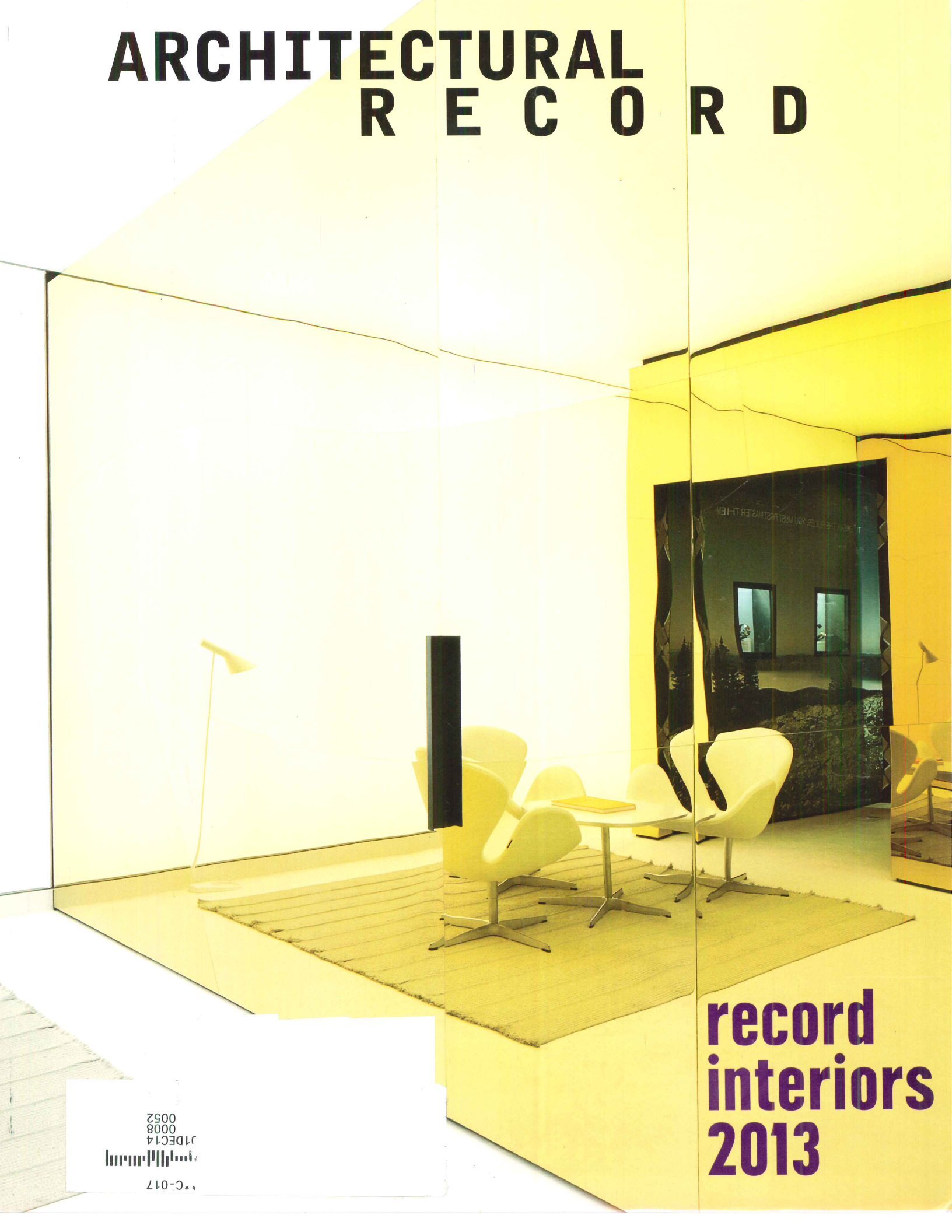


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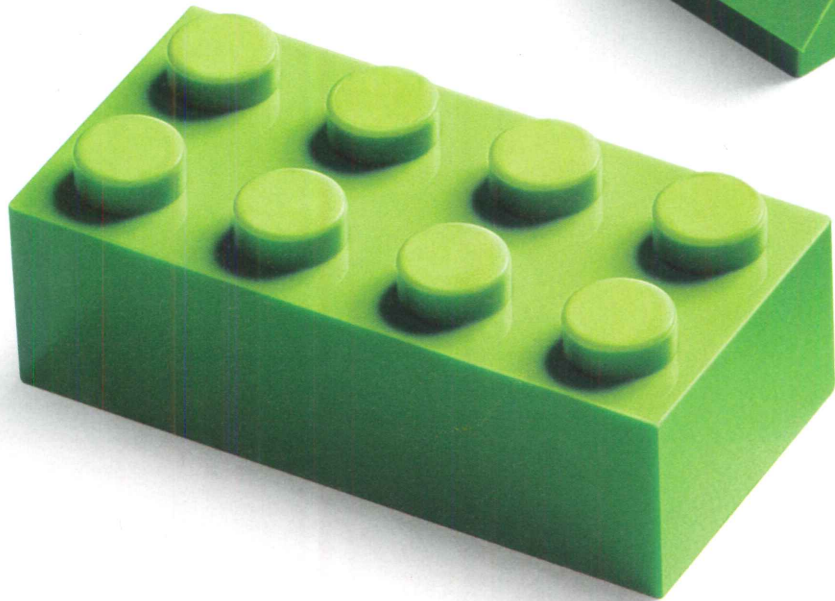
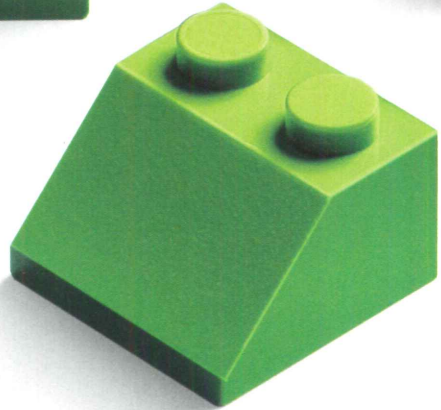
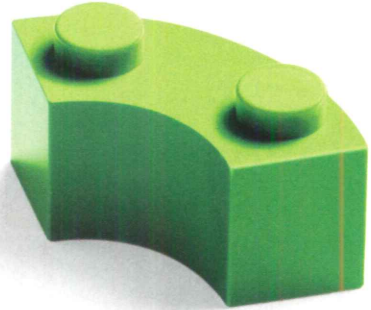
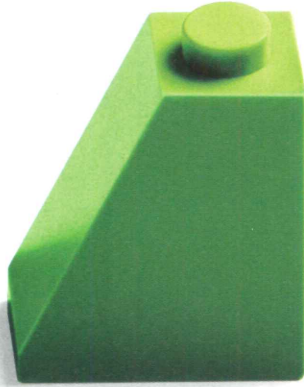




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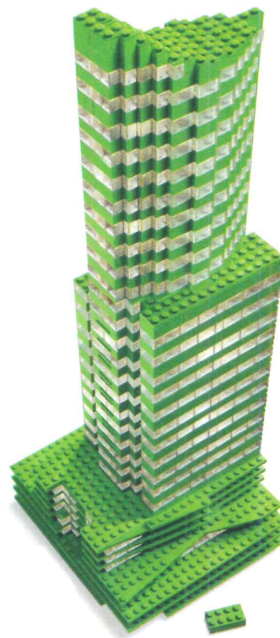


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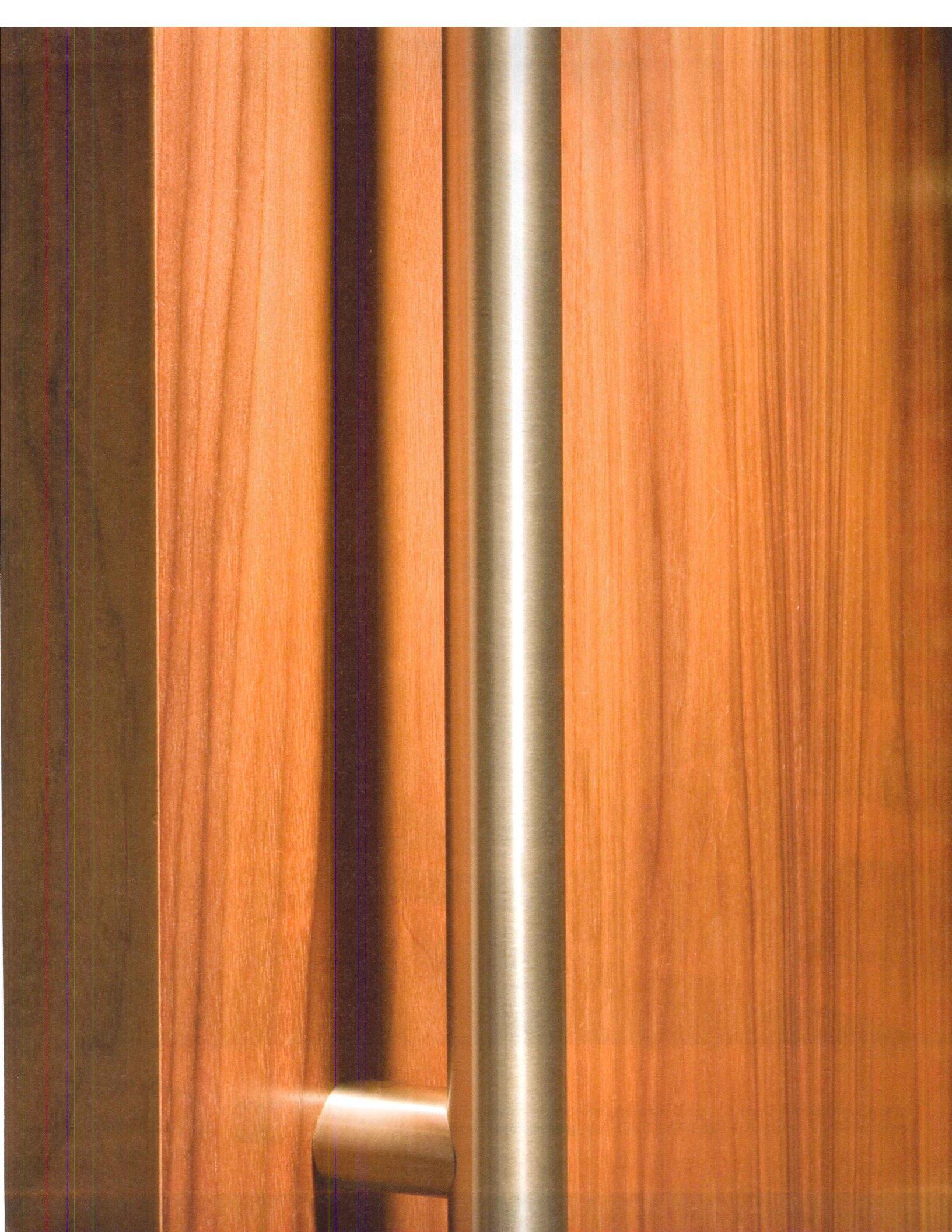
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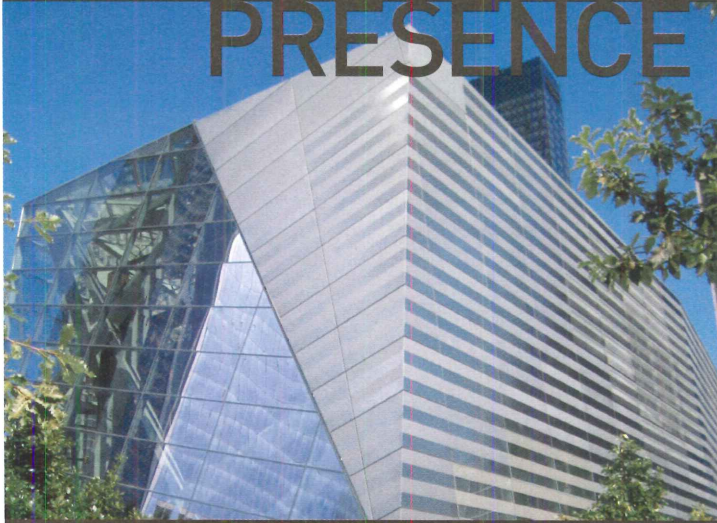
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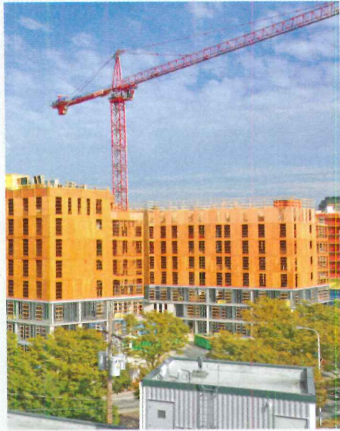


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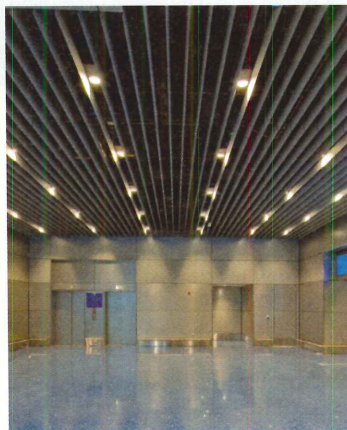


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## A View with a Room

RECORD looks at how interiors bring the outside in.

**THE EXHIBITION** *Le Corbusier: An Atlas of Modern Landscapes* at the Museum of Modern Art in New York (through September 23), explores a provocative theme: that the giant of 20th-century architecture is wrongly categorized as an International Style designer whose “machines for living in,” as he termed them, could be plunked down anywhere. Rather, argue the curators Jean-Louis Cohen and Barry Bergdoll, Le Corbusier was a keen observer of nature and landscapes, which informed almost everything he touched, from the master plan for a city to the design of a single room.

And consider just one such single room. In the early 1950s, Le Corbusier built the Cabanon, a tiny summer cabin for himself and his wife, on a spectacular site overlooking the Monte Carlo Bay in the south of France. The Cabanon was sparsely furnished—there was a bed, a table, a sink—and the glorious view was strictly framed by just one narrow vertical slot and a two-and-a-half-foot square window cut into the rustic log exterior. Almost 30 years earlier, the Swiss-born architect had built the Modernist Villa Le Lac for his aging parents, with its pioneering use of a 36-foot-long ribbon of windows that framed the vista as a horizontal panorama. He even created an outdoor “room” in the garden, with a six-foot-high masonry wall facing Lake Geneva, into which he cut a rectangular opening, to crop the view from the terrace to the lake and the mountains beyond. “In order for the landscape to count,” Le Corbusier wrote, “it has to be limited, proportioned through drastic steps: blocking the horizons by raising the walls and only revealing them at strategic locations through breaks.”

In this month's issue of RECORD Interiors, we feature several projects where the view's the thing—though here the architects aren't editing vistas so much as exploiting them. Take the stunning Urca Penthouse [page 84] in Rio de Janeiro, by Studio Arthur Casas. This triplex—a gut renovation within a 1960s concrete apartment building—looks out on Sugar Loaf Mountain in one direction, the monumental statue of Christ the Redeemer atop Corcovado Mountain in another, and across Guanabara Bay in yet another. The design is a symphony of sliding glass walls and flowing indoor-outdoor spaces—a minimalist architecture that defers to the drama of its setting. “Invariably, the visitor's gaze is drawn to the views of the sky, water, and iconic mountains that pervade the rooms,” writes RECORD's correspondent Tom Hennigan.

For a new Shanghai restaurant in a colonial-era building on the Bund [page 112], Neri&Hu Design and Research Office assembled a mélange of materials—reclaimed-wood flooring, steel framing, and raw concrete—to create the kind of casual “farm chic” interior that's been pervading the global culture of cuisine these days. Yet in counterpoint to the earthy details, the architects used bright-white travertine to clad the original perimeter walls, in order to draw diners' eyes to the design's main event—the view of Shanghai's glittering skyline at night. On the island of Majorca, a high-end jewelry boutique in the Puerto Adriano marina by Madrid-based studio OHLAB [page 94] subverts the expected: rather than designing the store as a secure opaque vault,



the architects played with transparency and reflection, creating glass exterior walls and golden-stainless-steel-clad VIP rooms that offer direct and mirrored views of the yachts in the harbor.

And don't miss the special RECORD Kitchen & Bath section [page 121]. Nothing says luxury like a tub with a view, such as the his and hers baths that open onto terraces in a house by XTEN Architecture in California [page 129] or the sky views from the kids' showers in a Long Island house by Bates Masi Architects [page 121].

Using elevated terraces and ramps in such famous houses as the Villa Savoye, Le Corbusier fulfilled his idea that “the outside is always an inside.” And though he rigorously negotiated the view of the outside from the inside, he could be expansive. Rio de Janeiro entranced him, too, as is evident from a 1929 sketch for a proposed apartment there—one entire wall is glass, with a man in an easy chair facing it, one leg jauntily across the other, drinking in the view of palm trees, water, and mountains.

Whether a view is magnificent or modest, great interiors look out as well as inward. ■

*Cathleen McGuigan*

Cathleen McGuigan, Editor in Chief



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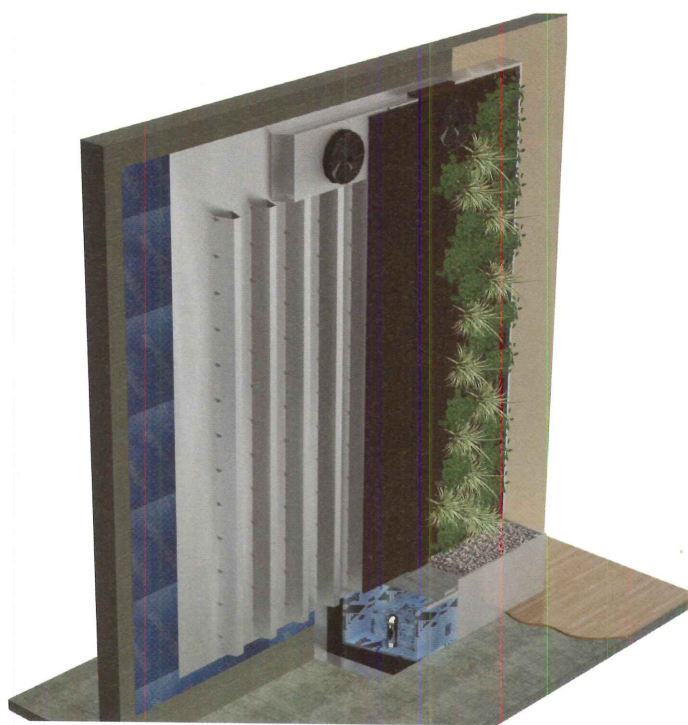
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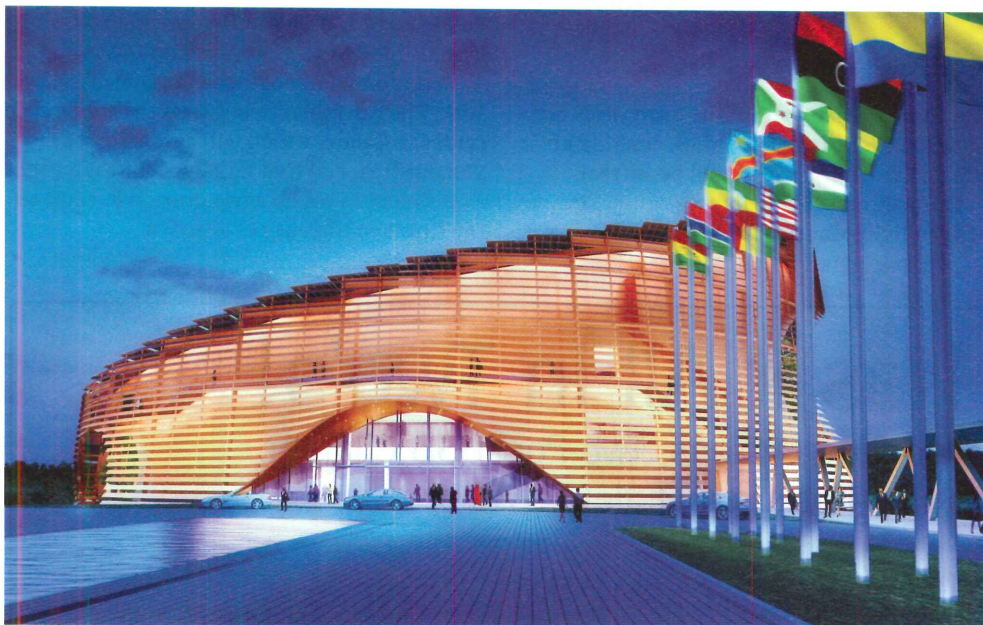
# perspective

**What theater introduced to me is an understanding of portability, flexibility, the interest in crafting the moment. In theater it's about these things that last two hours that have deep, deep impact on us. It's a kind of poetry.** —David Rockwell, on Charlie Rose, July 15, 2013.

The architect received 2013 Tony Award nominations for best scenic design for *Kinky Boots* and *Lucky Guy*.

## NYC Firm Comes Full Circle with African Conference Center

BY FRED A. BERNSTEIN



The WORKac-designed L'Assemblée Radiouse, under construction in Libreville, Gabon, will host the 2015 Summit of the African Union. The exterior of the round building will be clad in fixed African limestone louvers.

WHEN THEY founded Work Architecture Company (WORKac), in an apartment facing a brick wall in 2003, Dan Wood and Amale Andraos had two jobs lined up: a bathroom renovation and a doghouse. A decade later, the firm is immersed in what looks like a dream commission: a huge circular conference center in which the government of Gabon—led by President Ali Bongo Ondimba—will host the Summit of the African Union in spring 2015.

The 213,000-square-foot building, dubbed L'Assemblée Radiouse, is as formally complex as anything by OMA, where both Wood and Andraos, a married couple, worked before starting their New York-based firm. But it also bears direct connections to the Gabon land-

scape, reflecting a strong environmental focus in the couple's work. The building, Wood says, "is our answer to the question: How do you represent emerging progressive Africa to the world without relying on nostalgia or clichés?"

Andraos and Wood won the commission—their largest project to date—in July 2012, negotiated an agreement with the Gabon government in August, and began producing detailed drawings in September. The building was meant to host the summit in 2014, but even with a likely one-year delay, the job is on a fast track (with about 30 months between conception and completion). The architects formed a partnership with Epstein, the Chicago-based convention-center specialists,

## House of Light and Air Seeks New Home

Built in 1931 for a New York City exhibition, the Aluminaire House was emblematic of the latest advances in materials and mass production for affordable housing. Later the aluminum house, designed by architects Lawrence Kocher (RECORD's managing editor from 1927–38) and Albert Frey, was dismantled and moved. In 2011 it was entrusted to the privately funded Aluminaire House Foundation. Now there are plans to reconstruct the house—plus create an eight-unit residential building—on a corner site in Queens near the context-appropriate Sunnyside Gardens (1924–28). The new scheme for the historic district, by Campani and Schwarting Architects, needs to be approved by the New York City Landmarks Preservation Commission at a hearing on September 24. If reconstructed, the house would be open to visitors. *Laura Raskin*



The house, shown here after a relocation to the Long Island campus of the New York Institute of Technology, was featured in the Museum of Modern Art's 1932 *Modern Architecture: International Exhibition*.



(continued from pg. 25)

who moved dozens of employees into WORKac's Lower East Side offices and brought in such consultants as facade specialists Front Inc.

The 320-foot-diameter building, in Libreville, Gabon's capital, will have inward-tilting facades (making it a frustum—the base of a cone) and a raked roof that, from some

rings the building. The structure's interior contains a 1,000-seat auditorium and three smaller theaters. Each of those is linked to a garden that represents one of Gabon's ecosystems. (The landscape architect Nathan Browning has already established a nursery in Gabon, to get the plants ready for 2015.)



Auditoriums, conference spaces, and dining facilities are organized around three garden courtyards, which are linked by an interior promenade. The angled roof collects rainwater that is then recycled for use in the building.

vantage points, becomes the dominant elevation. Surrounding the circle are an inner wall of light-gold-colored aluminum and an outer wall of fixed African limestone louvers. Between the two facades, a shaded walkway

The curved inner walls of the courtyards are covered in reflective brass tiles, creating an effect that, Andraos says, will be surreal.

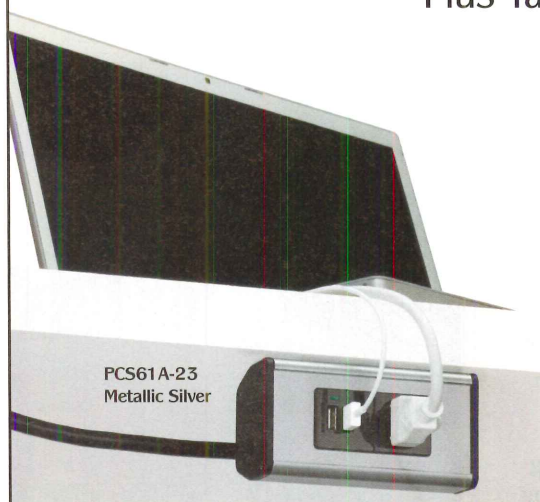
The project is highly international. The African limestone for the building's louvers

will be honed in Italy. Local, sustainably harvested tropical wood is being shipped to Germany for fabrication into perforated acoustic panels for the auditoriums. Among the architects' most interesting challenges was creating a hybrid building code, with provisions from the U.S., France, and England. "It was about picking and choosing the best practices," says Wood, explaining that the Gabon government wants the building to set standards for future construction.

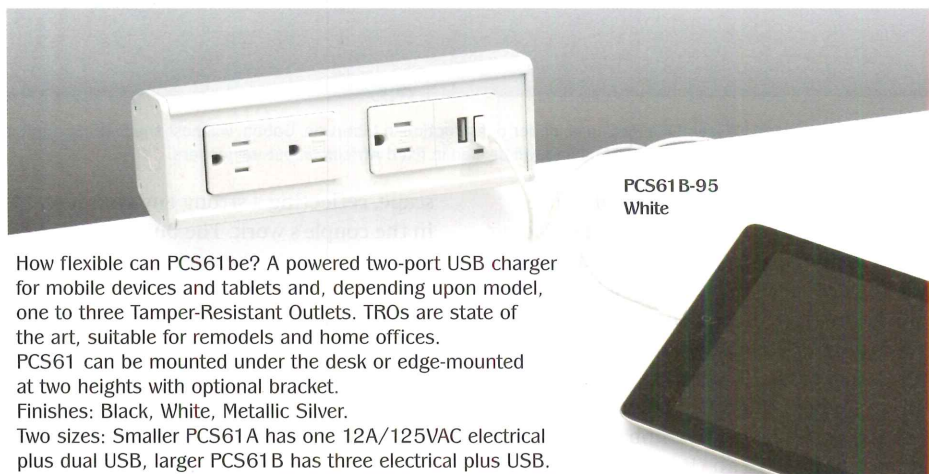
The louvers—consisting of slabs of stone supported by steel brackets—aren't operable, but that's not a problem in Gabon, since the equatorial location means there is no seasonal variation in sun position. Other green features of the conference building (which is expected to qualify for LEED Gold status) include a rooftop rainwater-collection system that will feed a waterfall that will then irrigate the gardens. That system is derived in part from Public Farm 1, WORKac's summer 2008 installation at MoMA PS1, the Museum of Modern Art's contemporary art space in Queens, New York. The resemblance between the conference center in Gabon, which will cost at least \$100 million, and that largely architect-built experiment in urban agriculture is a credit to the firm's consistency of vision. ■

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CIRCLE 93



# Talking Design

BY CLIFFORD A. PEARSON

AN ECLECTIC mix of international stars, leading American architects, and emerging voices will present their work at the Monterey Design Conference (MDC) from September 27 through September 29. Held at the Asilomar Conference Grounds in Pacific Grove, California, where Julia Morgan designed many of the rustic buildings in the early 20th century, the event offers a camplike setting on the Monterey Peninsula for a rambling examination of the state of design both in California and around the world. The California chapter of the American Institute of Architects organizes the conference every other year, alternating it with one on practice. ARCHITECTURAL RECORD is a media sponsor.

This year, headliners will include Kengo Kuma from Tokyo, Odile Decq from Paris, Marcio Kogan from São Paulo, Jennifer Yoos from VJAA in Minneapolis, Anne Fougeron from San Francisco, Thomas Phifer from New York City, Michael Sorkin also from New York, and Marlon Blackwell from Fayetteville, Arkansas. The program combines talks by architects, with special features such as a

tribute to AIA Gold Medal winner Thom Mayne, an interview with John E. “Jack” MacAllister, and a screening of the film *Song 1*, an artwork by Doug Aitken that was projected onto the exterior of the Hirshhorn Museum in Washington, D.C., in 2012. It also includes short presentations by young California architects: Price Studio, Future Cities Lab, FreelandBuck, and Oyler Wu Collaborative.

What makes MDC different from most other conferences, says Lawrence Scarpa, a principal at Brooks + Scarpa and a member of the event’s organizing committee, is that most speakers stay for the entire two-and-a-half days, seduced by the beautiful setting and the relaxed atmosphere. “There are lots of casual conversations between speakers and attendees,” he says. It’s “as if you



Speakers at this year’s conference include (clockwise from top left): Kengo Kuma, Odile Decq, Marlon Blackwell, and Anne Fougeron.

are having them over to your house for dinner or drinks.” Brian Dougherty, a principal at Dougherty + Dougherty Architects and also the V.P. of the AIA California Council, remembers walking in the tidal pools at Asilomar after hearing Stewart Brand, the founder of *The Whole Earth Catalog*, talk about design and time. “It helped me place my own design efforts in the context of their meaning for future generations,” he recalls.

The bracing mix of simple stone-and-wood buildings and salt-water breezes makes it hard for anyone to be pretentious at MDC, says Karen Lesney, a senior associate at Jerrold E. Lomax, FAIA, Architect, and a committee member. “I call it ‘design dialysis,’ because it cleanses your mind “so you can move forward,” she says. ■



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## [ NEWSMAKER ]

**Richard Meier**

BY SUZANNE STEPHENS

**THIS OCTOBER** Richard Meier celebrates the 50th anniversary of his office in New York City. Over the years, Meier has witnessed significant changes in architectural practice—including his own. It has become more global. Richard Meier & Partners currently has major projects going up in Taiwan, Brazil, Israel, and Turkey, to mention a few.

Through the past five decades, architectural styles have changed as well, veering from Modernism to Postmodernism, neo-Expressionism and even neo-Modern. But Meier hasn't swerved. He has been a Steady Eddie of Modernism since he opened his one-man office in his apartment in 1963. Now the Pritzker Prize winner maintains a 60-person office in Manhattan plus a 40-person office in Los Angeles, run by a partner, Michael Palladino. Meier has also stayed true to creating Architecture with a capital A. RECORD recently asked him about his impressive resolution.

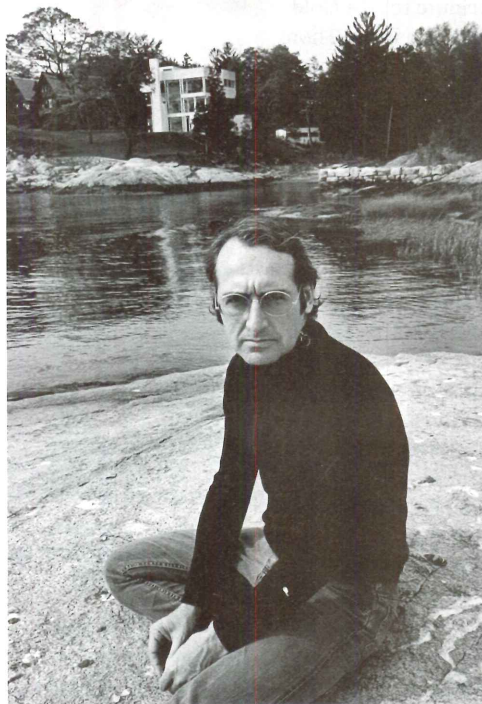
**You have stuck with the Modernist vocabulary, unlike some of your colleagues.**

It never occurred to me to do anything else. Modernism suits our time: architecture is about making space. We're not making Baroque or Renaissance space, but modern space with linear, planar, abstracted forms and with opaque and transparent surfaces.

**You've adamantly stayed with your predilection for the color white—inside and out. Why?**

The way white reflects and refracts light makes color around us more vivid. It helps us appreciate changing tones and hues in nature.

**Your affinity with Le Corbusier's architecture is known. Now his first retrospective in the**



**U.S. is at New York's Museum of Modern Art (until September 23). Will this help his legacy?**

This exhibition should open the younger generation's eyes to his work. There is no question that his manipulation of light and space has always been important to me.

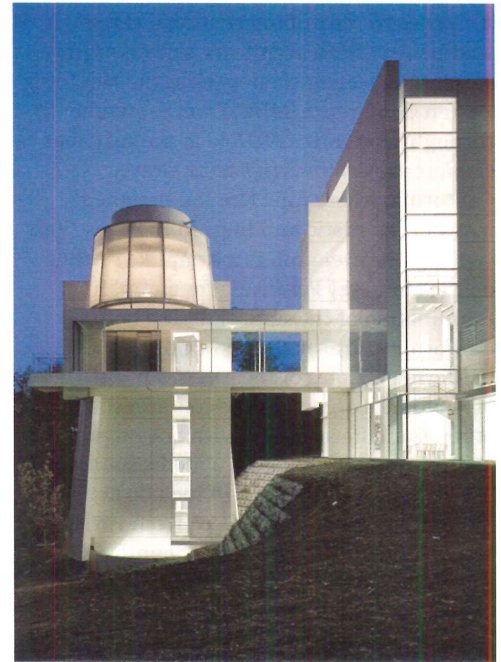
**You said early on that architecture is a lousy business. But you've made it work.**

Well, if you want to go into business, architecture should not be your first choice. You have to want to do architecture.

**Yet you've expanded your firm dramatically since 1963. How do you keep creativity alive?**

I still sketch out concepts before doing anything. We use lots of tracing paper before

Richard Meier in 1967 at the Smith House in Darien, Connecticut, which made his reputation (left). His Arp Museum, overlooking the Rhine in Rolandseck, Germany, opened in 2008 (below).



going to the computer. Once it's on the computer, I walk around and say, "What's that?" You have to separate image from reality. Also, we make tons of study models of all sizes. The computer is no substitute for a model.

**Knowing what you know now, would you have changed anything in your approach?**

You learn with experience the things that are not worth doing. Most architects think, no matter what, they can make something out of any commission. For example, I don't do prisons or hospitals, or restoration work. I do know, by now, who I am. ■



Natalie de Blois and Philip Johnson in 1948 (left). While at SOM, de Blois designed the Pepsi-Cola Company headquarters on New York's Park Avenue (right, in 1960).

## [ OBITUARY ]

**Natalie de Blois, 1921–2013**

BY LAURA RASKIN

**PIONEERING ARCHITECT** Natalie de Blois died in Chicago on July 22 at 92. Born in Paterson, New Jersey, in 1921, she received her architectural degree from Columbia University in 1944 and joined the New York office of Skidmore, Owings and Merrill later that year. At SOM, de Blois worked with Gordon Bunshaft on the design of the Equitable Building in Chicago and the Lever House and former Pepsi-Cola headquarters in New York. In 1962 she joined SOM's Chicago office and became associate partner in 1964.

According to the *Chicago Tribune's* Blair Kamin, de Blois was no stranger to "the male-dominated world of architecture . . . laden with sexist barriers." In 1970 she helped found Chicago Women in Architecture, a group that hoped to advance the status of women in the profession and that still exists today. Whatever the challenges, she "worked marvels in design," wrote Nathaniel Owings in his autobiography. ■



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## Park Heralds New Era for Queens

BY FRED A. BERNSTEIN

THE 30-ACRE swath of Queens known as Hunters Point South, where the East River meets Newtown Creek, has shed its identity crisis. The property was once slated to become part of Queens West, a vast New York State-sponsored mixed-use development; later, it was the proposed site of the Morphosis-designed athletes' village for the 2012 Olympics bid.

Then in 2009, the city bought the parcel for \$100 million and pledged to build one of the largest new collections of middle-income housing. Ground has now been broken for two large apartment buildings, designed by SHoP and Ismael Leyva Architects; together, they will contain 925 "permanently affordable" units.

But the big news is that a 5-acre section of a planned 11-acre park, which will serve as the

front lawn for the development (as well as athletic fields for a new FXFOWLE-designed intermediate and high school), has just been completed. "The park got built first, not whittled away by developer interests," says Michael Manfredi, whose firm, Weiss/Manfredi, teamed with Thomas Balsley Associates on the design of the park. And superstorm Sandy didn't throw construction off schedule, which bodes well for the new park's future. "There was nothing fragile or precious enough to be damaged," says Balsley of Sandy's impact, adding that he chose "native plantings that could take a brief bath without consequences."

The park's centerpiece, a 1.25-acre green oval, is one of New York's grandest new public spaces, on an axis with a Deco-era ventilation building for the Queens-Midtown Tunnel, a few hundred feet to the east, and the Empire State Building, just over a mile to the west, across the East River. Swooping around the south side of the oval is a large, bright-white pavilion containing restrooms, maintenance



Hunters Point South Waterfront Park in Queens, New York, includes a pleated steel pavilion that captures storm water and solar power (above). The park, with its oval green, has expansive views of the Manhattan skyline (below).



facilities, and (soon to come) a café. Its jaunty, pleated-steel roof reaches toward the sky on angled lally columns. (In its sweep, the building is reminiscent of Weiss/Manfredi's Brooklyn Botanic Garden visitor center, completed in 2012.)

A dog run on the north side of the oval features a canopy that echoes the larger pavilion. Other park features include a garden built over old railroad tracks, continuing a theme in which new landscapes incorporate industrial castoffs, a move employed by Balsley when he began designing neighboring Gantry Plaza State Park in the 1990s. Another 6 acres of parkland (and some 4,000 apartments) remain to be built, but already Hunters Point South is a promising addition to New York City Mayor Michael Bloomberg's legacy. ■

## noted

### Ennead Chosen to Design Peabody Museum Expansion

The Peabody Essex Museum in Salem, Massachusetts, selected Ennead Architects to design a 175,000-square-foot, \$200 million expansion, set to be complete in 2019. The addition will house new galleries, educational spaces, a restaurant, and more.

### Zoë Ryan Appointed Curator of Istanbul Design Biennial

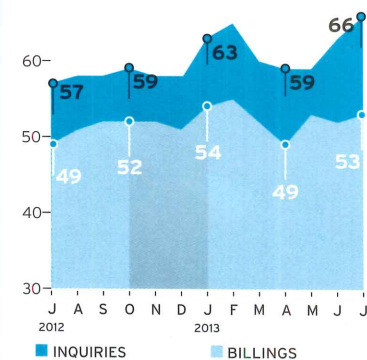
Zoë Ryan, the British-born curator of architecture and design at the Art Institute of Chicago, will curate the second Istanbul Design Biennial in 2014. Ryan will announce the framework for the biennial in November. She has worked at New York's Van Alen Institute and the Museum of Modern Art.

### TED's City 2.0 Conference Unveils Speakers, Sessions

TED, of the ubiquitous TED Talks, hosts a symposium at New York's TimesCenter on September 20. Dedicated to the future of cities, conference speakers include urban planner Toni Griffin, photographer Iwan Baan, and architect Diébédo Francis Kéré.

### Rogers Marvel Architects Is Now Two Distinct Firms

The principals of the award-winning 20-year-old New York firm Rogers Marvel Architects have decided to go their own ways: Robert Rogers now heads up Rogers Partners while Jonathan Marvel leads Marvel Architects. Together they designed notable projects such as the Studio Museum in Harlem and the Cody Canal Park in Cody, Wyoming.



### ABI Makes Another Leap

The Architecture Billings Index went up a point in July for a score of 52.7, indicating design activity has accelerated nationally. But American Institute of Architects chief economist Kermit Baker says that "it is premature to declare the entire sector has entered an expansion phase." The new projects inquiry index shot up four points.



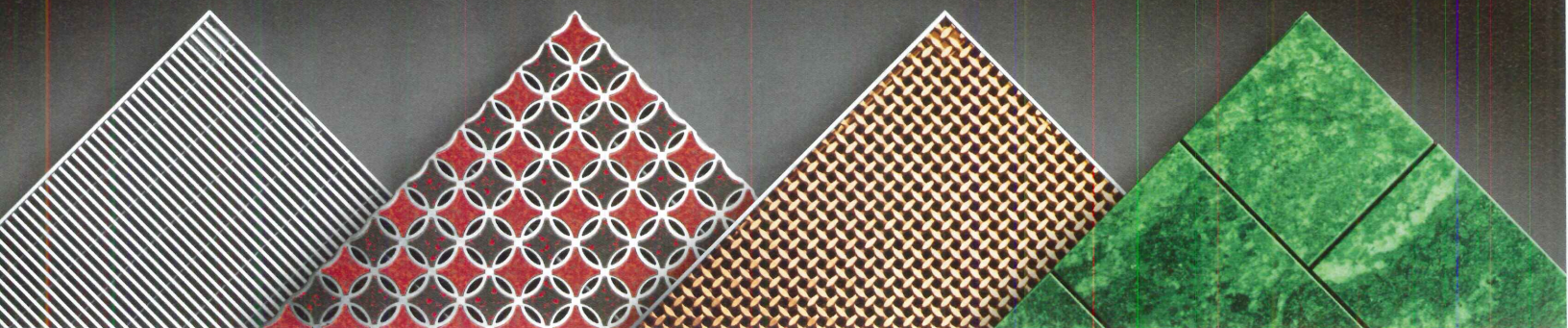


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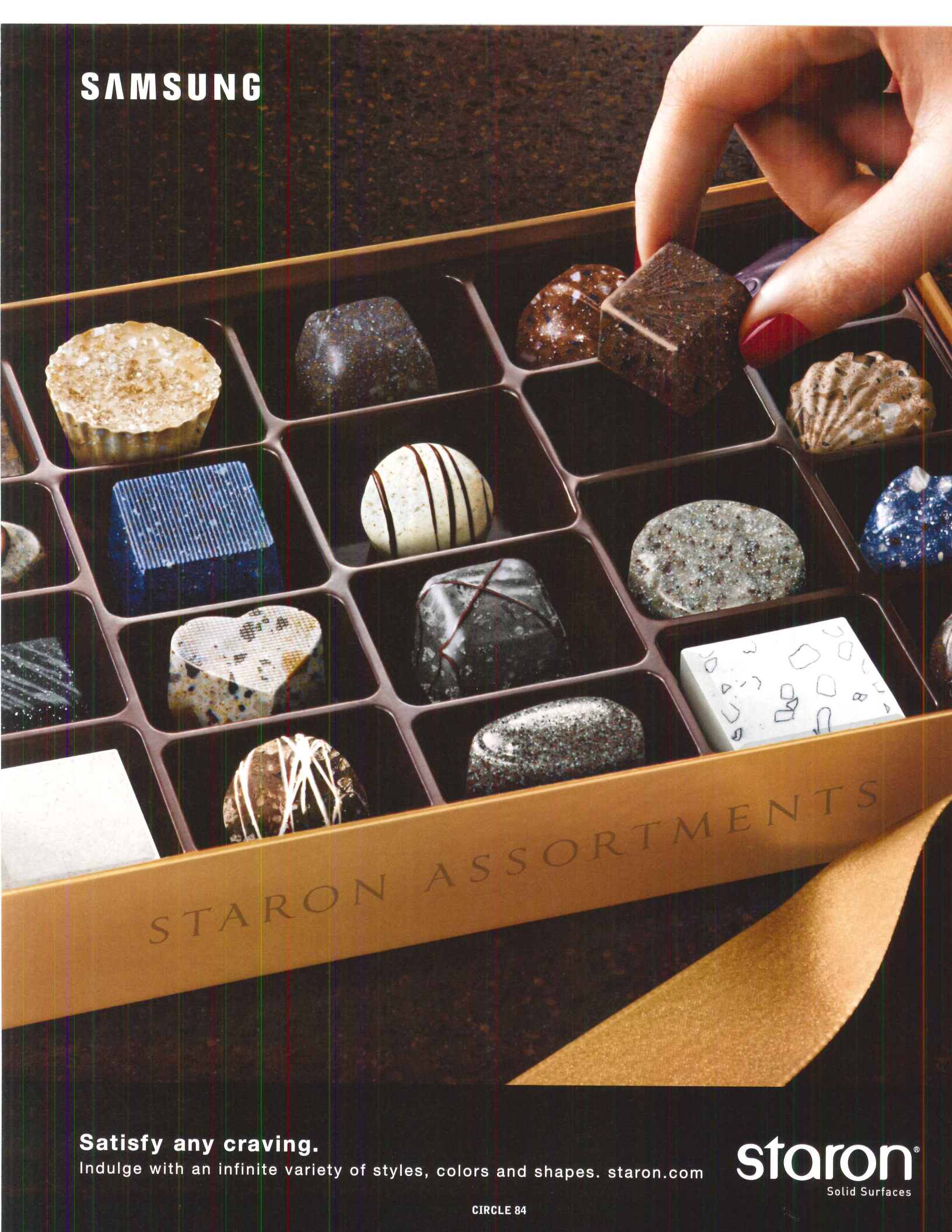
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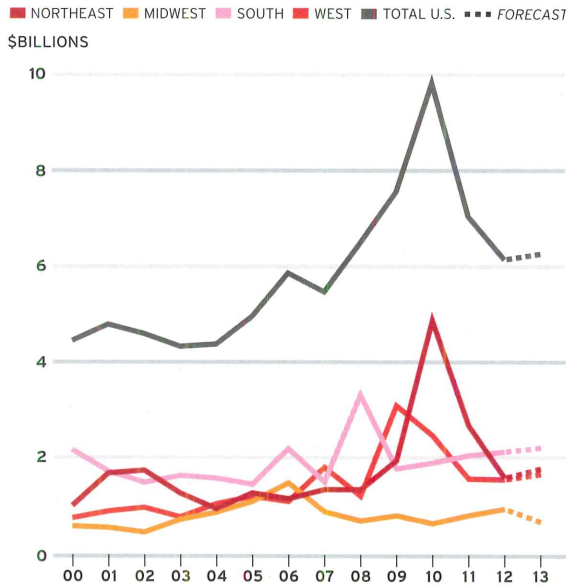


Data from McGraw Hill Dodge Analytics

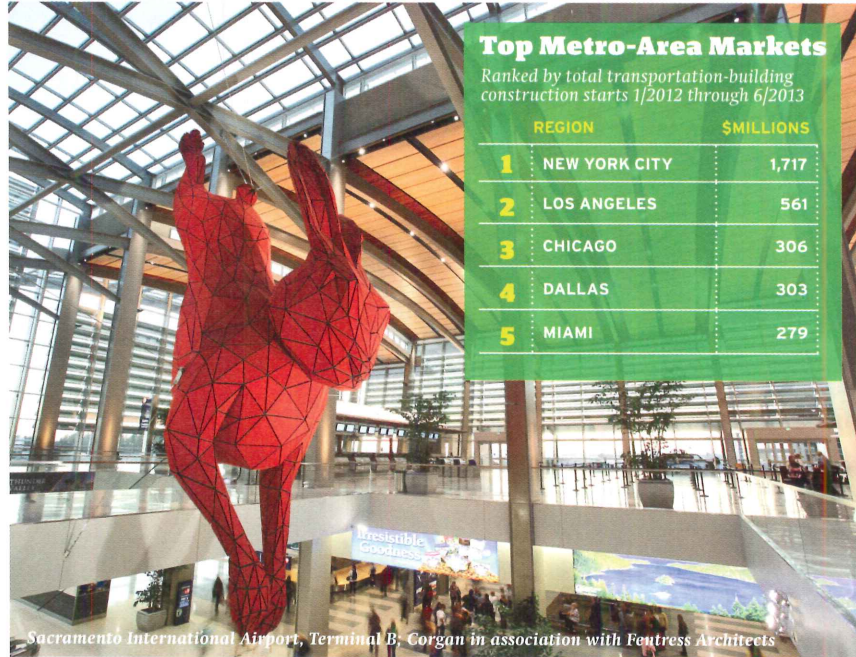
# MARKET FOCUS TRANSPORTATION BUILDINGS

## Transportation-Building Starts by Region

In addition to U.S. total and 2013 forecast figures



The sluggish economy has stalled investment in new air, rail, and bus terminals. However, projects like California's planned high-speed rail network could provide a much-needed boost to this sector.

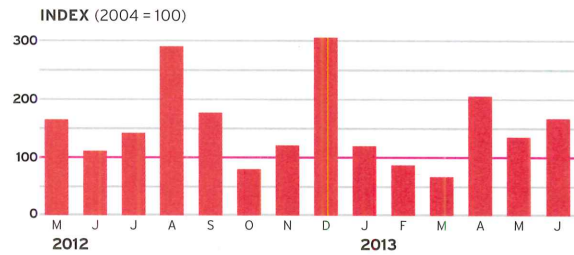


### Top Metro-Area Markets

Ranked by total transportation-building construction starts 1/2012 through 6/2013

REGION	\$MILLIONS
1 NEW YORK CITY	1,717
2 LOS ANGELES	561
3 CHICAGO	306
4 DALLAS	303
5 MIAMI	279

## The Dodge Index for Transportation-Building Construction 5/2012-6/2013



The index is based on seasonally adjusted data for U.S. transportation-building construction starts. The average dollar value of projects in 2004 serves as the index baseline.

## Top 5 Design Firms

Ranked by transportation-building construction starts 1/2011 through 6/2013

- 1 Corgan
- 2 Skidmore, Owings & Merrill
- 3 Pelli Clarke Pelli Architects
- 4 Stantec
- 5 Dattner Architects

## Top 5 Projects

Ranked by transportation-building construction starts 1/2012 through 6/2013

- \$583 MILLION**

PROJECT: 72nd Street and 96th Street Stations  
ARCHITECTS: AECOM; Ben Thompson Associates  
LOCATION: New York City
- \$229 MILLION**

PROJECT: LAX Terminal 5 Redevelopment Program  
ARCHITECT: Corgan  
LOCATION: Los Angeles
- \$200 MILLION**

PROJECT: Jet Blue Terminal 5 Expansion at JFK  
ARCHITECT: Gensler  
LOCATION: New York City
- \$160 MILLION**

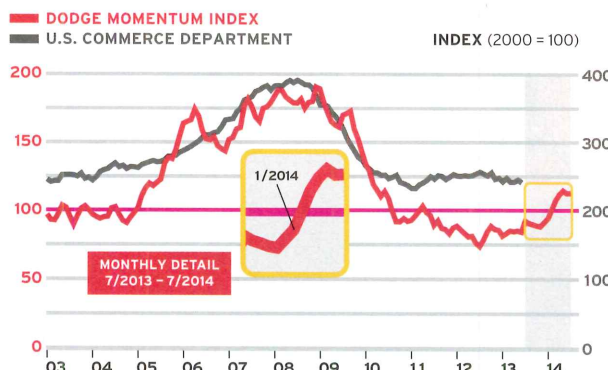
PROJECT: Delta Airlines Terminals C and D Redevelopment at LaGuardia  
ARCHITECTS: Skidmore, Owings & Merrill; Corgan  
LOCATION: New York City
- \$160 MILLION**

PROJECT: Metro Gold Line Foothill Extension  
Design-Build: Foothill Transit Constructors – A Kiewit Parsons Joint Venture  
LOCATION: Los Angeles County

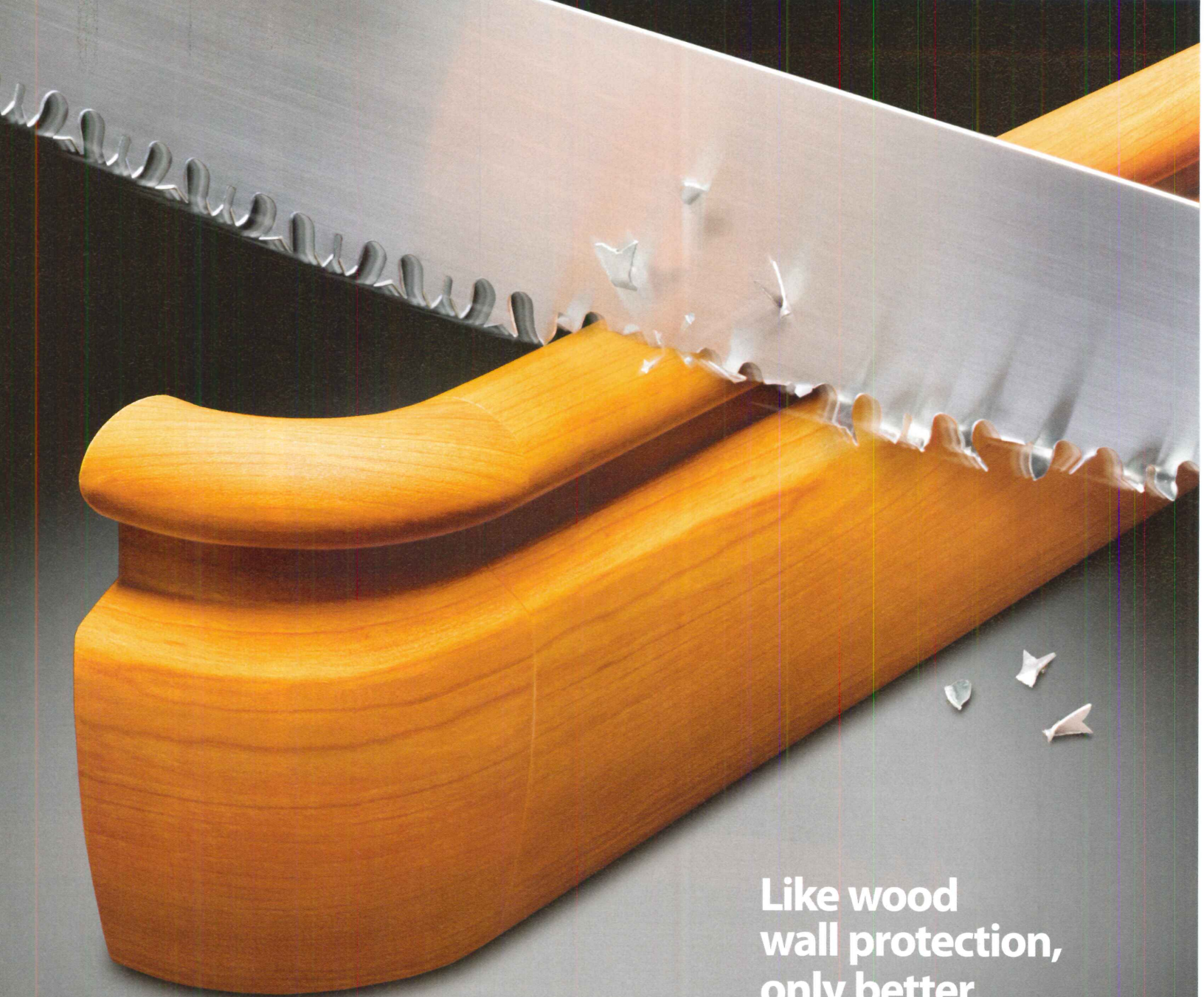
## MOMENTUM INDEX INCHES UPWARD

Little changed from June, the Momentum Index moved up 0.2% in July, to 112.8. Although the growth was modest, the index continues to hold on to gains made earlier in the year.

The Dodge Momentum Index is a leading indicator of construction spending. The information is derived from first-issued planning reports in McGraw Hill Construction's Dodge Reports database. The data lead the U.S. Commerce Department's nonresidential spending by a full year. In the graph to the right, the index has been shifted forward 12 months to reflect its relationship with the commerce data.







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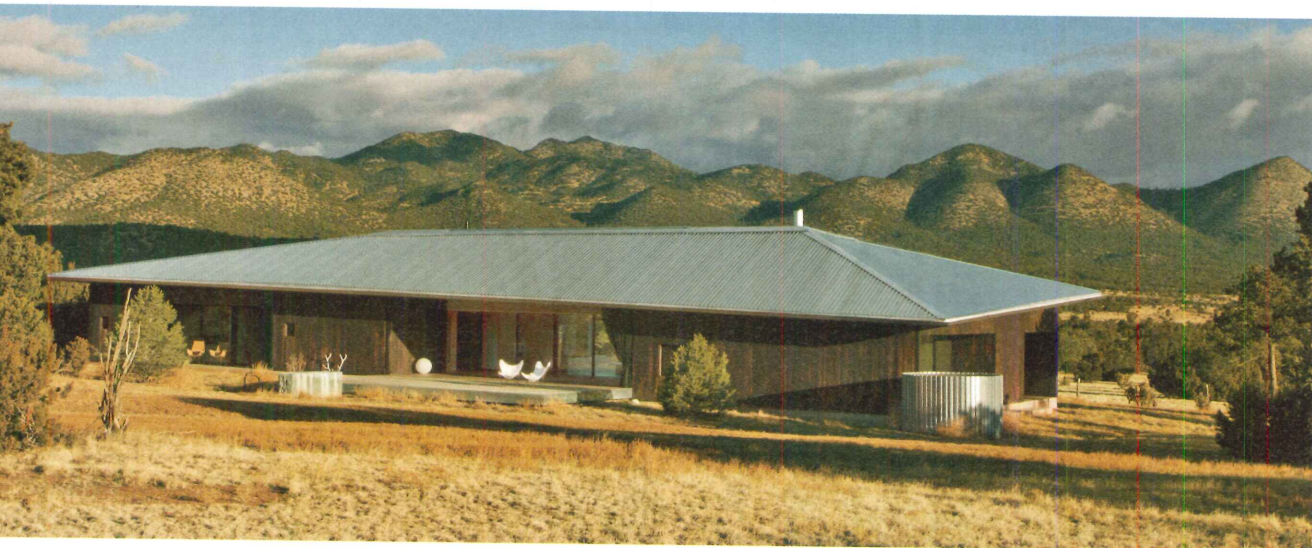
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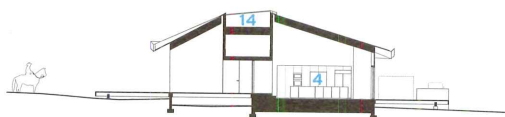


# perspective house of the month

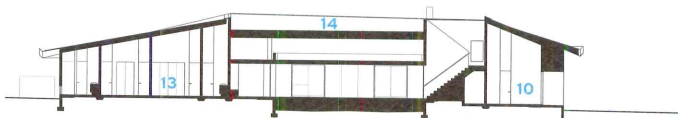
LOCATED ON THE TURQUOISE TRAIL BETWEEN ALBUQUERQUE AND SANTA FE, THE LONE MOUNTAIN RANCH HOUSE BY RICK JOY ARCHITECTS IS A LIGHT-FILLED TWIST ON THE LOW-SLUNG FORM. BY LAURA RASKIN



- 1 ENTRY DECK
- 2 ENTRY
- 3 MUD ROOM
- 4 KITCHEN
- 5 DINING
- 6 LIVING
- 7 DECK
- 8 TV ROOM
- 9 OFFICE
- 10 MASTER BEDROOM
- 11 MASTER BATHROOM
- 12 GUEST SUITE
- 13 BEDROOM
- 14 ROOF TERRACE



SECTION B - B



SECTION A - A

0 20 FT.  
6 M.



FLOOR PLAN

0 20 FT.  
6 M.

**THE AMERICAN** West merges with the Far East on a 27,000-acre Wagyu-cattle ranch in a ghost town called Golden, New Mexico. Tucson-based architect Rick Joy designed a six-bedroom house for a couple who inherited the land. “They went to Japan, learned all about [Wagyu], got the stock, and put together this company selling beef around the country,” says Joy. “Interestingly, the house turned out to be very Japanese in feel.”

The linear wood-frame retreat is clad in charred cedar, produced by a Japanese process called shou-sugi-ban, which makes it fire- and insect-resistant. An eastern influence continues inside, where two bedroom wings are separated by an open central living- and-dining area, which is brightened

by a board-formed, poured-in-place concrete fireplace wall and quarter-sawn white oak floors. Walls of windows on the north and south frame views of the desert and Lone Mountain, after which the house is named.

A galvanized steel twisted hip roof shades north- and south-facing decks, extending the living space. Because the client is a “weekend astronomer,” Joy designed a hidden roof terrace for stargazing that is accessed by an exterior stair. Glass slots between the roof and the internal parapet wall of the lowered deck bring daylight to the interior. With its connections to the outdoors, the house’s allure is the landscape. “They have a big family,” says Joy. “Everybody goes out there for ropin’ and ridin’.” ■

Perimeter gutters on the hip roof channel water to harvesting cisterns on opposite corners of the house (top). Joy’s wife Claudia Kappl designed the hammered copper lights above the dining room table. Polished on the inside, they bring a warm glow to the living space (above).



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CIRCLE 50



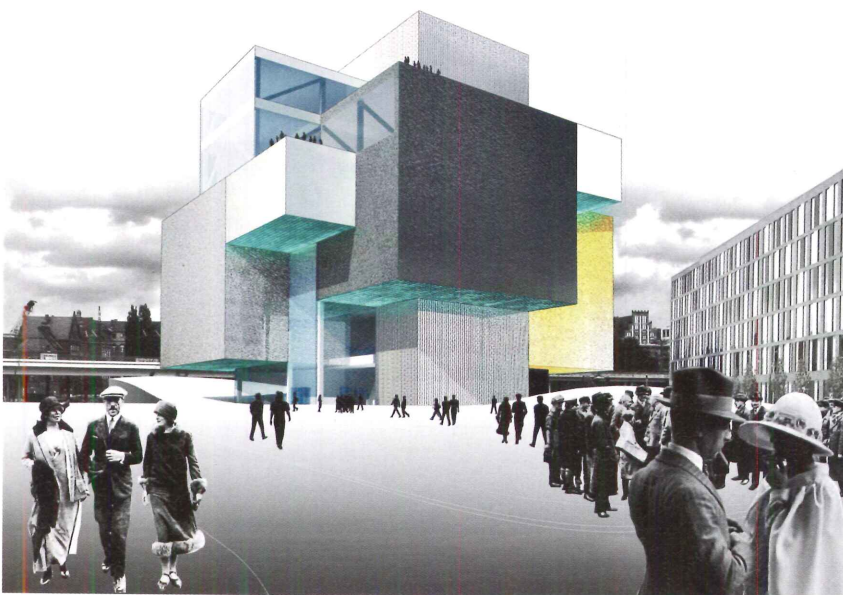
## Character Development

At RECORD, we frequently find ourselves doing double takes to determine whether an image is a photograph or an uncannily lifelike rendering. Often, these hyper-real images depend on a token cast of characters—coffee-swigging urbanites, couples strolling hand-in-hand, pin-thin women, or a child perched atop Dad's shoulders—that make our eyes glaze over. Yet in this digital age of realistic renderings, architects are increasingly distinguishing themselves by a more flamboyant aesthetic, infusing designs with humor, fantasy, nostalgia, and even a dead celebrity or two.

One new exhibition suggests that these flourishes have a vital history (not to date ourselves) about as old as RECORD's. *Cut 'n' Paste: From Architectural Assemblage to Collage City* at New York's Museum of Modern Art (until December 1, 2013) traces the history of stylized collages and photomontages from the late 19th >



In 2012, architects Paul Dieterlen, Jorge Ruiz Boluda, and Agustín Durá Herrero envisioned a motley crew of guests for an "Inspiration Hotel" conceptual design competition in Spain. The surreal assortment includes Salvador Dalí, Le Corbusier, Albert Einstein, Álvaro Siza, Mies van der Rohe, Steve Jobs, Eero Aarnio, Andy Warhol, and a flock of ducks.



According to Bjarke Ingels Group, their 2012 museum proposal for a former WWII fortress in Denmark is "a light and easy antithesis of bunker architecture." The rendering—replete with tea services, a ball gown, a hound, and Konstantin Grcic's Magis chairs—is more Lewis Carroll than Louis Kahn.

With Project Architect Company's photomontage (left) for its entry to the Haus der Zukunft competition in 2012, the architects wanted to impart a sense of historic Berlin to their scheme. They inserted stills from Walter Ruttmann's 1927 film *Berlin: Symphony of a Metropolis*.

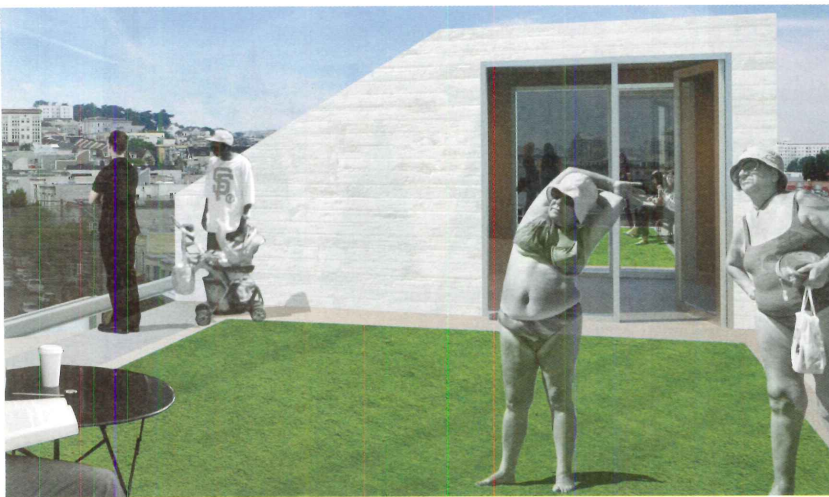


century to the present. Another current show, *New Views: The Rendered Image in Architecture* at the Art Institute of Chicago (until January 5, 2014), identifies distinctive contemporary rendering styles. "People are tired of the perfect computer image or rendering," says Pedro Gadanho, curator of the MoMA show. "They want something more artistic, with emotion and playfulness." Indeed, Gadanho's show sidesteps conventional visual tropes for unusual projects featuring acrobats, magenta trees, and other unexpected features.

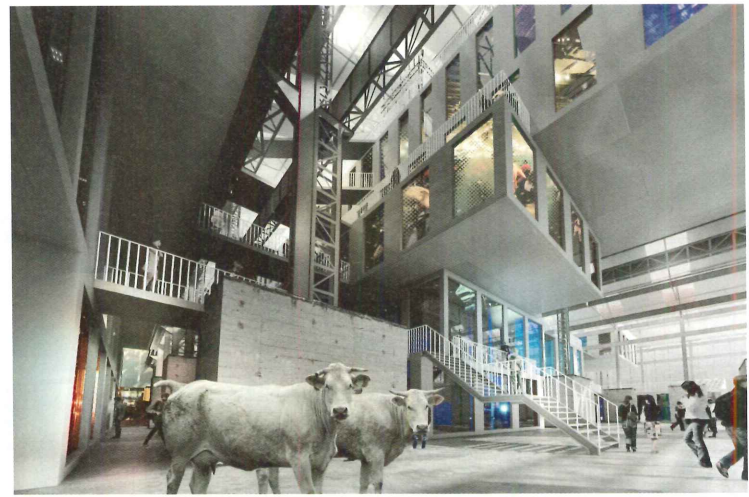
Here are some of our favorite images from the MoMA exhibition and other sources that cause us to stop and take a longer look. *The Editors*



When HWKN proposed the Fire Island Pines Pavilion in 2012, the firm wanted to reflect the "young, chic, beach-y vibe" of the legendary gay resort. The bearded man in the foreground (at right) is not Ben Affleck, the firm says, but "a stylish doppelgänger."



With the 2009 digital rendering for the Octavia Blvd Lots M + N housing project in San Francisco, the architects at Envelope Architecture+Design say they wanted "to represent the diversity of bodies" inhabiting the world. They achieved their goal.



For a 2011 competition, the architects at Rotterdam-based MVRDV envisioned a former industrial site in Lille, France, to be transformed into an elaborate vocational school. Luxigon, a Paris-based firm, created the renderings where the cows steal the show.



To "convey an image of elegance and modernity" the Spanish firm Suárez Santos Arquitectos incorporated the iconic image of President John F. Kennedy holding hands with his son John for a 2011 competition to redesign the Plaza del Grano in León, Spain. In spite of such luminaries, the submission only won second place.



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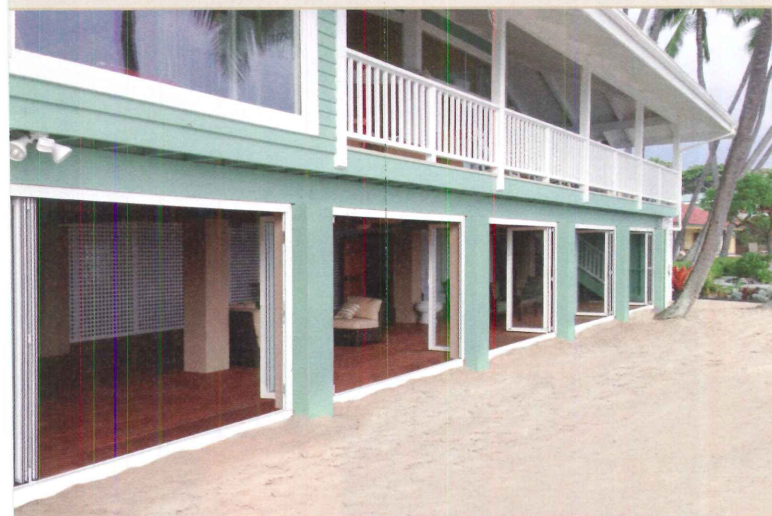


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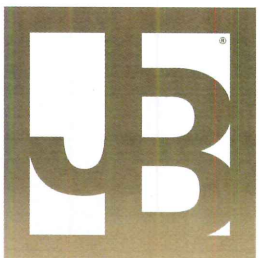
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## A Voice for Here and Now

**Makers of Modern Architecture (Volume II): From Le Corbusier to Rem Koolhaas**, by Martin Filler. *New York Review Books*, 2013, 336 pages, \$30.

Reviewed by George Baird

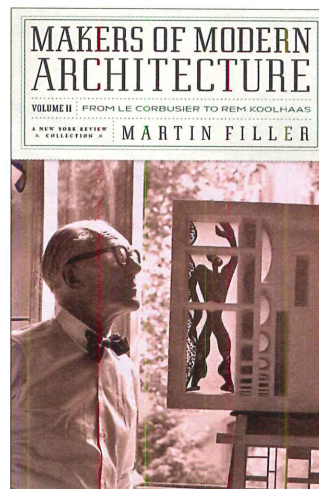
**MARTIN FILLER'S** new collection of essays appears in the wake of a significant shift in the tenor of architectural criticism. Gone are such provocative, if “unstable” (Filler’s word), figures as Herbert Muschamp, and such cheerleaders for the star system as Nicolai Ouroussoff. Instead, we have their more measured successor at *The New York Times*, Michael Kimmelman, as well as the similarly thoughtful Christopher Hawthorne at the *Los Angeles Times* and Blair Kamin at the *Chicago Tribune*.

But Filler can claim to have launched the new tone, and a new social orientation to architectural design. Since he began writing for *The New York Review of Books* in 1986, he has commented on historical figures as well as contemporary ones, more famous as well as less famous ones, and individual architects as well as teams. In his previous volume (2007), he was particularly interested in resurrecting the reputations of women designers, such as Ray Eames, whose male collaborators overshadowed them. He has a keen interest in the relationship between the personal histories of his subjects and their career successes and failures. This critical-biographical approach is most successful in the current volume—which like the earlier one features mostly reworked essays from *The New York Review of Books*—in pieces on Oscar Niemeyer, Edward Durrell Stone, and Eero Saarinen. For example, he notes: “Niemeyer led an eight-decade-long samba through the building art, a joyous journey that gave the world some of its liveliest modern landmarks.” As for Saarinen, he observes, “Although he has been accused of some of the same tendencies now held against Calatrava—particularly a fondness for ostentatious engineering displays, when simpler solutions would suffice—Saarinen, even at his shallowest, had far more depth than Calatrava.”

On Frank Lloyd Wright and Le Corbusier, however, I find that Filler’s biographical interests overwhelm his critical ones, and the actual buildings get short shrift. He justifies his approach to these figures by saying that in the earlier volume he “discussed both more generally.” But this fails to persuade me

that such almost gossipy texts belong in a collection of architectural criticism.

Having said this, the strength of Filler’s writing has steadily grown over time and reached a new plateau in his fierce attack (too recent to be included in this book) on MoMA’s plan to demolish Tod Williams Billie Tsien’s Museum of American Folk Art. MoMA has subsequently backed off and promised to explore alternatives. It is hard to imagine that Filler’s voice did not have a significant effect on the situation. It seems to me that he can now lay claim to the mantle of the late Ada Louise Huxtable, the most admired critic of recent times. ■



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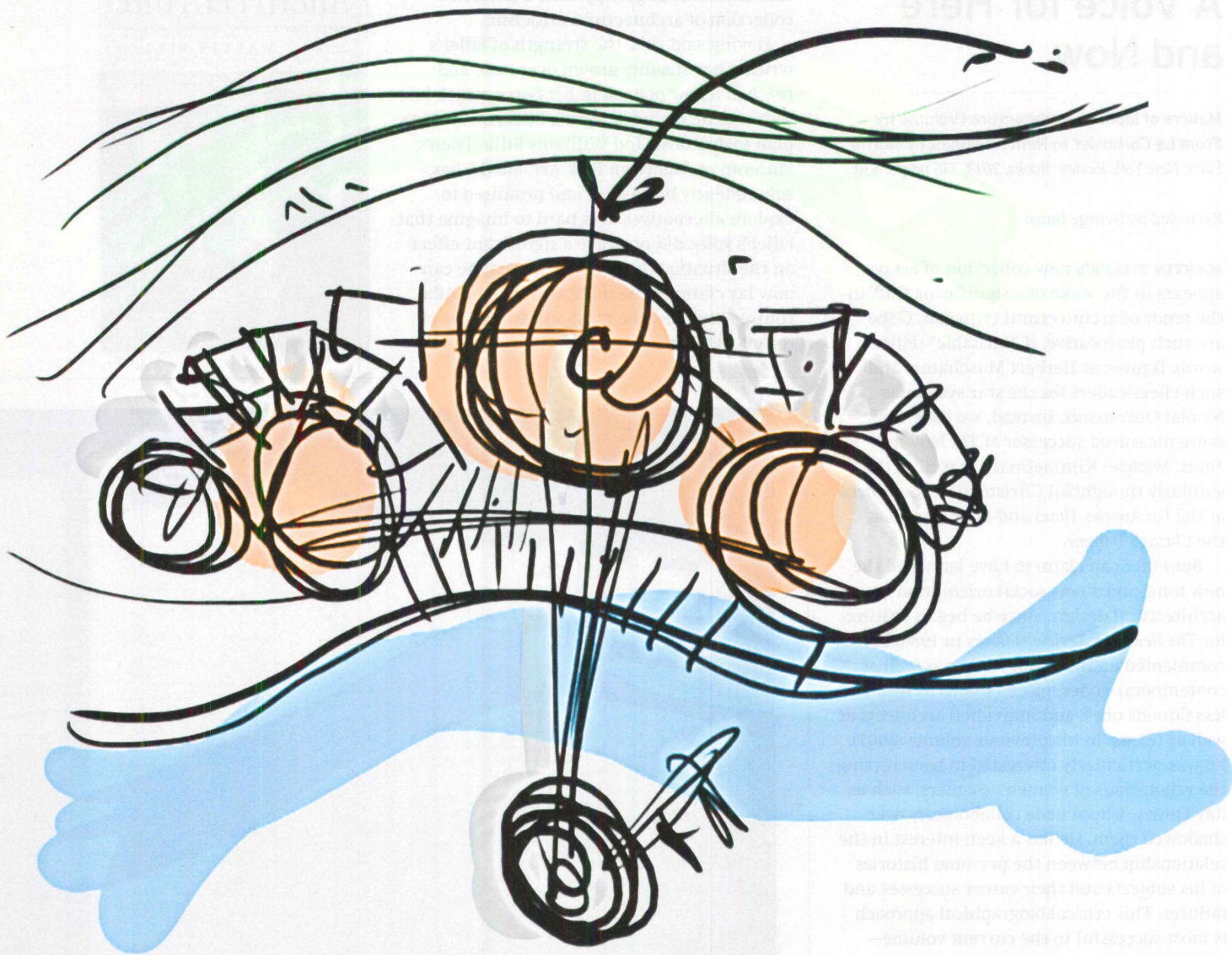
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The answer to the August issue's Guess the Architect is **RUDOLF STEINER**, the philosopher and spiritual leader, who designed the concrete boiler house at Dornach, Switzerland (left), in 1915 as part of his Goetheanum complex. For more details, including the winner, go to [archrecord.com](http://archrecord.com).

By entering, you have a chance to win a video camera. See the complete rules and entry form online at [archrecord.com](http://archrecord.com).

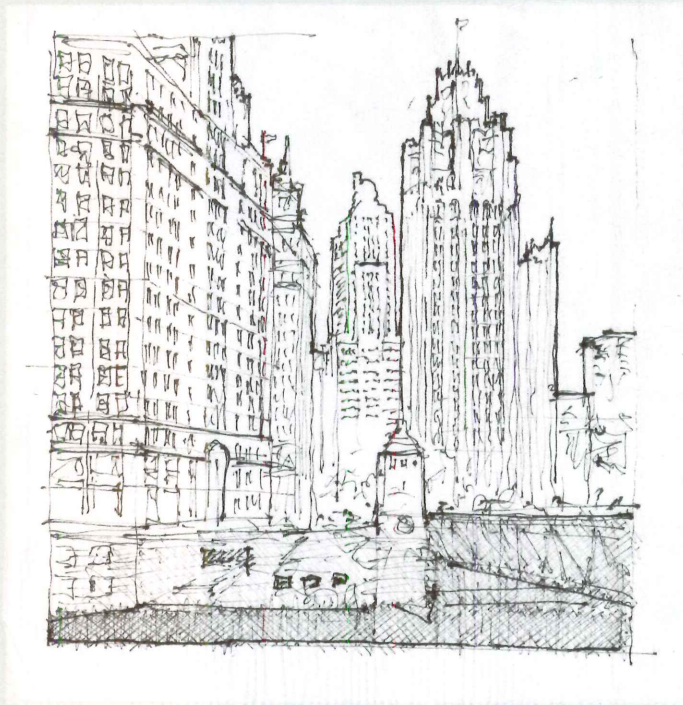


# ARCHITECTURAL RECORD Announces the Winners and the Runners-up of the

# 2013 COCKTAIL NAPKIN SKETCH CONTEST

For the fourth year of its Cocktail Napkin Sketch Contest, RECORD was again flooded with hundreds of reader entries. Contestants represented firms from coast to coast and from a variety of occupations within the field of architecture, including principals, designers, students, and interns. The competition was stiff and our staff jury pored over every drawing to handpick the top designs.

## WINNER, REGISTERED ARCHITECT



GREGORY KLOSOWSKI, SENIOR PROJECT ARCHITECT, PAPPAGEORGE HAYMES PARTNERS; CHICAGO **CHICAGO AMARANTHINE**

After spending nearly two decades working in San Francisco, Gregory Klosowski, 42, moved back to his native Chicago this year to become a senior project architect at Pappageorge Haymes Partners. When he arrived, he found his favorite vista unchanged—a spot along Wacker Drive where the Tribune Tower and the Wrigley Building frame the Chicago River. “The word ‘amaranthine’ in the title means eternally beautiful and unfading,” Klosowski says of his en plein air sketch. “The Chicago skyline changed in the years I was away, but seeing that this view was the same was reassuring.”

## WINNER, NON-REGISTERED ARCHITECT



HAROLD VINASCO, DESIGNER, BEAME ARCHITECTURAL PARTNERSHIP; MIAMI **MY COLONIAL ROOTS**

While aboard a recent flight, Harold Vinasco, 56, sketched a rich streetscape of balconies, colonial-style roofs and flowers—recollections of his hometown of Cali, Colombia. “There are a lot of places in Colombia where you can find this kind of image,” Vinasco, a designer at Beame Architectural Partnership in Miami, says of his three-minute sketch. While he has used programs like autoCAD since the late 1980s, Vinasco says that a sketch always serves as his starting point. “I am so happy to do it, because my work is also my hobby,” he said—“in the train, on the plane, everywhere.”



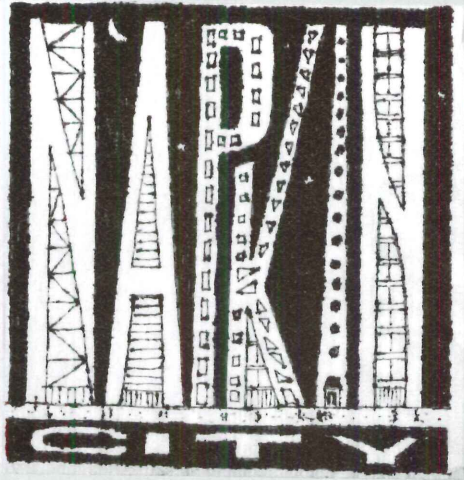
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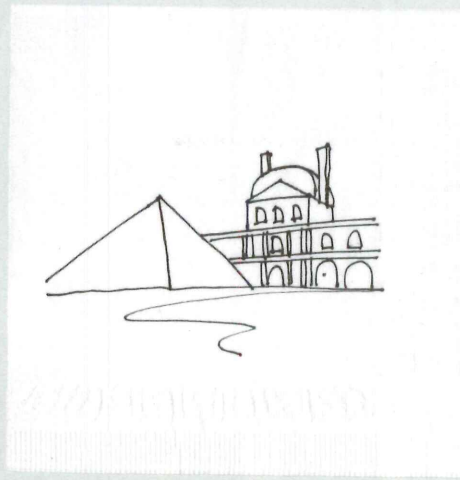


**RUNNERS-UP, REGISTERED**



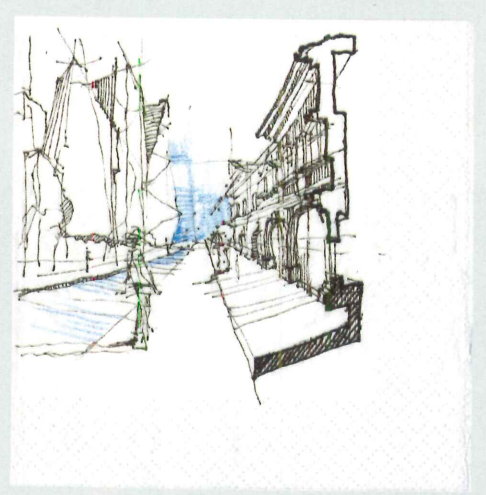
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**RUNNERS-UP, NON-REGISTERED cont.**

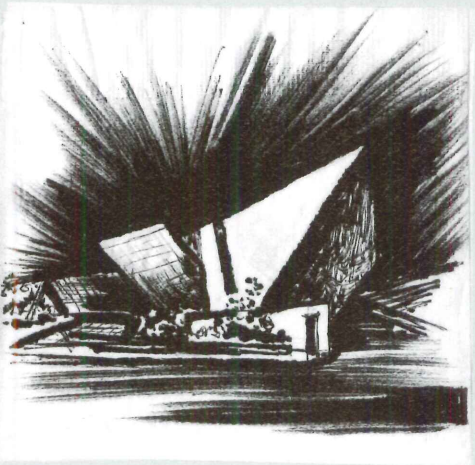


LUSHAN YAO, STAY-AT-HOME-MOM; REDMOND, WA **THE LOUVRE, PARIS, FRANCE**

**BEST FIRM: CALLISON**



VESS DIMITROV, ARCHITECT, CALLISON; SEATTLE **MIRROR OF TIME**



RONALD KENT, ARCHITECT, OUTSIDE THE LINES, INC.; SUGAR LAND, TX **LIBESKIND'S DENVER ART MUSEUM**

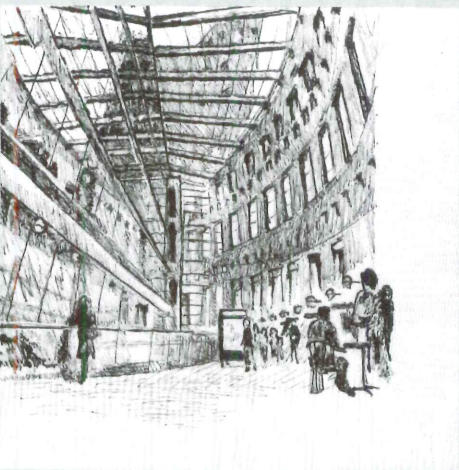


ROLAND ESCALONA, STAFF, MARK SCHEURER ARCHITECT INC.; NEWPORT BEACH, CA **ANGKOR WAT, CAMBODIA**

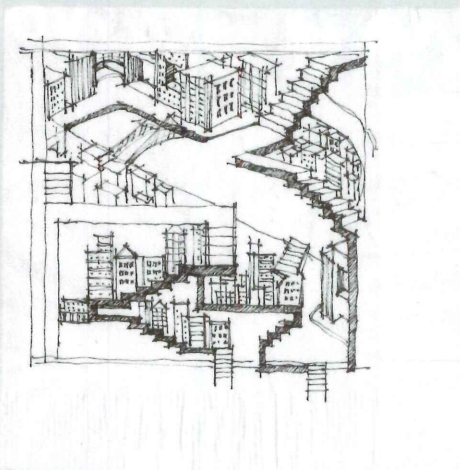


DAVID CHAMNESS, ARCHITECT, CALLISON; SEATTLE **NAPKIN SKETCHERS @ CALLISON**

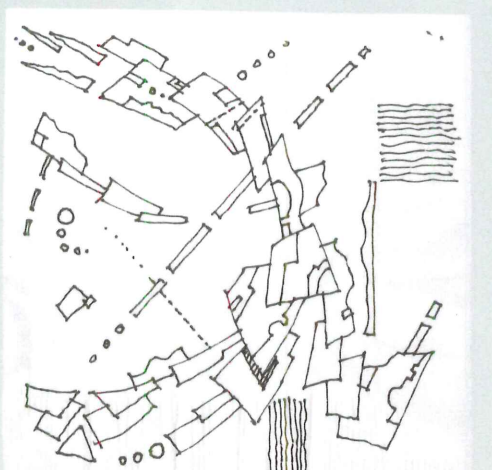
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JOHN DEVLIN, ARCHITECT, COOPER CARRY; ALEXANDRIA, VA **VANCOUVER PUBLIC LIBRARY**

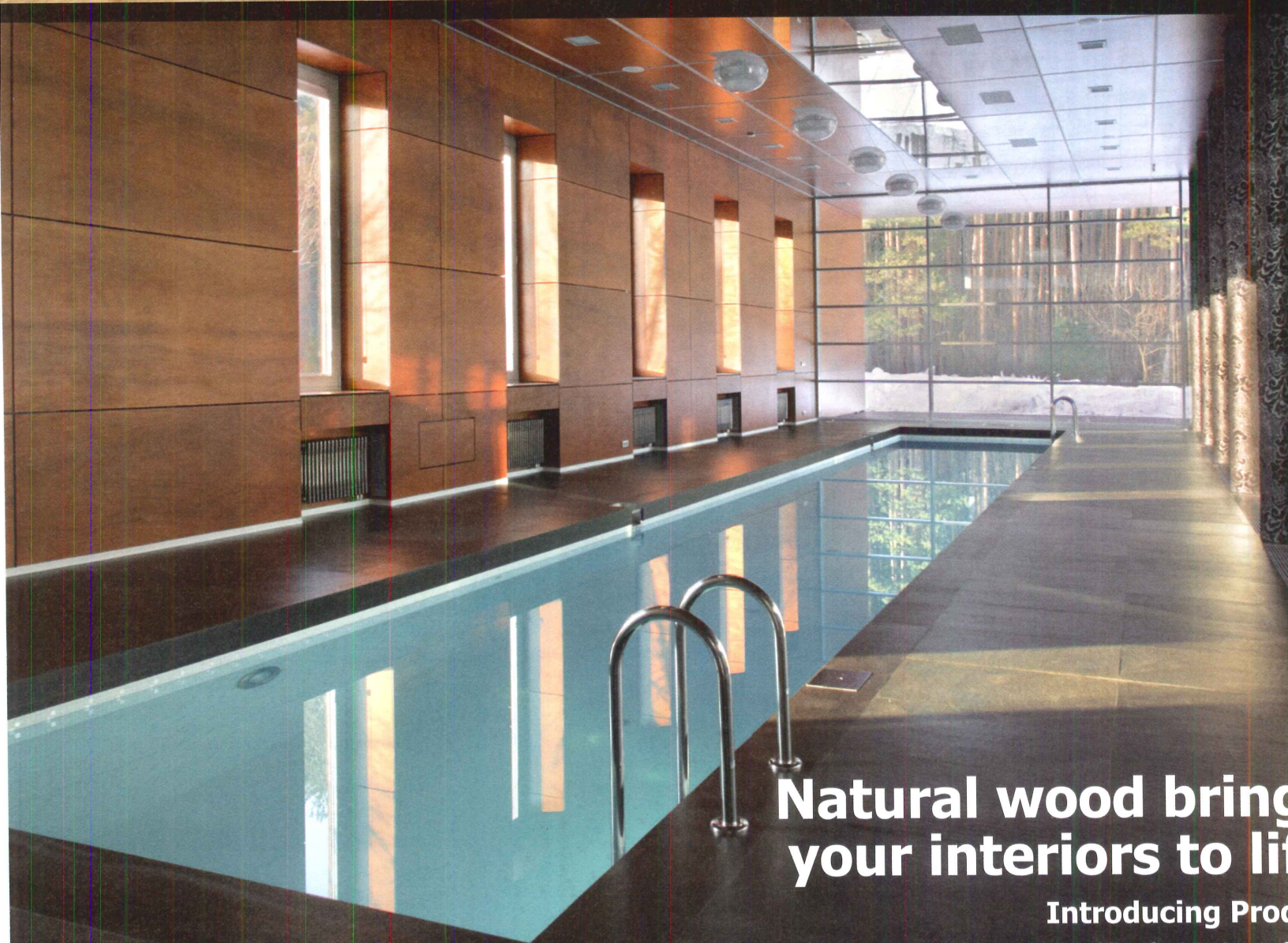


LULU YANG, GRADUATE STUDENT, UNIVERSITY OF CINCINNATI; CINCINNATI **WALKING IN THE WORLD OF 'INTERTWINE'**



IVAN SILANTYEV, DESIGNER, CALLISON; SEATTLE **MOVEMENT #23**





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## Digital Printing Fuses Art and Architecture

IT WASN'T too long ago that the public marveled at the sight of custom-printed mugs and T-shirts. There's no way they could have imagined how printing would impact manufacturing, products, and, ultimately, architecture today. Since introducing its AST Digital Glass Printing technology for architectural glass six years ago, Skyline Design has been transforming rooms and buildings such as ZGF Architects' Randall Children's Hospital in Portland, Oregon, and the Martin Luther King Jr. Federal Building in Atlanta, to name two. The company's newest collection to utilize this technique, the Digital Glass Portfolio, features works by eight celebrated artists, reproduced large-scale (up to 72" x 144") on low-iron PPG Starphire tempered glass with translucent or opaque backing. The resulting panels can serve as interior walls, demountable partitions, doors, and, of course, artwork.

The technological advances in printing have expanded the horizon for both products and artists. "The issue of scale is quickly dissolving," says graphic designer Rick Valicenti, one of the eight tapped for the collection. Valicenti—who is a 2011 Cooper-Hewitt, National Design Award winner—and his studio, Thirst, easily transitioned from designing publishing and branding visuals to the larger products. Thirst's Alphablox is a playful homage to typography, and Line Dot is a pattern that lies somewhere between pointillism and pop art. Pixels and larger forms that come into focus when viewed from afar also figure in Sonnenzimmer's design Xylophone Variations, while Anne Lindberg's Pulse features colorful striations that evoke dangling strings.

Other designs draw on the beauty found in nature, such as the late Bryan Nash Gill's Double Crescent, based on his well-known Woodcuts series, which illustrates cross-sections of trees. And fine art photographer Doug Fogelson creates an ethereal and haunting composition of bare tree branches.

"The larger-than-life scale rewards us with a macro-level visual impact and a micro-intricacy up close," says Valicenti. "It is complexity disguised as simplicity."

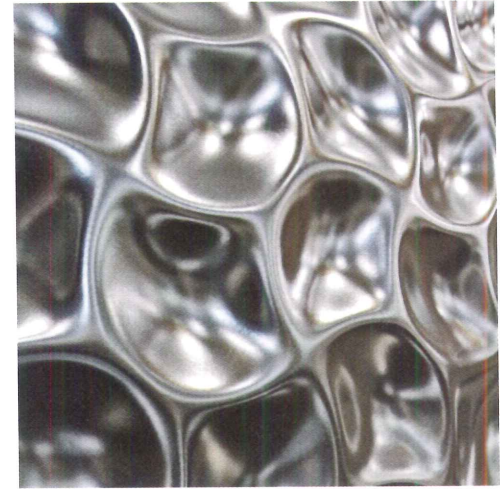
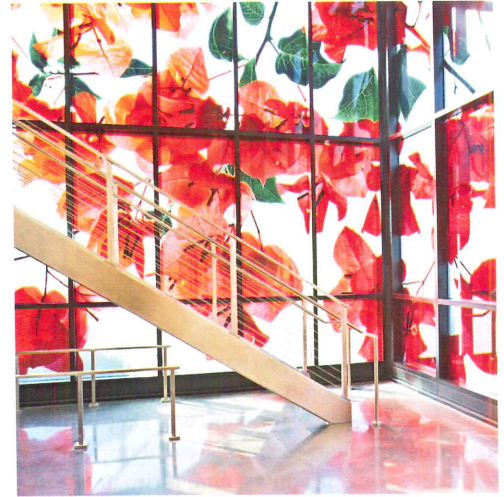
[skydesign.com](http://skydesign.com) CIRCLE 200



**IN THE DETAILS** Close up, the designs in Skyline's Digital Glass Portfolio appear as abstract forms and pixels, some with vibrant color fields. Pictured (from left) are Navajo, Neil's Branches, Bloomshade, and Xylophone Variations. From a distance, viewers see the bigger picture (below). Shown in full is Bryan Nash Gill's Double Crescent in red, with opaque Vitracolor backing.







### ViviGraphix Elements Glass

**Forms + Surfaces** [forms-surfaces.com](http://forms-surfaces.com)

Responding to a demand for new color palettes, the manufacturer has expanded its wood-pattern-inspired Elements series with four new styles in lighter hues. Timber (shown) is a take on weathered wood, with horizontally running grain lines. Hale is a thatched pattern in warm honey tones. Arctic has a bleached-wood appearance, and Highlight features a random pattern. The sheets measure 60" x 120" and come in a non-reflective or reflective finish. CIRCLE 201

### Eh Oui for Bendheim

**Bendheim** [bendheim.com](http://bendheim.com)

French woven-metal-textile manufacturer Eh Oui makes its debut in the American architectural market with a new decorative-glass line for Bendheim. Four designs are offered: Tempo resembles grass bound together at intervals; Mosaica is a basketweave; Anida has an intricate lace-like appearance; and Galina abstractly references houndstooth patterning. All are encapsulated in 8mm-thick glass sheets.

CIRCLE 204

### V.I.A. Architectural Solutions

**Steelcase** [steelcase.com](http://steelcase.com)

In today's open office spaces, where privacy and acoustics are major issues, interior wall systems like V.I.A. (Vertical Intelligent Architecture) can make all the difference. Its sturdy steel framework, "skins" (glass, whiteboard, or steel panels), and precise mechanical skin-attachment brackets are all manufactured with acoustical seals to ensure quiet conversation for booths and large conference rooms alike.

CIRCLE 202

### VistaLuxe Collection Windows

**Kolbe** [kolbe-kolbe.com](http://kolbe-kolbe.com)

With its slim minimalist frames supporting large expanses of glass, VistaLuxe windows create clean lines well suited to modern architecture projects. The units can be specified in a Flush style where the glass, sash, and frame are on the same plane, or an Accent profile, where only the sash is recessed. The interior-facing side of the frame is offered in nine different wood species.

CIRCLE 205

### Weil Studio Collection

**Pulp Studio** [pulpstudio.com](http://pulpstudio.com)

Pulp's ongoing collaboration with photographer Amanda Weil led to this custom floral installation for Bel Air Bar and Grill in California. To produce crisp graphics that are visible inside and outside the building, the studio laminated a double-layer of the imagery—with a frosted interlayer—onto Solarban glass, then added a further glass layer on the interior side, vacuum sealing it all. Similar custom solutions are available.

CIRCLE 203

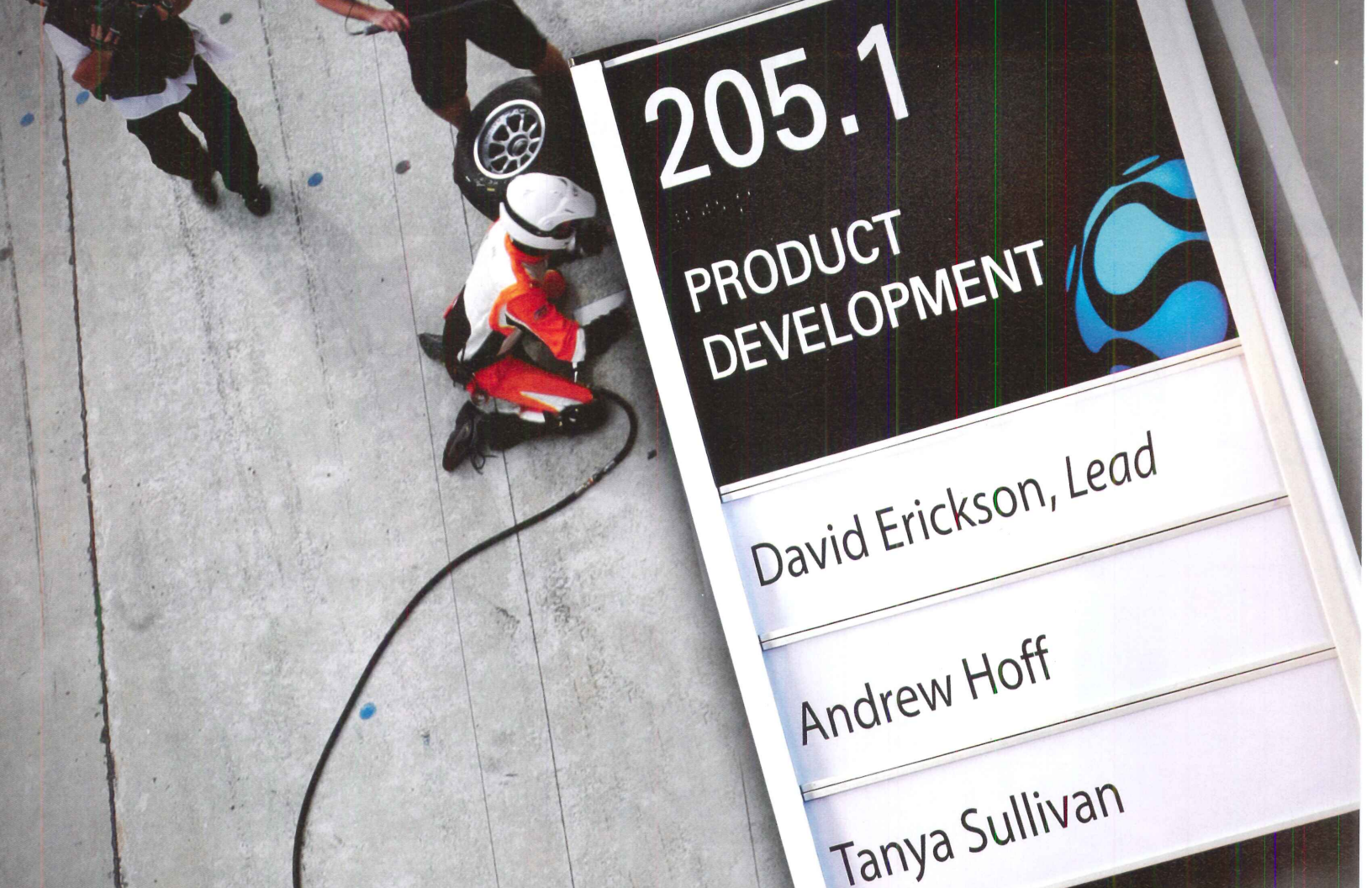
### Tessella

**Joel Berman Glass Studios** [jbermanglass.com](http://jbermanglass.com)

This kiln-cast glass features a tessellated pattern of fanlike shapes on the front, while the back appears more amorphous, organic, and fluid. But both sides possess three-dimensionality that offers visual interest and play of light. Suitable for backsplashes, screens, sliding doors, and divider or feature walls, Tessella comes in panels measuring 53" x 108" and can be back-painted in a range of colors.

CIRCLE 206





205.1

PRODUCT DEVELOPMENT



David Erickson, Lead

Andrew Hoff

Tanya Sullivan


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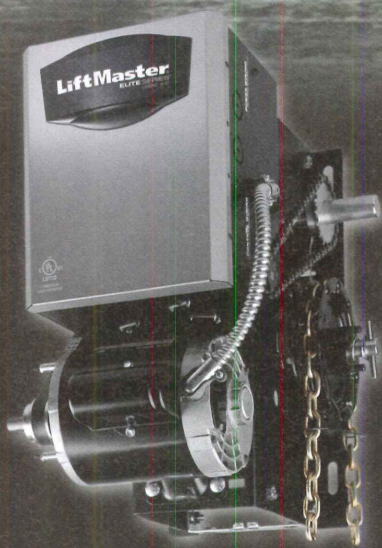
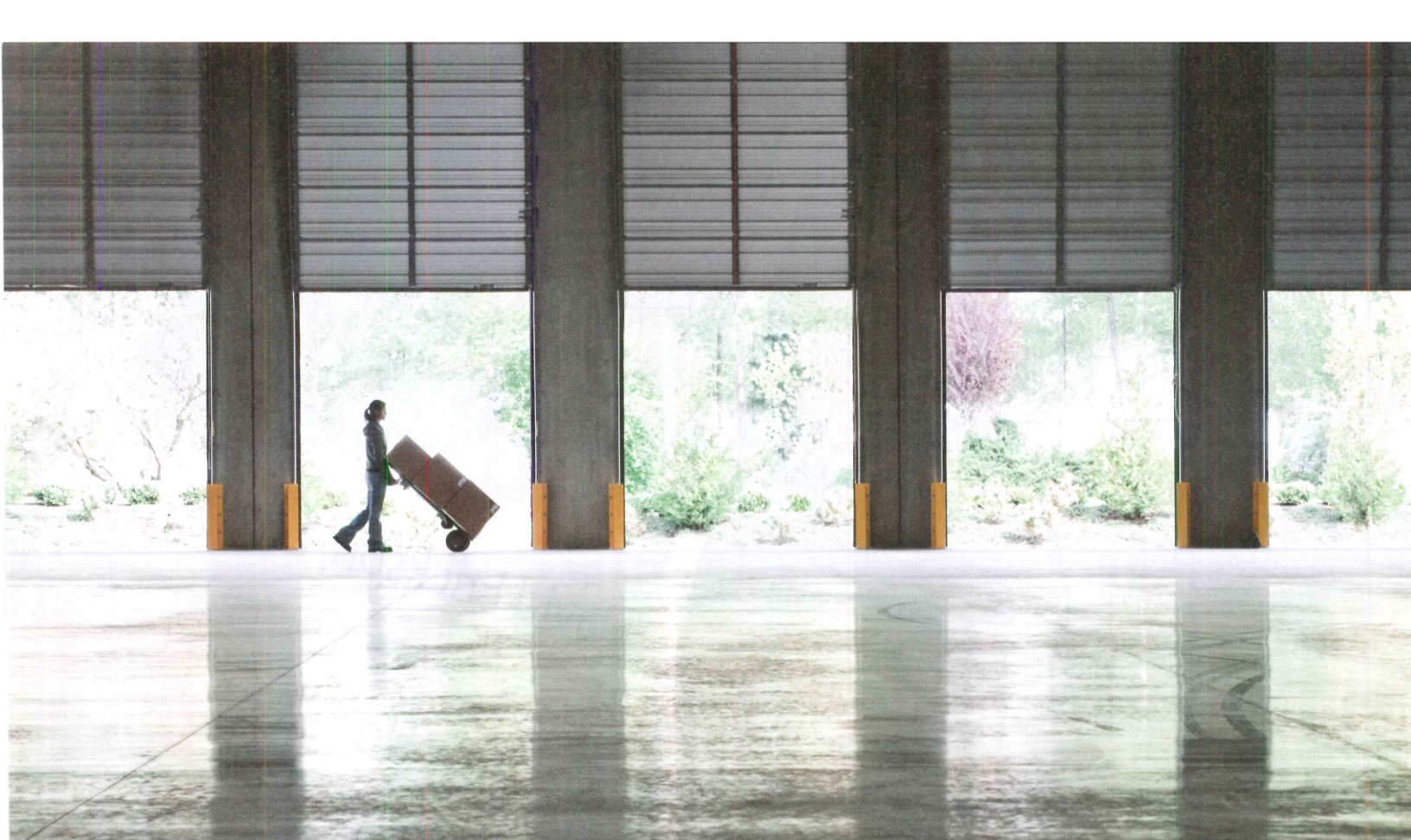
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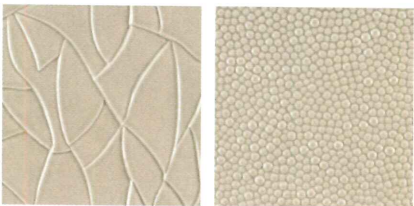
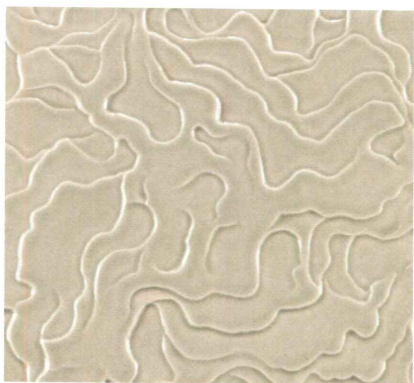


# products **tiles**

IDEAL FOR WET ROOMS AND KITCHEN BACKSPLASHES, CERAMIC TILE ISN'T JUST A FUNCTIONAL COMPONENT BUT A SIGNIFICANT—AND SOMETIMES DOMINANT—ELEMENT OF A SPACE'S DESIGN. SHEILA KIM

## Flexible Architecture

Linear pattern-making is the main feature of Philippe Starck's first-ever ceramic tile collection, Flexible Architecture (right), designed for Ceramica Sant'Agostino. The 12" square tiles can be specified with faux-grout recessed edges on anywhere from one to all four sides or none at all, to create desired grids and compositions. Eight colors in glossy, matte, or chrome finishes are available through Nemo Tile. [nemotile.com](http://nemotile.com) CIRCLE 207



## Chinois by Robert Kuo

Beijing-born Robert Kuo infuses his Chinois tile collection (above) for Ann Sacks with elements of traditional Asian craftsmanship. After researching Song Dynasty pottery, Ann Sacks developed a proprietary glaze and a firing technique to reproduce the satiny shades found in the period's objects. Kuo's seven designs, all based on Chinese motifs, range from depictions of mountain topography to Toad Skin, which alludes to the good fortune associated with a three-legged toad. [annsacks.com](http://annsacks.com) CIRCLE 211



## Colore & Colore

Hastings Tile & Bath has introduced Colore & Colore (right), a solid-color wall tile line from Italian manufacturer Ceramica Bardelli. Available in 36 hues—from neutral and quiet to bold—the tiles are produced in eight dimensions from as small as 2" square to as large as 16" square, offering greater flexibility for pattern and color composition. [hastingstilebath.com](http://hastingstilebath.com) CIRCLE 210



## Scraffito

For its Scraffito series (left), Pratt & Larson revives an ancient technique of creating a sketchlike pattern by scratching the surface of a tile to reveal a contrasting color. The collection's four designs draw on Arabic and medieval European motifs, and are hand-carved and then finished in a monochrome or polywash (two-color) glaze. Standard sizes are 5" x 10" or 8" square. [prattandlarson.com](http://prattandlarson.com) CIRCLE 208

## Color-It

Fireclay Tile applies a coloring-book concept to its online customization tool, Color-It. Designers and consumers alike can choose any of the intricate patterns in the Moroccan and Mexican-inspired Cuerda Seca line (below) and then use the web-based tool to select one of 80 colors for each section. The tiles are printed with the pattern outlines and then hand-glazed in the custom colors by artisans in Portland, Oregon. [fireclaytile.com](http://fireclaytile.com) CIRCLE 209







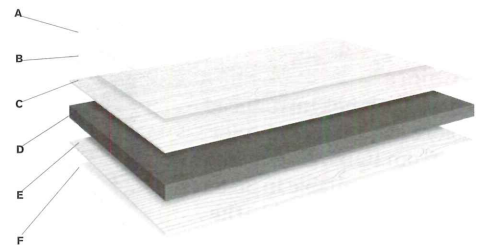
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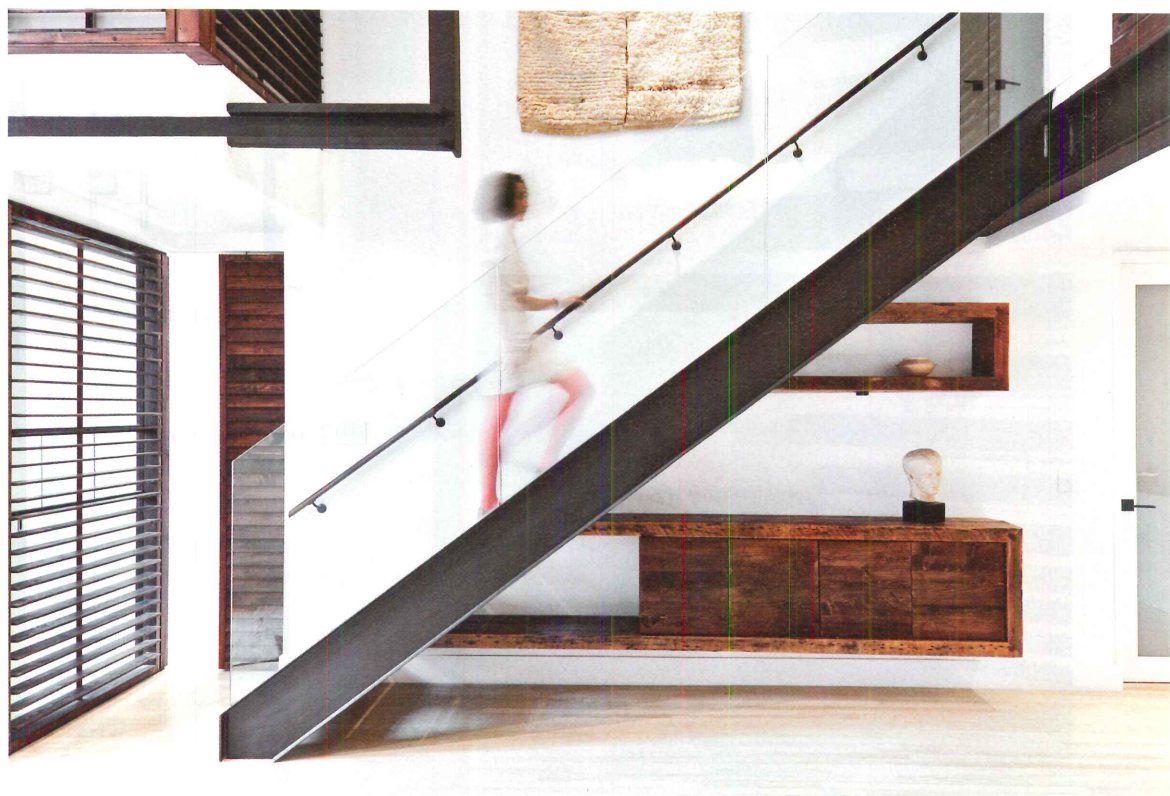
# A Loft Grows Up

With a nod to her South Asian roots, New York City-based designer Suchi Reddy and her team at Reddymade Design exploit the potential of a New York City loft, using louvers and light.

BY LINDA C. LENTZ







**OPEN AND** airy, the apartment on Manhattan's East 12th Street was a real find in the late 1980s, when the building it occupies, a former auction house (circa 1889), was developed into condominiums. Its 24-foot-wide by 42-foot-long double-height space—enormous by New York standards—included a mezzanine sleeping loft above the kitchen and foyer. And its eclectic Mediterranean-style decor, with its arched wall niches and rustic tile, was all the rage. But times change, and when the current owner, a California-based model with a young daughter, decided to try bicoastal living, she wanted more privacy than the layout would allow. She also wanted a new look.

The challenge was how to accomplish these things without compromising the openness of the existing volume and its wall of big arched windows, says designer Suchi Reddy, principal of New York-based Reddymade Design. Her approach was straightforward: strip the room of its awkward and dated details, reposition the stair, and extend the sleeping loft along one side of the room to accommodate a second bedroom up top. Initially, she wanted to create a minimalist space, all white and divided by flowing swathes of felt that could be pushed aside like draperies—a nod to her client's fashion sensibility. But as the crew began demolishing the narrow stair and built-out walls, they exposed a raw steel beam. "When I saw the steel, I realized that the bones of this space were so beautiful, we had to make them central to the design," Reddy recalls.

What evolved is a loft that is at once serene and industrial, with a judicious exposure of structure within the pristine space. "The idea was to leave the elements and let the materials speak for themselves," says Reddy. So instead of tucking the stair back into a corner, she brought it into the main space, transforming it into a sculptural element, with an assertive steel stringer softened by reclaimed wood treads and a glass balustrade that don't interrupt the room's expanse.

Reddy rid the space of awkward details such as wall niches, exposing select beams and columns she coated with intumescent paint (left). New steel was added to repair and extend the mezzanine for a second bedroom upstairs and new study/guest room below, which can be closed off by stacking doors (center). The repositioned stair comprises a steel stringer, enriched with reclaimed-wood treads and a transparent glass balustrade (above). Operable wood shutters, backed by glass panels that operate as dividers, manage noise and privacy.





While Reddy renovated the kitchen, she left it in place, then reconfigured the rest of the apartment to improve circulation and functionality. She added a half-bath where the old stair was located and rebuilt the mezzanine, carving a new master bath, storage, and laundry nook around the master bedroom. To avoid stealing from floor space to extend the loft, or blocking daylight, Reddy used a cantilever to create the required second bedroom—a strategy doubly rewarded by carving out an additional study/guest room below.

Discarding the notion of draperies as room dividers, which would have been too informal for a mother and daughter, Reddy recalled the rich woods and shutters of her youth in Chennai, India. Working with her team, she devised a system of operable louvers that provide privacy and filtered light where necessary. Made of sealed reclaimed wood, like the stairs, most of the shutters are fixed in place and have glass panels (some operable) behind them for sound control. The designer even inserted a shutter into the study's ceiling, a lovely detail that allows sunlight from the windows to pass through a glass panel in the wall of the new bedroom upstairs.

Through careful editing and the infusion of elements from other cultures, Reddy presents a fresh perspective on the urban loft—a global one. And why not? she muses. "It is how our world is now." ■

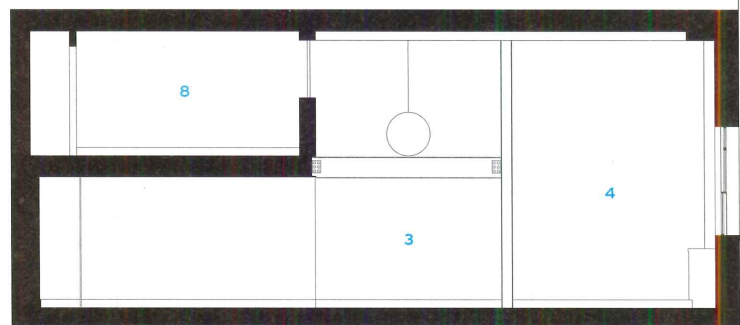


MEZZANINE LEVEL

MAIN LEVEL 0 10 FT. 3 M.



SECTION A - A



SECTION B - B

0 10 FT. 3 M.

In keeping with her material scheme, Reddy designed a credenza and wall shelf to align with the stairs. Made out of the same reclaimed wood, these functional elements appear to float from the treads above the bleached oak floor.

- |               |                  |
|---------------|------------------|
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| 2 KITCHEN     | 7 CLOSET         |
| 3 DINING AREA | 8 BEDROOM        |
| 4 LIVING AREA | 9 LAUNDRY CLOSET |
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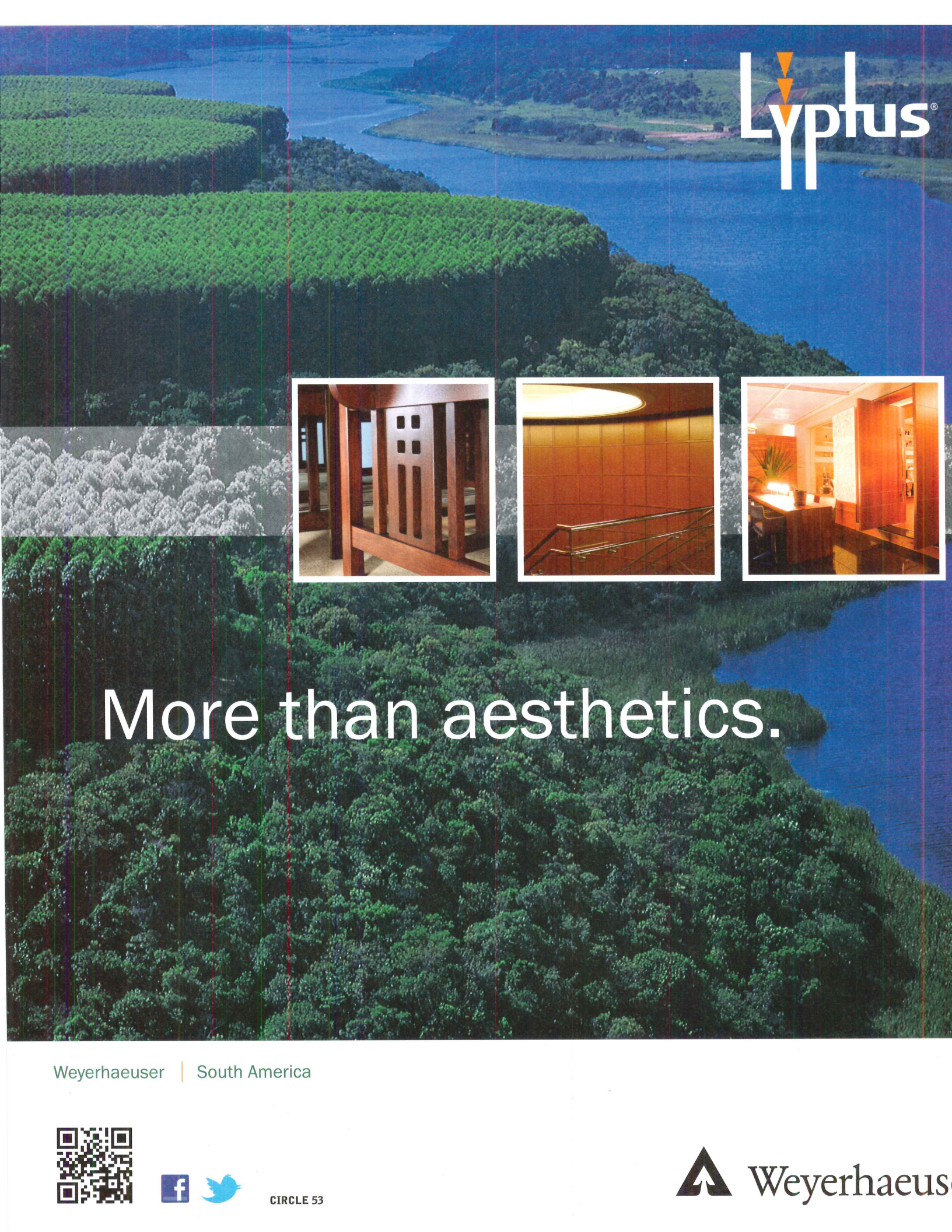


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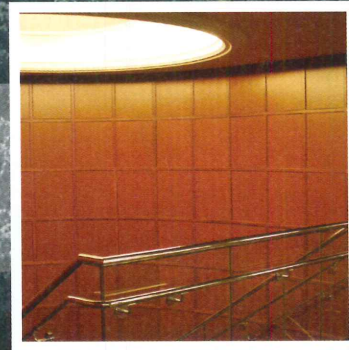
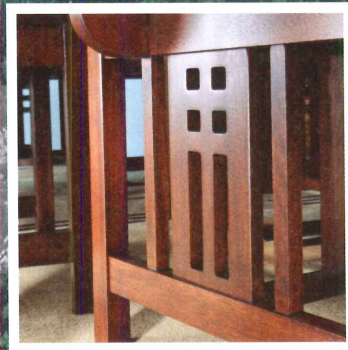
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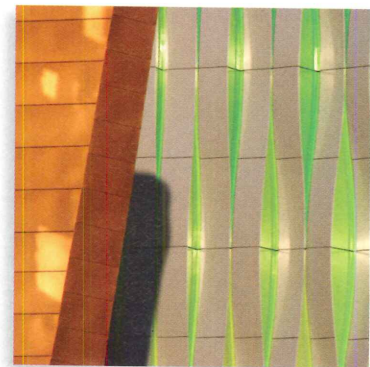
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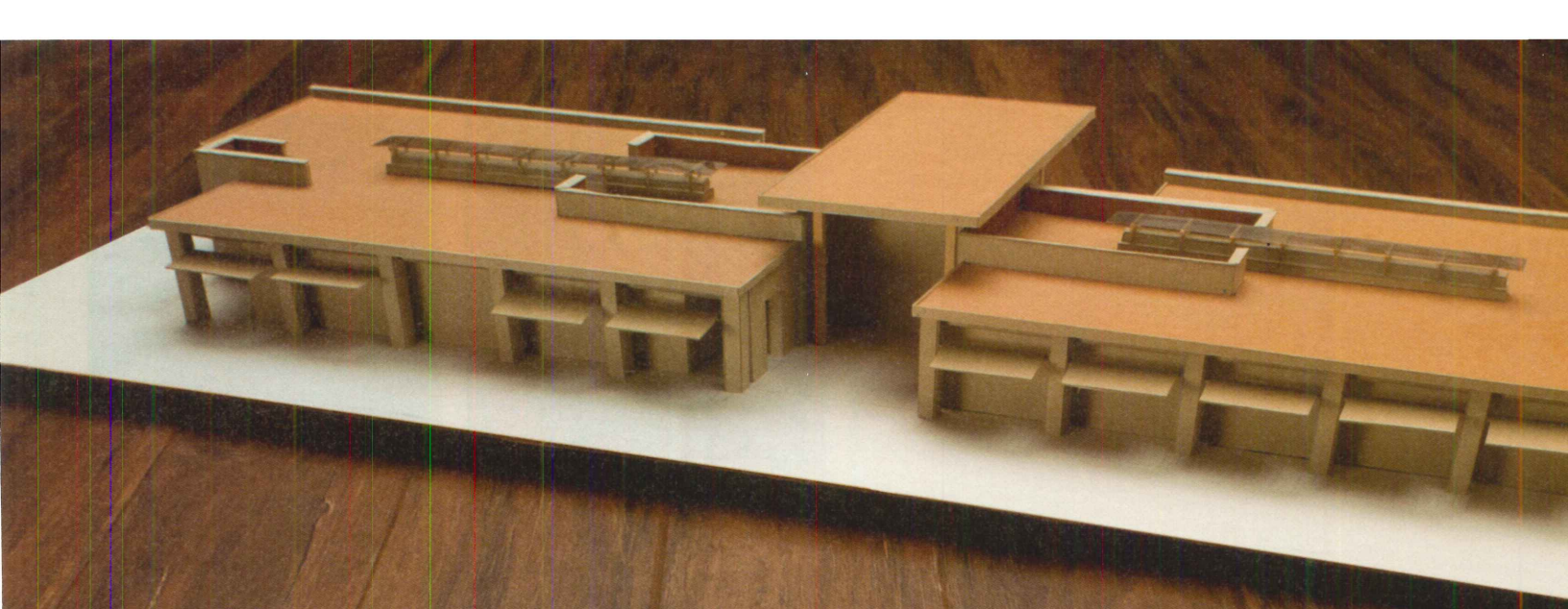
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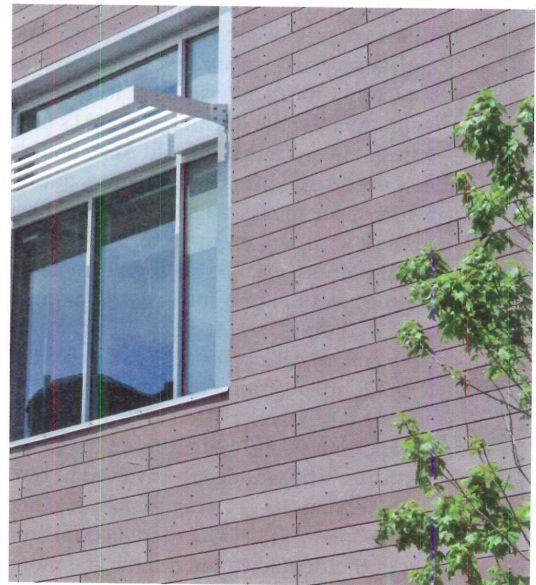


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**[öko skin]**  
BY RIEDER



# 2013: An Office Space Odyssey

Architects Hitoshi Abe and Peter Ebner help 3M rethink the way its employees work, taking the company and its headquarters on a journey into the future.

BY CLIFFORD A. PEARSON

**MORE THAN** just Post-it notes and Scotch tape, 3M produces a vast array of items—electronic stethoscopes, solar mirror films, abrasives—and likes to think of itself as an innovative company. But until recently, its headquarters in St. Paul was stuck in the 1970s, its offices a throwback to an era when you programmed a computer with punch cards and used a slide carousel for presentations. This time warp separating appearance and reality sent the wrong message to both the company's staff and visitors to its offices.

In 2010, George Buckley, then 3M's president and CEO, brought in architects Hitoshi Abe and Peter Ebner to inject a new dynamism into the company's dowdy workplace. He had heard Ebner speak at a 3M event, and Ebner then asked Abe to work with him on the project. 3M's campus, with 50 mid-rise buildings, was too big for a complete overhaul, so the strategy was to jump-start change at critical locations within a five-building core. Abe and Ebner, who have separate practices but are colleagues at UCLA, needed to shake things up without undermining the company's successful work culture. "In our business, we often look to disruptive ventures to advance our goals," says Stefan Gabriel, president of 3M New Ventures, who was deeply involved in the design project.

Reflecting the growing importance of collaboration in the way people work, 3M focused its effort on getting employees out of their cubicles and interacting more with each other. In 2000, Abe had developed a plan for Sony's headquarters in Tokyo. Although that project didn't move forward, it got him thinking about the new workplace. "In an age when we can work anywhere, how do we create physical places where people want to be and where they can be more productive?" asks the Los Angeles- and Sendai, Japan-based architect.

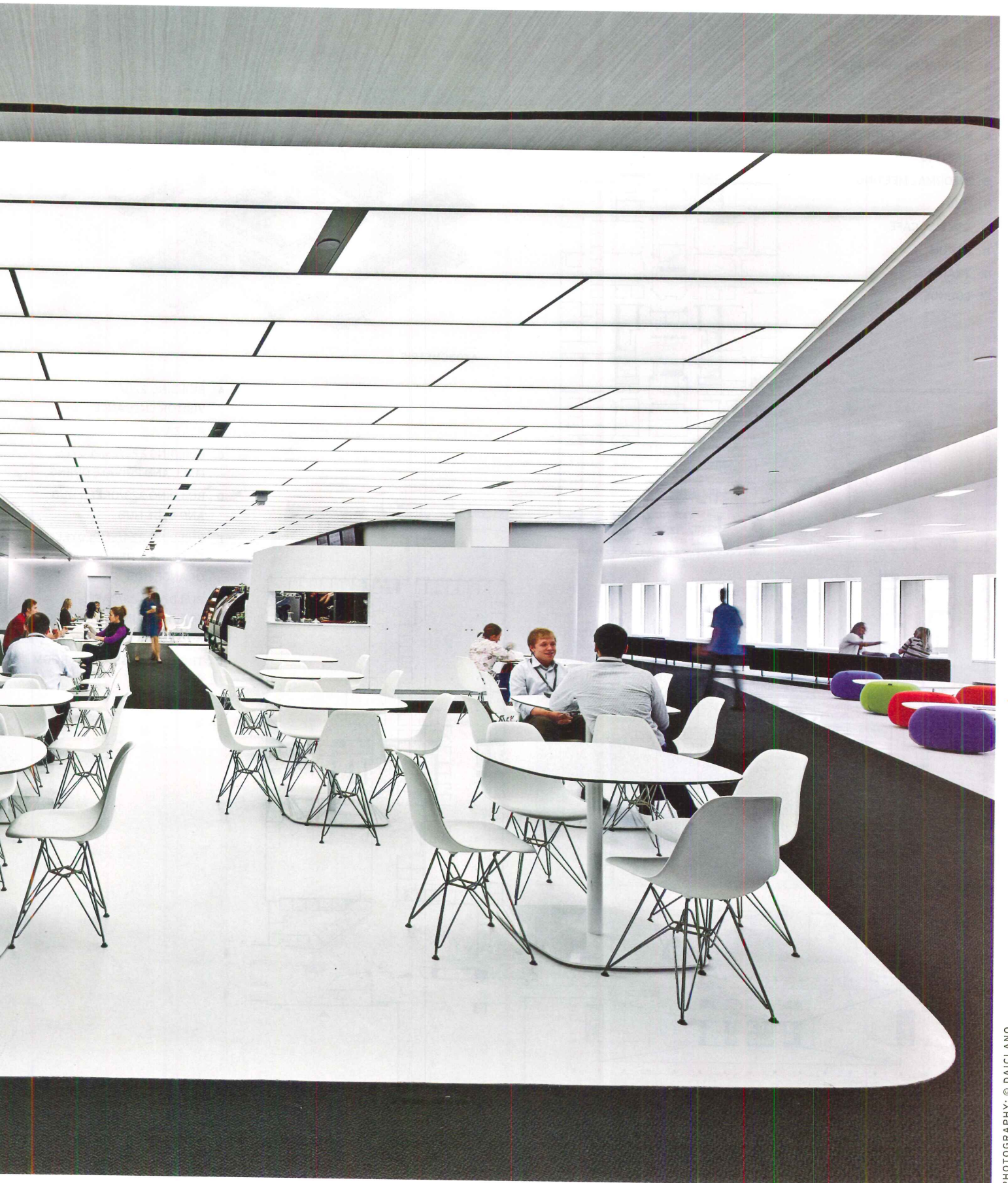
Abe and Ebner worked together on a master plan for the heart of the 3M campus, then divided responsibilities for renovating the interiors. When they started on the project, the five core buildings—identified in deadpan Midwestern fashion by numbers (220, 222, 223, 224, and 225)—surrounded a visitors parking lot and were connected on their second levels by enclosed skywalks. The architects proposed turning the parking lot into a landscaped plaza and creating a new

## OPPOSITES

**ATTRACT** Hitoshi Abe drew employees to Building 225, at the northern end of the complex, by creating a futuristic café with a lounge on the side facing the plaza (right in photo) and an assembly room called the Forum on the other side. Contrasts in color, lighting, and material give the spaces a bold allure.

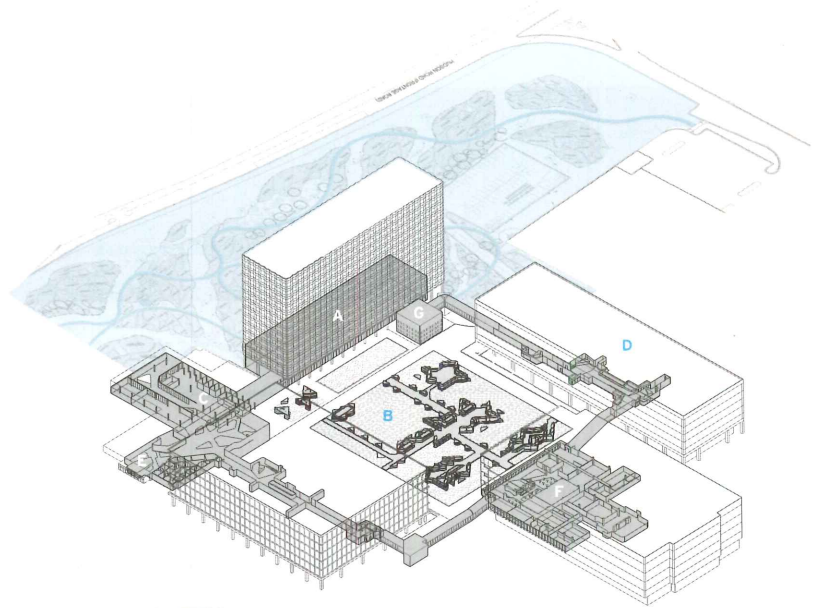




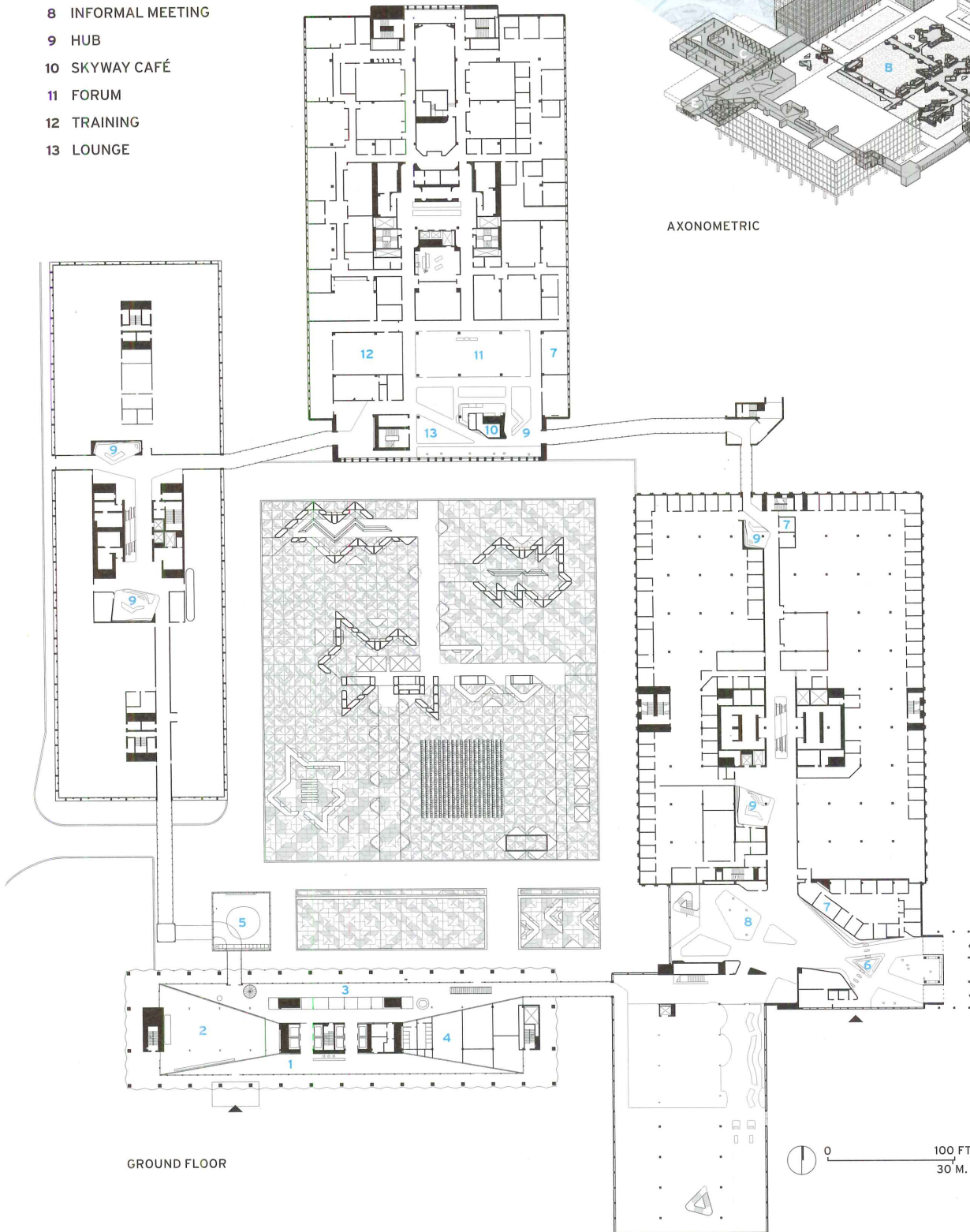




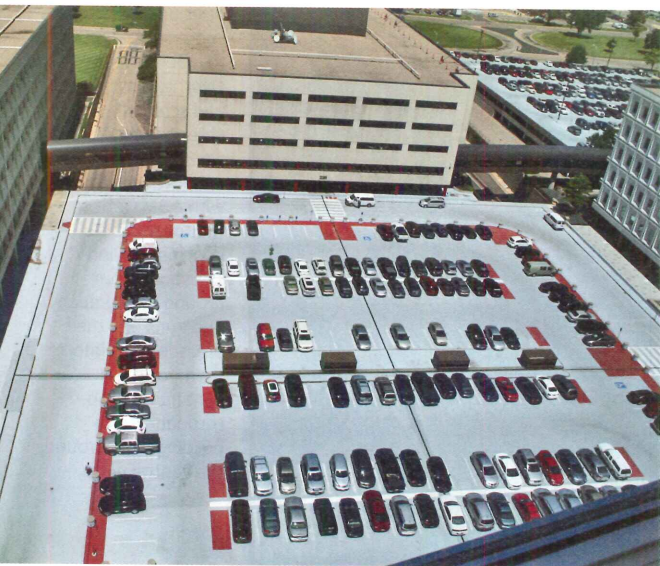
- 1 VISITOR RECEPTION
- 2 MULTIFUNCTION
- 3 INDIVIDUAL WORK AREA
- 4 MEETING
- 5 THE EXCHANGE
- 6 EMPLOYEE ENTRANCE
- 7 MEETING
- 8 INFORMAL MEETING
- 9 HUB
- 10 SKYWAY CAFÉ
- 11 FORUM
- 12 TRAINING
- 13 LOUNGE



- A BUILDING 220/  
VISITOR ENTRANCE
- B PLAZA
- C BUILDING 222/EMPLOYEE  
MALL AND PRIVATE DINING
- D BUILDING 223/GREEN HUB  
AND BLUE HUB
- E BUILDING 224/EMPLOYEE  
ENTRANCE, RED HUB AND  
ORANGE HUB
- F BUILDING 225/CAFÉ,  
FORUM, LOUNGE, TRAINING,  
AND BLACK HUB
- G THE EXCHANGE/MEDIA ROOM







**COMMON GROUND** Abe and his team transformed a visitors' parking lot (above) at the center of the site into a plaza shared by all the surrounding buildings. Concrete benches and planters divide the large space into a set of outdoor rooms (top), while lighting underneath the concrete elements produces a warm glow in the evening (right).





**MAKING CONNECTIONS**  
Five different "hubs," each coded by a particular color (above and left), offer unprogrammed spaces for people to meet or relax. Overhead monitors and screens embedded in the work surfaces keep employees in touch with a 3M website that provides information and messages from around the company. The hubs and the areas leading into them form a continuous loop through all five buildings and around the central plaza.



main entrance on the south side of Building 220.

Moving visitor parking to lots just beyond the central core raised some eyebrows, but the scheme—wisely—didn't mess with employees' spots in the existing garage below the plaza. Though some 3M executives questioned the usefulness of a large outdoor space in a city with long winters, Abe convinced them of its importance. "The plaza is critical to the project," states Abe, "because it ties everything together, and all the buildings look onto it."

Abe, who designed the space, used planters to establish a series of outdoor rooms that encourage 3M employees to get out of their offices. Concrete benches attached to the planters and freestanding tables and chairs invite people to hang out or bring their laptops. Instead of specifying stone or concrete pavers, Abe used a 3M traffic tape that's usually applied to roads. Cut into black, white, and yellow triangles and parallelograms and laid onto concrete pavement, the tape creates a jazzy pattern inspired by Chinese puzzles called tangrams. Lighting on the underside of the planters and benches creates a warm glow in the evening.

Meanwhile, Ebner designed a new visitor entry sequence, including a winding drive, rolling landscape, and a crescent-shaped canopy that softens the sharp edges of Building 220, a 1962 structure by Ellerbe Becket that is the tallest on the campus. He also transformed the first two floors of the building, creating a sleek new reception area and a set of glass cubes that serve as meeting rooms facing the plaza. Between reception and the glass cubes, he inserted larger meeting rooms and a multifunction space that seats 350 people. On the second floor, he created a long open space for collaborative work on the plaza side of the building and furnished it with a 138-foot-long table.

"Building 220 was a bad copy of Mies," says Ebner, "so I tried to give it a better Miesian spirit." Opening up the interiors and elegantly detailing new elements, such as the glass cubes and a white stair to the second floor, were key parts of that strategy. "With Mies, you always get a sense of generosity at the entrance," explains Ebner.

To balance the transparency of his spaces in Building 220, Ebner designed a small adjacent structure that's more



**INSIDE OUT** Peter Ebner designed a new canopy for the south side of Building 220 where visitors now pull up (above). He also designed the landscaping in front of the building, as part of the entry sequence. On the first floor, he created a series of glass cubes that serve as impromptu meeting rooms, adjacent to a long space that faces the plaza and provides a variety of furniture for individual work sessions or socializing (left). From the ceilings of the glass cubes, he suspended vertical panels of a 3M acoustical material, instead of applying it horizontally.



**CUBIC LOGIC**

A boxy structure designed by Ebner and his firm stands in the plaza where the old visitors' entrance had been and serves as a dramatic space for important presentations and meetings. Curtains can be closed during presentations and a tall media wall (not seen in photo) is equipped for video conferences.

opaque—a box with punched windows that replaces the old visitors' entry on the plaza side. Called the Exchange, it serves as a high-tech meeting room for video conferences and digital presentations.

While Ebner reconfigured Building 220 and the visitors' entry experience, Abe addressed Buildings 222, 223, 224, and 225 and the movement of employees into and through the complex. Given a lot of real estate and a limited budget, he determined that he could have the greatest impact by reimagining the second-story skywalks and the spaces feeding into them as places for social interaction, not just circulation.

In the past, employees arrived at a number of different locations and dispersed throughout the complex. To bring everyone together at the start and end of the day, Abe created a new entrance in Building 224 and closed most of the others. The Jetsons-meets-Zaha design immediately alerts personnel that this is not their father's 3M. As soon as they get through security, they now find a series of spaces furnished with various tables and chairs for casual and impromptu meetings. Instead of setting these spaces apart with walls or steps, the architect merely changed the flooring material and lowered the ceilings, which employ a 3M product that diffuses LED light to make a uniform, glowing surface and gives the appearance of skylights. (Abe and Ebner were challenged by the client to specify as many 3M products as possible, but apply them in inventive ways.)

Using the same futuristic vocabulary as he did at the entry, Abe carved out a "necklace" of social spaces flowing through the second floor of the old buildings and studded it with five color-coded "hubs" equipped with sleek, molded seating, interactive screens embedded in work surfaces, and

suspended monitors displaying communications from 3M employees around the world. In Building 225, he designed a large café with lounges and training rooms around it—a cluster of spaces that serves as a magnet for workers from across the complex. "We used to have a set of buildings, connected by skyways, that felt like an airport," recalls Ian Hardgrove, a 3M senior vice president. "Now we have this remarkable place that positions us as an innovative company."

The project opened piecemeal from fall 2012 to spring 2013. By July 2013, 3M personnel were still adapting to the new architecture. Some of the hubs and social spaces were thick with people working in teams and on their own, while others—including the plaza—seemed under-utilized. So the company has started holding events in the outdoor space, including a farmers' market and afternoon jogs. While pieces of the complex may still evolve, the redesign as a whole demonstrates a new attitude on the part of 3M: that it is willing to take risks, bring in talent from different parts of the world, and integrate digital technologies into its mission. Good design can't fix everything, but it helps send the message of change. ■

## credits

**ARCHITECT (BUILDINGS 222, 223, 224, 225, AND PLAZA):** Atelier Hitoshi Abe – Hitoshi Abe, Pierre De Angelis, Jeremy Fletcher, Tim Do, Nathan Smith, Midori Mizuhara, Rafael Sampaio, Manabu Leventhal, Peter Welch, Kentaro Yamada

**ARCHITECT (BUILDING 220):** Peter Ebner and Friends – Peter Ebner, Sam Chermayeff, Johanna Meyer-Grohbrügge, Thomas Kosiec, Philip Stalbohm, Alexander Menke, Jennifer Schikora, Lena Bertram

**ARCHITECT OF RECORD:** Meyer Scherer & Rockcastle

**ENGINEERS:** Meyer Borgman Johnson (structural); Sebesta Blomberg (m/e); TKDA (civil)

**OWNER:** 3M

**GENERAL CONTRACTOR:** PCL Constructors

**SIZE:** 260,000 square feet (total project)

**COMPLETION DATE:** Fall 2012–Spring 2013

**SOURCES**

**CUSTOM FURNITURE:** Corian

**PLAZA SURFACE:** Stamark by 3M

**AMBIENT LIGHTING:** Light Mat by 3M

**RECESSED LIGHTING:** Light Mixing by 3M



# LP

## icon mini post top

**Design:** Mads Odgård. LP ICON MINI POST TOP provides mainly direct downward illumination. In the opal version the shade is lit up from within and creates a soft diffuse upwards light. In the basic version the shade is opaque. Depending on the choice of reflector, the downward lighting characteristics will vary. The reflector types have been designed in three variations to provide either asymmetrical or symmetrical distributions of light. LED version coming soon.



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Photo: Jacob Termansen



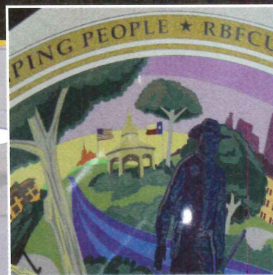
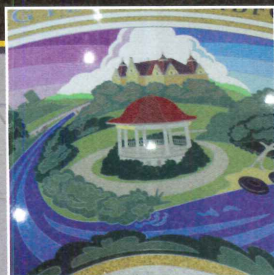
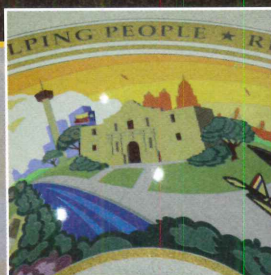
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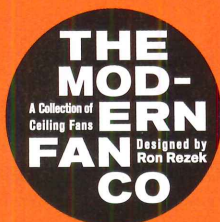
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CIRCLE 42



# RECORD INTERIORS 2013

Welcome to RECORD's annual exploration of the world of architectural interiors, an issue that celebrates the inventive manipulation of space and materials to shape atmosphere and functionality. This year's seven winning projects all exhibit an artisanal quality that wowed the editors. From a dazzling jewelry shop made with gold-tinged stainless steel, to a fabric warehouse divided by ethereal glass panels, to an accessible loft lined in rough-sawn oak, each was designed by a firm with a strong point of view. They dare to take risks and surprise us by mixing styles and playing with craft, while at the same time more than fulfilling their clients' objectives.

URCA PENTHOUSE, RIO DE JANEIRO  
TOLLESON DESIGN STUDIO, SAN FRANCISCO  
RELOJERIA ALEMANA, MAJORCA, SPAIN  
LOFT MM, BILZEN, BELGIUM  
ART GALLERY AND FOUNDATION, HONG KONG  
WALL FABRICS, AUCKLAND, NEW ZEALAND  
MERCATO BY JEAN-GEORGES VONGERICHTEN, SHANGHAI



Urca Penthouse | Rio de Janeiro | Studio Arthur Casas





# MACHINE FOR VIEWING

The renovation of the top floors of a 1960s apartment building created in an airy triplex with breathtaking panoramic views of Rio de Janeiro.

BY TOM HENNIGAN



“In Rio, the landscape comes to you,” Brazilian architect Arthur Casas says about his commission to renovate a penthouse apartment in Rio de Janeiro’s Urca neighborhood. Casas, who has an office in São Paulo, plus one in New York City, had quite a landscape to work with. The rear of the apartment looks southeast onto Sugar Loaf Mountain; the front faces west to the forested mountain ridge that culminates in the Cristo Redentor (Christ the Redeemer) statue on Corcovado Mountain; to the north, residents have long vistas across Guanabara Bay.

An avowed modernist, Casas was ideally suited to designing the spec residence, which sets off the sensuous landscape to stunning effect, for a London property investor. The architect, known for his light, planar volumes, and stringency of line, graduated from São Paulo’s Mackenzie Presbyterian University in 1983. As a product of the city’s distinct *Paulista* school (a term for those influenced by, among others, Pritzker prizewinner Paulo Mendes da Rocha and his concrete architecture), Casas says, “Our architecture in São Paulo is different from Rio’s, because we use a straighter line while *Cariocas* use more curves.” But he acknowledges that his firm, Studio Arthur Casas, owes much, as well, to the late Rio-born architectural giant Oscar Niemeyer, who died last year at 104. “Before Niemeyer, Brazilian architecture was inward-looking,” he says. “Niemeyer’s transparency of material and his feeling for the landscape was more influential than his use of the curved line.”

**LAYERED LOOK** Architect Arthur Casas exploited views of Rio and amplified the sense of space and light in the apartment through strong rectilinear elements, expanses of glass, and a predominantly white color scheme. Pottery figures by the Brazilian artist Irinéia add whimsy to the main living level (left), which occupies the middle floor of the triplex. The cost for renovation and new construction was \$1.8 million.



The five-story, poured-in-place concrete apartment building was one of several low-rise residential blocks built in the 1960s along the quiet seafront. Later, stricter building codes were instituted to protect this urban oasis of calm from the unruly high-rise development that scarred much of the city. Although the actual dwelling had been a duplex—a fourth-floor apartment integrated with the penthouse above—Casas wanted to create a triplex. Since the building's height could not be altered, the architect worked with the space around the roof's water tanks and the elevator housing to create a bird's nest of a master bedroom. It is invisible from the street because of wood sun decks located at the perimeter.

Since the building is flanked by similar structures, a major challenge was to bring more light into the apartment's interior. Casas organized the three levels around a central-stair hall topped by a generous skylight. He placed the main entrance, along with the living and dining areas, on the middle level, sandwiched between the lower level—for three guest rooms and staff quarters—and the upper, rooftop, master-bedroom suite. The natural illumination filtering down through the three floors is enhanced by a glass floor in the top level of the hall and glass balustrades edging the staircase. Several more skylights in the living room allow light to pour in from the sun deck above and permeate the far reaches of the interior.

Invariably, the visitor's gaze is drawn to the views of the sky, water, and iconic mountains that pervade the rooms of this 7,180-square-foot apartment, where the sun's tropical intensity is cooled by white walls and limestone floors. Even the bathrooms have glass partitions dividing them from the bedrooms to allow the residents to enjoy the scenery as they soak in the tub.

The previous dwelling, unoccupied for some time, was in poor condition. Since the original plans were unavailable, Casas's team gutted the unit, save for its concrete structure. This led to some discoveries, such as the presence of tubular V-shaped columns on the middle floor, which Casas decided to expose, since they are closely associated with Brazilian architecture of the 1950s and '60s. For the renovation's new structural requirements, Casas switched from concrete to steel, now more common here.

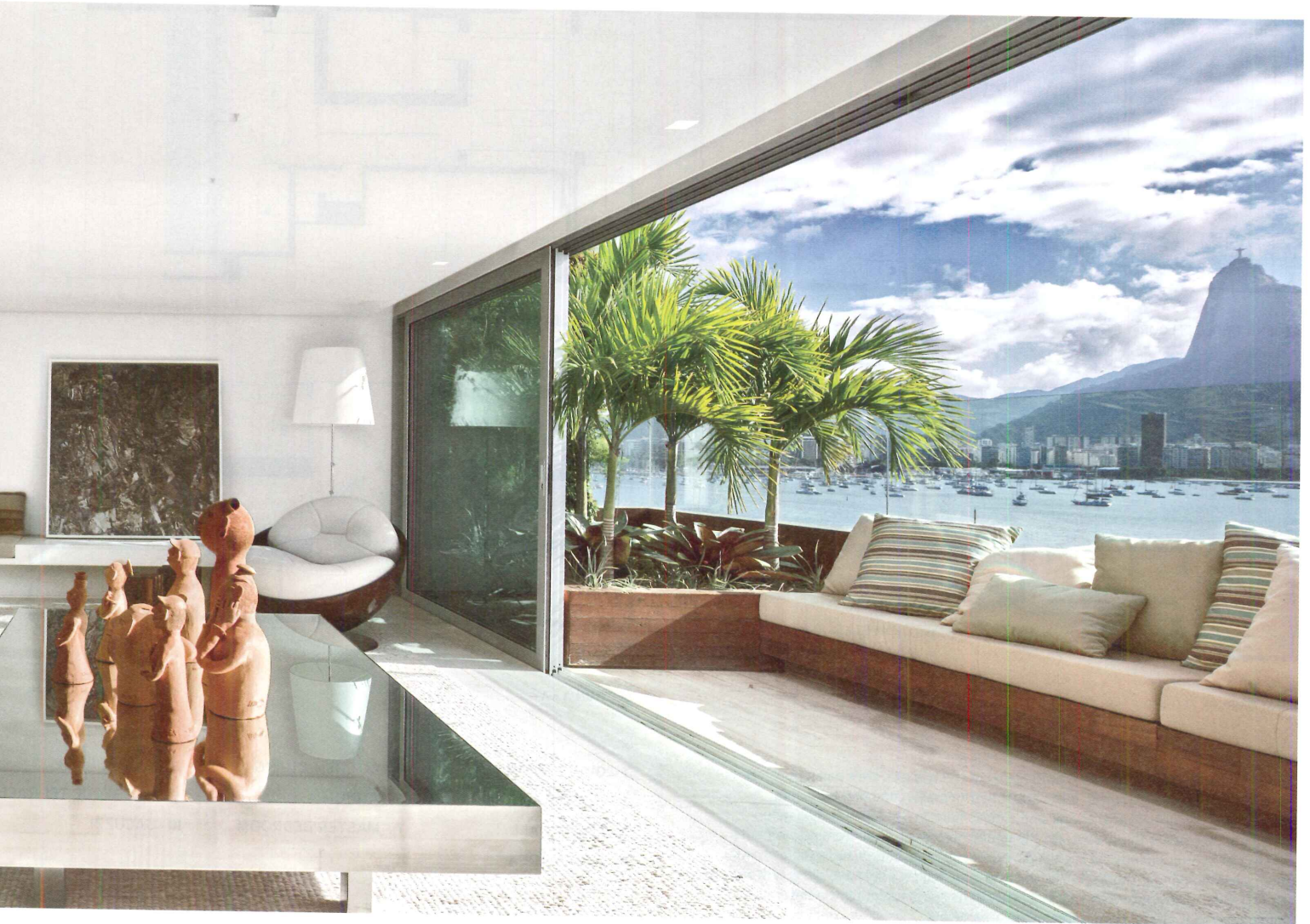
The result is a triumphant integration of space, light, and rectilinear structure, all devoted to capturing the astonishing views. With this expansive apartment, Casas has composed a modernist sonata to one of the world's most spectacular cities. ■

*Tom Hennigan is the South America correspondent of the Irish Times, based in São Paulo.*

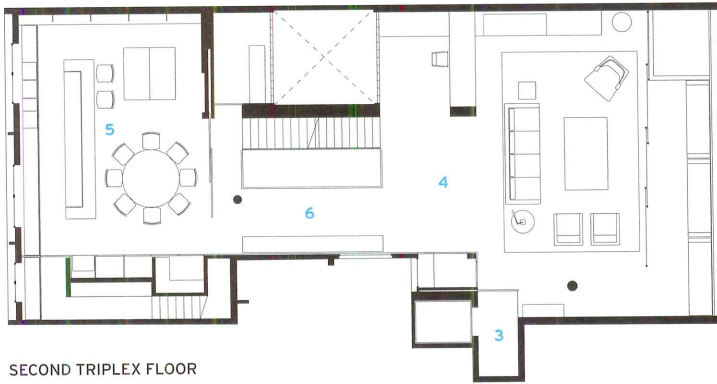
**HORIZONTALITY REIGNS** The living room (right, top) yields views to the west, toward Corcovado Mountain, topped by the statue of Christ the Redeemer. Daylight filters down into this space from glass-bottomed pools in the top floor of the triplex and from a large skylight over the central-stair hall. On the opposite side of the main level is the kitchen and dining area (right, bottom). Here, continuous planes for wood shelves and counters and limestone floors offer a natural counterpoint to the smoke-finished matte metal surfaces of the cooking area and the white walls and ceiling. The master bedroom on the top floor (opposite, bottom) faces southeast toward Sugar Loaf Mountain, and glass partitions between the bedroom and master bathroom bring the views and daylight into the interior. Casas located guest rooms on the lowest floor of the triplex, along with staff rooms and service areas.











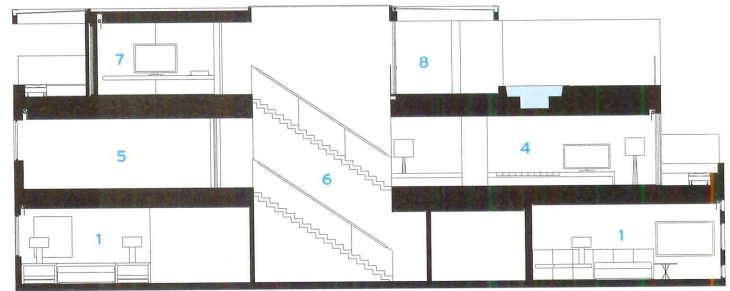
SECOND TRIPLEX FLOOR



THIRD TRIPLEX FLOOR



FIRST TRIPLEX FLOOR

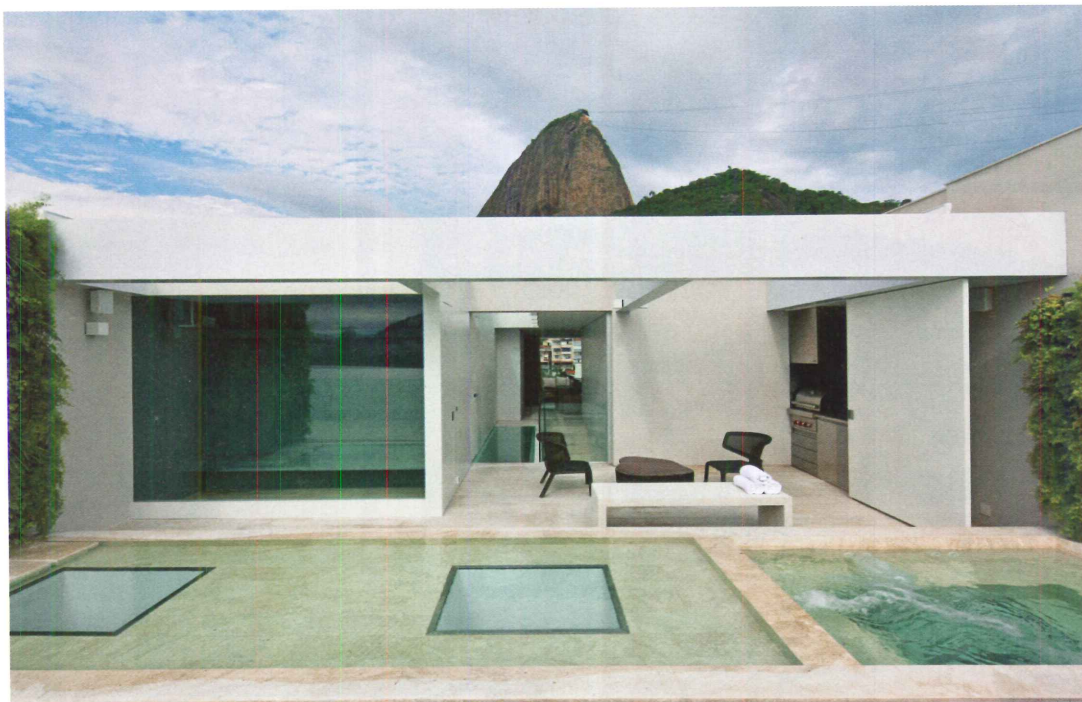


SECTION A - A



**SPATIAL INTERPLAY** From the lowest level of the triplex's stair hall (opposite), the visitor can catch glimpses of the guest bedrooms beyond and the living area above. Skylights over the stair and a glass floor in the top stair hall help daylight to permeate the spaces. On the uppermost level, steel framing elements create an open-air canopy for the sauna, barbecue area, and Jacuzzi (below), with Sugar Loaf looming at the back. The Jacuzzi and shallow pool have glass bottoms to create three skylights with vitreous reflections supplementing the natural illumination that filters down to the living area below.

- |               |                  |                    |
|---------------|------------------|--------------------|
| 1 GUEST ROOM  | 5 KITCHEN/DINING | 8 SAUNA            |
| 2 STAFF WING  | 6 ATRIUM         | 9 BARBECUE TERRACE |
| 3 ENTRY HALL  | 7 MASTER BEDROOM | 10 JACUZZI         |
| 4 LIVING AREA |                  |                    |



credits

**ARCHITECT:** Studio Arthur Casas – Arthur Casas, principal in charge; Milena Chieco, Flávia Castellan, Joana Pini, architects; Renata Adoni, Bruna Rizzi, interior designers

**ENGINEERS:** Edatec (structural); Equilibrium (electrical and plumbing)

**CLIENT:** Rumi Verjee

**GENERAL CONTRACTOR:** Osborne Construtora

**SIZE:** 7,180 square feet

**COST:** \$1.8 million

**SOURCES**

**SOLID SURFACE:** Silestone

**PLASTIC LAMINATE:** Formica

**BATH FIXTURES:** Duravit

**PLUMBING FIXTURES:** Deca, Hansgrohe

**FLOOR AND WALL TILE (SPA):** Bisazza







Tolleson | San Francisco | Huntsman Architectural Group

# BARING IT ALL

A design team peels back the layers to ease a 100-year-old former dance hall into the more reserved office life.

BY LAMAR ANDERSON

PHOTOGRAPHY BY DAVID WAKELY

In Prohibition-era San Francisco, bootleggers routed their liquor to speakeasies via tunnels underneath Barbary Coast, the city's once-thriving red-light district. One of those passages led to the basement of 560 Pacific Avenue, a 1910 timber-frame structure that began its life as a supper club, saloon, and dance hall (and later served as a showroom and warehouse for the Amtico flooring company). Today that tunnel, long since sealed off, lies beneath the more rule-abiding neighborhood of Jackson Square, where spiffy law firms, antiques dealers, and ad agencies make their money in the daylight hours.

The latest renovation of 560 Pacific, by the San Francisco-based practice Huntsman Architectural Group, is an understated bookend to the block's boisterous history. In January 2012 the creative branding agency Tolleson left a diminutive office a few blocks away and moved into the building's top floor, tripling their original space. Principal and creative director Steve Tolleson selected the address, whose airy interior is dominated by an exposed-timber roof structure, in part for its unvarnished atmosphere—a favorite quality of his former office, also in a wood-and-masonry building, which the Huntsman group had adapted in 1998. "Once you go into a brick-and-timber building, it becomes part of your culture," says Tolleson. "There's a warmth to it."

Notably for the Bay Area, where "creative" is frequently conflated with "playful," the Huntsman team makes the case for subtlety and restraint. When the architects began the project in the summer of 2011, they envisioned a quiet renovation that would call attention to the existing structure and would serve as an elegant backdrop to a few elements of color in the furnishings and artwork.

First, though, they had to rekindle the warmth of all that timber and brick. A prior renovation had hidden the natural finishes beneath layers of white paint. The owner-developer, Birmingham Development, set about restoring the shell while the Huntsman team began construction on an 11,000-square-foot office with a new loft level. Birmingham bead-blasted the wood and brick, added steel crossbracing for seismic support, and removed a central portion of the timber structure to make way for the new top floor. The architects extended the







**TAKE IT OFF** In San Francisco's former red-light district, the architects undressed the timber roof structure of a 1910 building, which had been painted entirely white. A row of white-lacquered custom millwork doors (above) pivot open to reveal the main conference room.





**STRONG FINISH**  
Huntsman warmed up the interior with a palette of woods. A double-height accent wall in fumed oak separates the main conference room and reception (left). For the new loft, Tolleson brought in custom millwork desks edged in hot-rolled steel from their previous office, also designed by Huntsman (opposite, top). On the main level, the conference room opens onto a denlike lounge crowned by an oversized wood-veneer lamp (opposite, bottom).

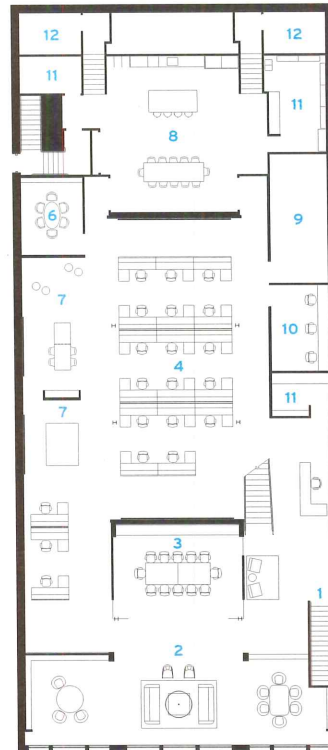
loft several feet beyond what Birmingham's original plan mandated to accommodate a private office upstairs for Steve Tolleson and a conference room underneath. A new skylit stair with a simple railing of steel and metal mesh connects the two levels.

The designers further carved up the ground floor by inserting walls to close off a video-editing suite, photography studio, and private meeting room, but they kept the timber visible throughout. Instead of adding dropped ceilings to conceal ductwork and messy remnants of the roof structure, they worked with Birmingham to route HVAC conduits away from visual focal points, and painted cluttered portions of the ceiling white. The goal, says Huntsman principal Bill Puetz, wasn't to hide the building's guts but to incorporate them in a graceful way, while leaving the ceilings as high as possible.

In keeping with the raw look of the exposed timber, the architects opted for reclaimed barn wood for much of the flooring, as well as for a pair of double-height accent walls bracketing the conference room. "The concept was, 'What would have been here if it had never been torn out?'" says Puetz.

To boost the longevity of the design, the Huntsman team kept the finishes relatively quiet and concentrated the color and pizzazz in the furnishings, which can be changed at any point to freshen the interior. In the kitchen, green and blue molded-plastic Eames chairs pop against the white stone countertops and walnut cabinets. And at the office's entrance, a lounge with low-slung blue sofas and a library stocked with a color-coded rainbow of books plays off the conference room's white-lacquered millwork doors. With a light touch, the architects have given the old dance hall-turned-warehouse a modern polish, even as they turned back the clock. ■

Lamar Anderson is a San Francisco-based writer and a contributing editor at RECORD.



MAIN LEVEL



UPPER LEVEL



- |              |                        |                                   |
|--------------|------------------------|-----------------------------------|
| 1 RECEPTION  | 6 MEETING              | 11 MECHANICAL/SERVICE/<br>STORAGE |
| 2 LIBRARY    | 7 COLLABORATIVE AREA   | 12 RESTROOM                       |
| 3 CONFERENCE | 8 KITCHEN/MEETING      |                                   |
| 4 STUDIO     | 9 PHOTO STUDIO         |                                   |
| 5 OFFICE     | 10 AUDIO/VIDEO EDITING |                                   |





## credits

### ARCHITECT (INTERIOR RENOVATION):

Huntsman Architectural Group – Bill Puetz, principal in charge; Alison Woolf, project designer; Gregory Dumont, project architect; Elise Beaty, designer

### ARCHITECT (EXTERIOR RENOVATION):

Studio TMT – Christiaan Maarse, principal in charge

### CONSULTANTS:

Design Workshops (custom millwork and furnishings); Laura Guido-Clark Design (color, materials, finishes)

### CLIENT:

Tolleson

### GENERAL CONTRACTOR:

Birmingham Development

### SIZE:

11,000 square feet

### COST:

withheld

### COMPLETION DATE:

January 2012

### SOURCES

**FURNITURE:** Coalesse; Herman Miller; Allsteel; Carl Hansen & Søn

**SURFACES:** Benjamin Moore; Formica; Caesarstone; Restoration Timber; Pulp Studio

**LIGHTING:** Lampa; Vode; BEGA; Tom Dixon; Bruck Lighting; Flos; Linear Lighting; Lutron (controls)



Relojería Alemana | Puerto Adriano, Majorca, Spain | OHLAB

# MIDAS TOUCH

On a tony new marina, a young duo crafts a glittering jewel box for a storied luxury retailer.

BY DAVID COHN

PHOTOGRAPHY BY JOSÉ HEVIA

**HOUSE OF MIRRORS** Set in a mall designed by Philippe Starck, the entire store is designed like a bright, transparent vitrine. Display cases are mounted on three freestanding golden volumes, which contain an office, a VIP room, and a display area.









For the Relojería Alemana, a watch and jewelry boutique in Majorca's new Puerto Adriano marina, the Madrid-based studio OHLAB redefines the traditional jewelry store, dissolving barriers between inside and out, as well as between customers and sales staff, to create a gleaming glass-walled salon. Security concerns dictate the design of most jewelry stores—think of those on New York's Fifth Avenue or the Place Vendôme in Paris, with their small display windows set in heavy masonry facades. For the more relaxed and protected setting of the marina, OHLAB partners Jaime Oliver and Paloma Hernaiz have designed the entire space as a kind of vitrine, with bright lighting and mirrored golden surfaces that draw the eye.

To achieve this transparency, the architects concentrated opaque private spaces in three discrete volumes within the interior. These boxes support display cases and are wrapped in mirror-finished, golden-hued stainless steel, with curving joints that subtly distort reflections of the surroundings. Just outside the store, which is located in an open-air mall designed by Philippe Starck, low gold-hued walls (one wrapping a seating area, the other supporting signage) spill onto the mall's covered circulation galleries.

Instead of attending to customers from behind a display counter, salespeople greet them at the door or in the outdoor lounge and settle them into a seating area in the center of the store, or in the VIP room, which is housed in one of the golden containers and features a hidden bar. The other two volumes contain an area for special product displays and an office. The boxes are distributed along the three perimeter walls, and display cases wrap around their corners, with one side facing passersby and the other presenting wares to shoppers inside, an arrangement that allows easy access to items from panels inside each box.

The architects have illuminated the cases from above with continuous LEDs set in a sawtooth diffuser of white Corian, a system strong enough to cut through the powerful reflections that hit the glass at sunset. Air conditioning

**GETTING THE EXCLUSIVE** The VIP room (right), which occupies one of the golden boxes, is lined in blue-green suede, and communicates a cloistered feeling. The more open central seating area (visible in background) employs lighter hues, such as white leather for the Swan chairs and a pale handmade rug by Paola Lenti. The luminous stretched ceiling, backed by LED lights, is echoed by the white limestone floor (opposite, top and bottom). The architects designed a sawtooth Corian diffuser for the LED lighting that illuminates the display cases (opposite top), which are accessed from behind.







### credits

**ARCHITECT:** OHLAB – Paloma Hernaiz, Jaime Oliver, Rebeca Lavín, Walter Brandt, Marta Diego, James Hull, project team

**OWNER:** Relojería Alemana

**GENERAL CONTRACTOR:** Construcciones Torrens

**SIZE:** 1,100 square feet

**COST:** withheld

### SOURCES

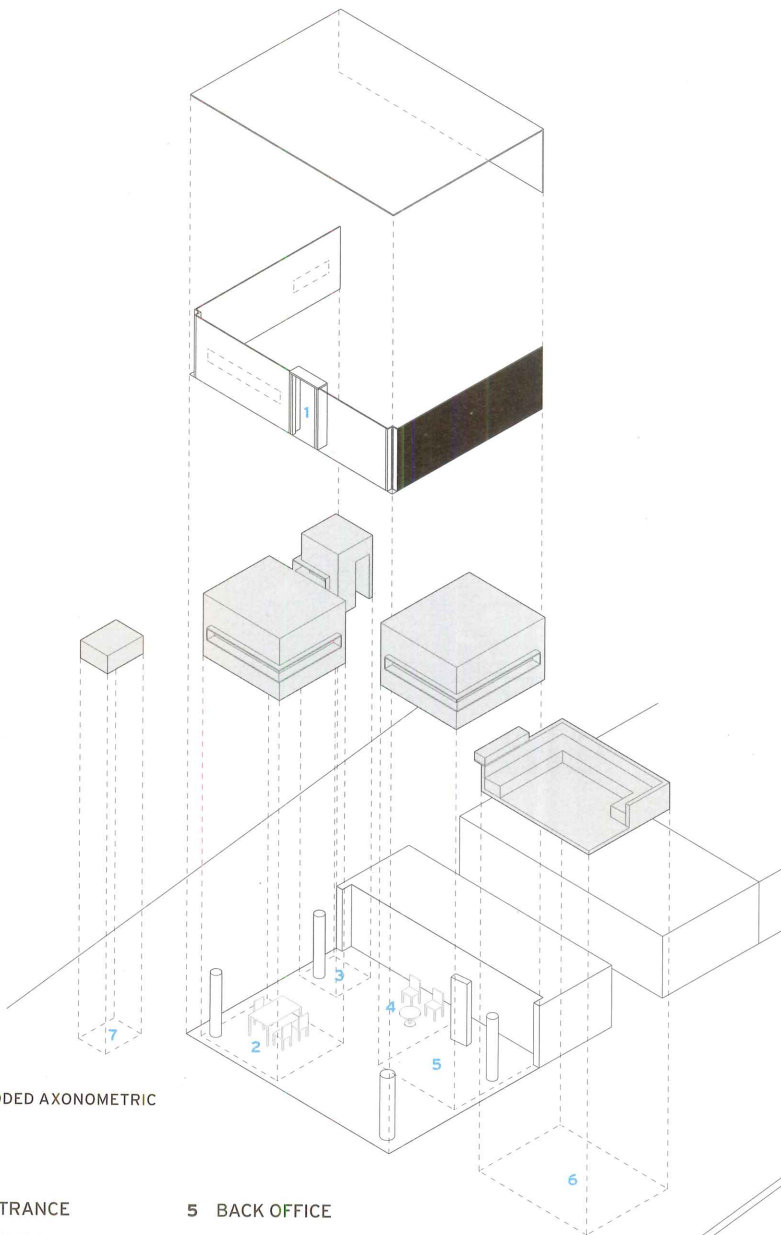
**INTERIOR FINISHES:** Resyrok Sistemas (backlit ceiling); The Inox in Color (golden stainless steel)

**FURNISHINGS:** Paola Lenti (exterior sofas and tables, carpet); Lema (VIP room table); Republic of Fritz Hansen (interior lounge coffee table and lamp); Knoll (VIP room Executive chairs)

**LIGHTING:** iGuzzini (downlights); JUNG (controls)

**PLUMBING:** Duravit; VOLA (faucets); Agape (washbasin)



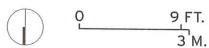


EXPLODED AXONOMETRIC

- 1 ENTRANCE
- 2 VIP ROOM
- 3 PRIVATE VIEWING
- 4 LOUNGE
- 5 BACK OFFICE
- 6 OUTDOOR LOUNGE
- 7 SIGNAGE



FLOOR PLAN



returns are hidden in reveals above the boxes. All this careful detailing is the result of the architects' training in retail design, for firms such as Louis Vuitton, in New York, where the couple met before moving on to Beijing to work for OMA on the CCTV complex.

In contrast to the hard, machined surfaces of glass, steel, and stone, the inside seating area features a hand-woven rug by the Italian designer Paola Lenti, with Arne Jacobsen's Swan chairs upholstered in white leather, and a Jacobsen coffee table and floor lamp. The outdoor lounge, which the architects compare to the stern of a yacht, features Lenti's deep sofas upholstered in natural tones, while the VIP room is finished like the soft interior of a jewel case, with walls and ceiling lined in blue-green suede. The furniture here again is classic modern: Eero Saarinen's Executive chairs upholstered in gray-green velvet and Poul Henningsen's playful Snowball pendant lamp. With its range of materials and textures, the space offers a surprising variety of sensory environments, both inside the store's 1,100 square feet and out.

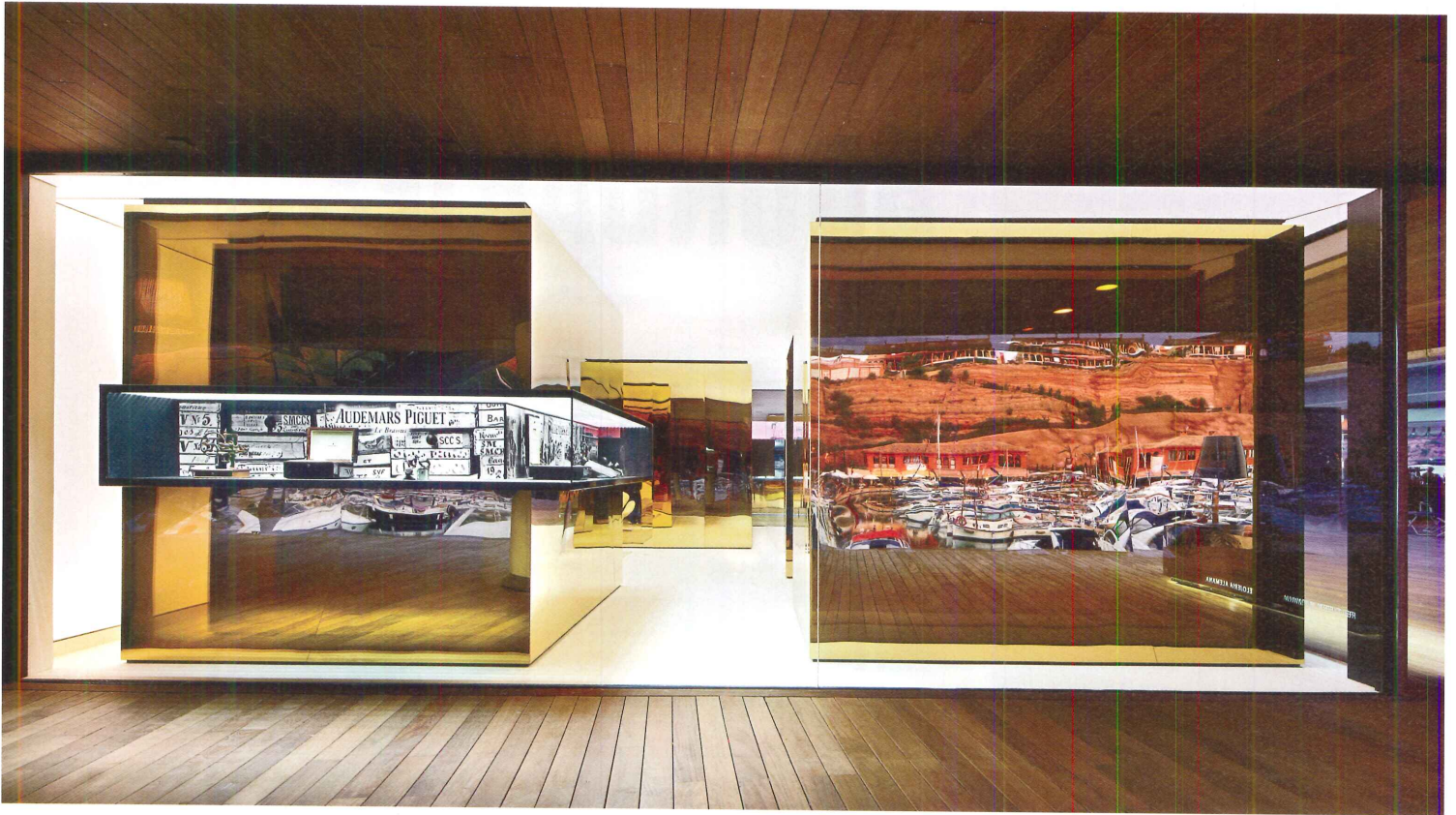
Founded in 1879, with three other stores on the island, the *Relojería Alemana* has thrived selling luxury goods to tourists from places like Russia, the Middle East, and China—a trade that is one of the few bright spots in Spain's ailing economy. For the architects, who won the commission through a small competition organized by the client, the nature of the business caused a certain unease—Spain is, after all, best known for its public architecture, from cultural facilities to subsidized housing. Oliver recalls, "We started thinking about what the world of luxury means, and what commentary we could offer, almost on a social level. Luxury is a play of appearances in which things are not what they seem."

Oliver and Hernaiz sought an outlet for their ambivalence through the design of the golden volumes—which are not actually finished in gold, they feel compelled to point out—and the distorted reflections they create. "They appear to be deformed, when they are actually perfectly orthogonal," Oliver explains. "They reflect the surrounding marina as more golden than it actually is, if that were possible: more brilliant, glittering, shiny—and deformed. To take it to the limit, to the sublime."

As the art, music, and fashion worlds have demonstrated, consumer culture has a remarkable capacity to absorb critical rejection and spit it back as new product, and so it is no surprise that the *Relojería Alemana* easily accommodates this mild rebuke. In fact, the rippling golden reflections are more effective in visual terms than pure surfaces would have been, touching on the allure and fascination we find in the glimmering facets of a gemstone, or the waves of the sea, or the imperfections of a beautifully crafted, centuries-old Japanese bowl. The young architects are now building a new boutique for the owners in Palma de Majorca, the capital of the Balearic archipelago, as well as consulting for Rolex; their future looks bright indeed. ■

**ALL THAT GLITTERS** Two of the golden volumes extend into the mall's wood-planked, covered circulation galleries (opposite, bottom). One bears the store's signage (in foreground) and the other forms an outdoor lounge (not visible). The boxes' mirror-finished surfaces subtly distort reflections of the surrounding marina (opposite, top) that are interrupted by the display cases wrapping the volumes.







Loft MM | Bilzen, Belgium | C.T. Architects

# BEYOND BOUNDARIES

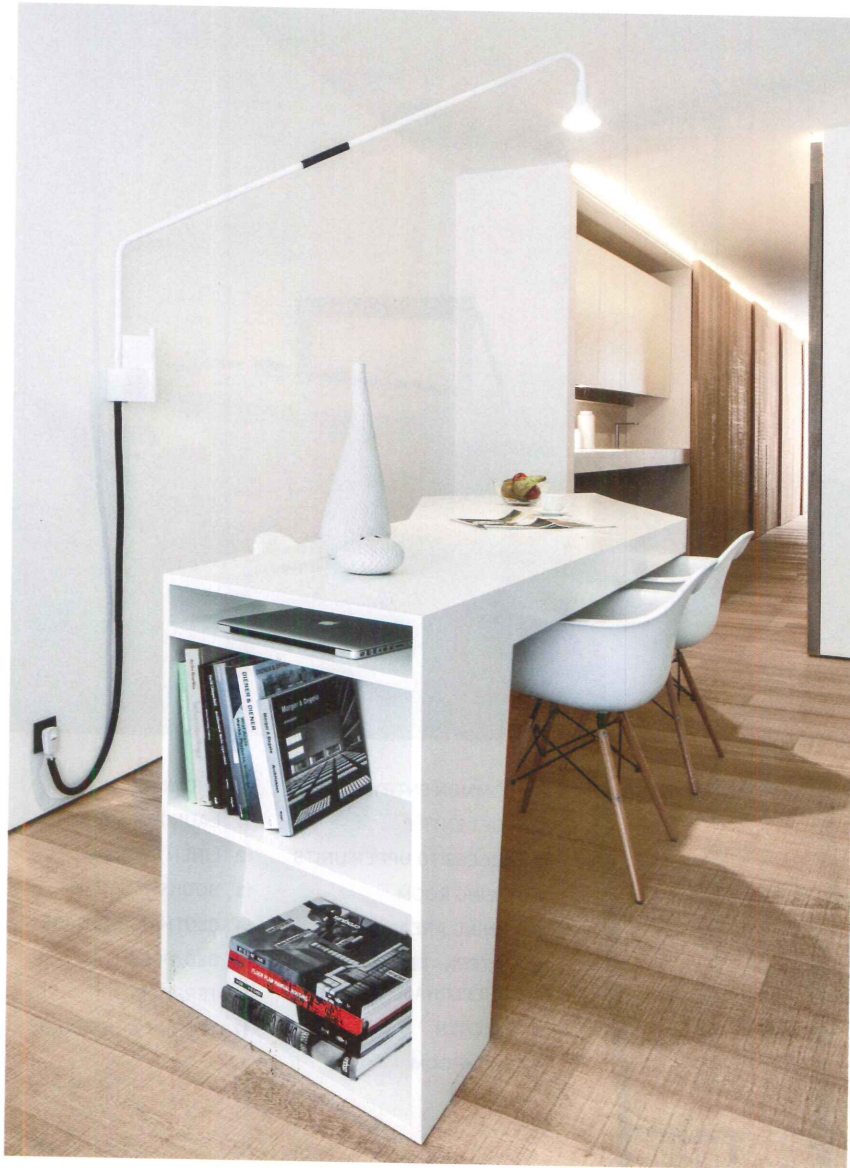




A Belgian architect's solution for a wheelchair-bound client shows a keen sense of spatial relationships and materials with universal appeal.

BY TRACY METZ

PHOTOGRAPHY BY TIM VAN DE VELDE



It can be done: a wheelchair-friendly environment that in no way resembles the typical one. The Belgian firm C.T. Architects designed an accessible apartment for an accident victim in a small north-Belgium town, yet there is nothing about it that even hints at the owner's having a disability. And while many of the design solutions here were inspired by necessity, they would be just as apt—and welcome—in any urban microloft.

"Before the client's car accident, the family already owned a parking space on the ground floor of this building," explains architect Nick Ceulemans, principal in charge. "Then they bought the rest of the floor (used largely for storage) and commissioned me to convert the full 820 square feet into a living space. It was their specific wish that it not look at all like a dwelling for a physically challenged person."

The process of design and construction took one and a half years. The repurposing of the ground floor to make an accessible residence entailed changing the main entrance to create a ramp to the client's front door, a new communal entrance for the upstairs neighbors and—within the common hallway—a second entrance into the client's apartment for caregivers and other related professionals. Visitors using this door first enter a pantry cum wheelchair storage area, and from there they go into the kitchen.

Ceulemans and his design team organized the long, narrow apartment into a conventional succession of increasingly private spaces: living room and dining area, a central corridor—at a comfortable width for wheelchair passage—with an efficient kitchen on one side and the bathroom on the other, and then the bedroom/study in the rear. Daylight enters both from the windows facing the street in front and through the sliding glass doors that lead seamlessly out onto a small back terrace. A panel of translucent plastic slides across for privacy in the bedroom, while rough-sawn oak floors—covering a hydronic under-floor heating system—and white walls and ceilings throughout create a sense of unity and calm.

A model of efficiency, the kitchen, designed by the archi-

**EVERYTHING IN ITS PLACE** Establishing a vocabulary of smooth white surfaces contrasting against rough-sawn oak throughout the apartment, the architects devised unique configurations and furnishings to enable the client's independence: the dining table angles toward the kitchen and has easily reachable built-in storage (opposite); the wall lamp swings where needed (top); the kitchen cabinets can be raised and lowered to minimize clutter (far left); and tall storage pulls out or slides for easy access (left).





tects, would thrill any small-apartment dweller. Electrically height-adjustable, it features a countertop that shifts from a standard 37 inches to an accessible 28 inches from the floor and upper cabinets that lower to meet the counter, where the faucet can be pushed down flush with the sink. Shallow storage bins hidden under the cabinets pull down for quick access to things like herbs and coffee. This mobility provides a wheelchair-bound user with the ability to reach everything easily, and closes off the cooking area from view when desired.

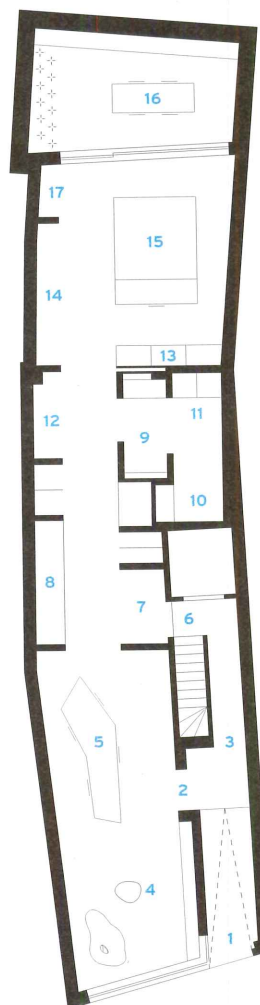
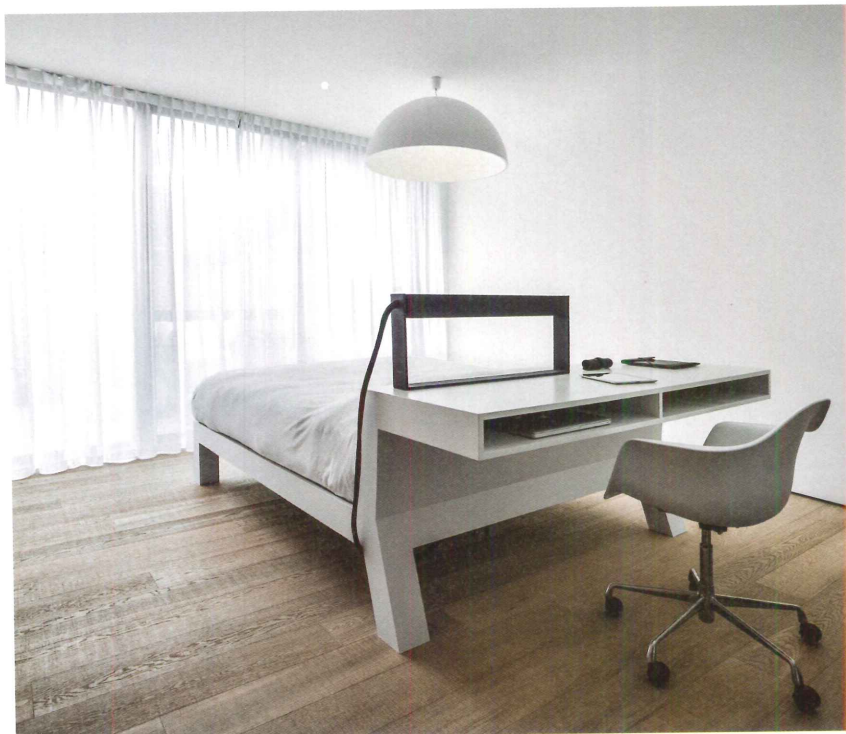
For ambient illumination in the lengthy corridor, and to add a decorative touch, Ceulemans tucked a run of LED lighting into coves above the kitchen and doors—operable by remote to change the color and intensity. Then, he concealed the refrigerator, wall oven, housewares, and clothing storage behind sliding panels, made of the same wood as the floors, to minimize clutter. The architect says that sliding doors work better for the client, whose sense of balance suffered in the accident, than doors that swing open. The design team also carved deep grooves in the wooden panels instead of using doorknobs or handles, which can be difficult to grasp. They did add two cupboards, across from the cooktop and counter, whose doors do not slide, however, but rather pull out for easy access to stored foodstuffs.

In order to provide optimum functionality for the unit's modest bathroom, the architect created two zones: one with the toilet and washbasin, the other with the shower and a washer/dryer. These are separated from each other by a large panel that rotates to close the laundry area off from view. In keeping with the minimalist aesthetic, he also reinforced the towel rack and hand-shower rod to make them reliable substitutes for the typical grab bars so often found in baths for the disabled or elderly.

As one of the firm's disciplines includes product design, Ceulemans devised key pieces of furniture to comply with Belgian disability codes and to accommodate the client's specific needs and preferences. For instance, he outfitted the dining table with built-in shelves at both ends and configured it so that it juts at an angle toward the kitchen—not just because it looks cool but because, by doing so, it complies with the maximum distance allowed between stove and table. He also created the flexible swing-arm wall lamp above the table, which was presented at this year's Salone del Mobile in Milan. In the bedroom, the architect was responsible for a double-duty bed that is also a desk; an adjacent wall of bookshelves; and a hybrid light fixture/electrical hub that swivels to illuminate both bed and work surface, as well as to provide outlets at a convenient height for the user.

Before starting a practice in 2009 with his wife and partner Liesbet Thewissen, an architect and urban planner, Ceulemans had worked for well-known firms in Amsterdam and London such as Wiel Arets, David Chipperfield, and Zaha Hadid. But his thoughtful and ingenious solutions for this compact apartment will probably do more than his résumé to establish a reputation—while providing his client with a unique living environment. ■

**TWO FOR ONE** The bed features a headboard that doubles as a desk (top), with a unique hybrid light fixture that swivels to illuminate the bed or work surface and serves as a convenient electrical hub. Typically open to the rest of the apartment (opposite), the bedroom can be closed off for privacy with a slide-out panel made of a textured translucent plastic.



FIRST FLOOR

0 9 FT.  
3 M.

- |                         |                      |
|-------------------------|----------------------|
| 1 COMMON ENTRY          | 10 SHOWER            |
| 2 LOFT ENTRY            | 11 LAUNDRY AREA      |
| 3 ACCESS TO UPPER UNITS | 12 LINEN STORAGE     |
| 4 LIVING ROOM           | 13 BOOKSHELF         |
| 5 DINING AREA           | 14 CLOTHING STORAGE  |
| 6 ALTERNATE ENTRY       | 15 BED/DESK          |
| 7 WHEELCHAIR STORAGE    | 16 TERRACE           |
| 8 KITCHEN               | 17 TECHNICAL STORAGE |
| 9 BATHROOM              |                      |

#### credits

**ARCHITECT:** C.T. Architects – Nick Ceulemans, principal in charge; Liesbet Thewissen, principal; Ward Bergen, interiors architect; Robbert Errico, architect

**CONSULTANTS:** GeWoon Interior Architects (interiors); Alelek (lighting)

**SIZE:** 1,040 square feet (includes common entrance and terrace)

**COST:** \$200,000

**COMPLETION DATE:** December 2012

#### SOURCES

**GLAZING:** Saint-Gobain

**DOORS:** Reynaers Aluminum

**HARDWARE:** Hettich; Ropox (height-adjustability system)

**FIXTURES & FITTINGS:** Blanco, Fima – Carlo Frattini

**SURFACES:** Mosa (tile); Diresco (solid surface)

**FURNITURE:** Vitra (chairs)

**LIGHTING:** Gesso (dome); Niko, BTicino, Gira (controls)

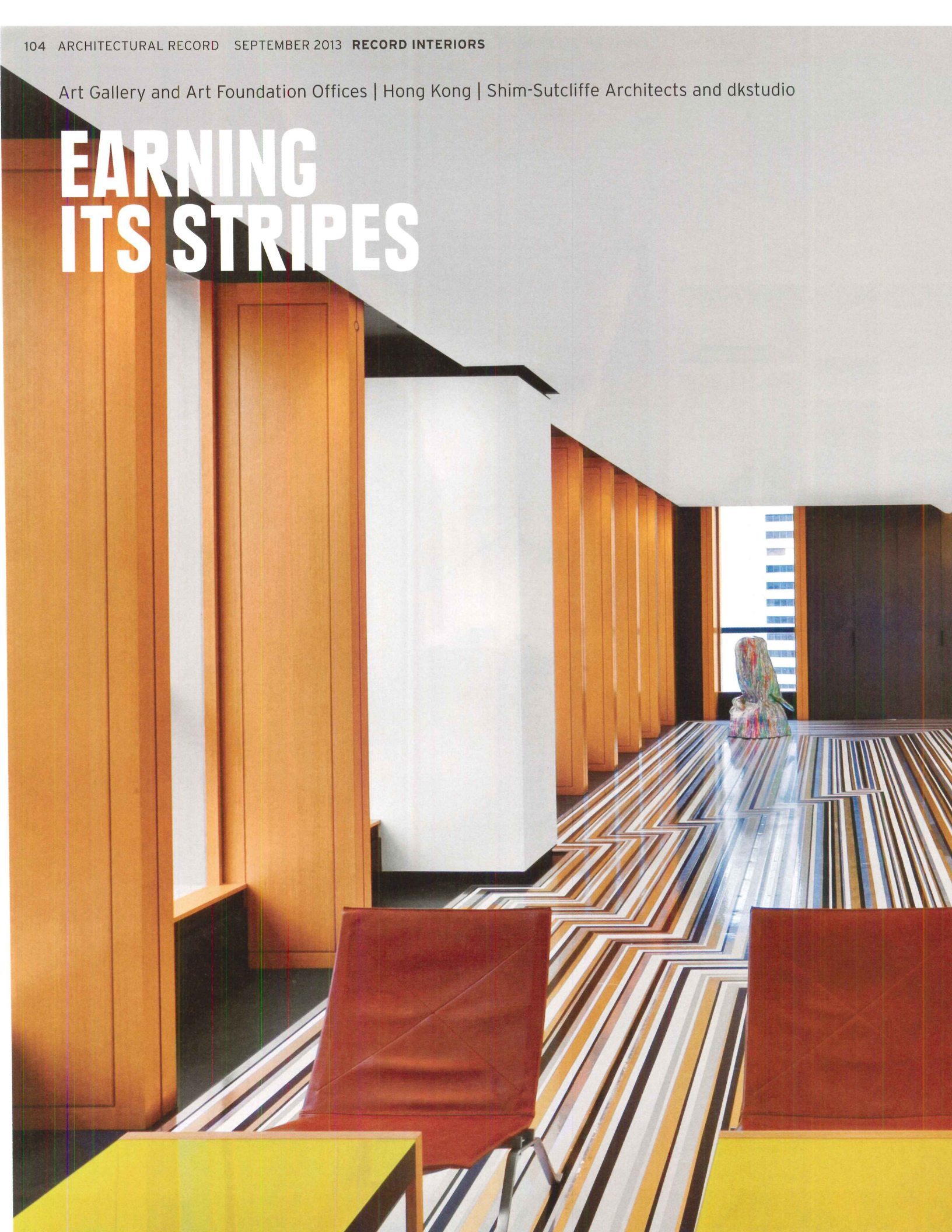






Art Gallery and Art Foundation Offices | Hong Kong | Shim-Sutcliffe Architects and dkstudio

# EARNING ITS STRIPES





Inserting a precisely detailed retreat for art into a high-rise building in the middle of bustling Hong Kong required some extraordinary measures.

BY ARIC CHEN

PHOTOGRAPHY BY STUART WOODS



In a city like Hong Kong that's largely shaped by its density—where space is tight and often has to be improvised—you can wind up with surreal results. Outdoor escalators soar above streets and sidewalks. Pocket parks wedge themselves into the unlikeliest places. And in the case of a recent gallery and office renovation by Shim-Sutcliffe Architects, the project involved workers' lowering millwork through windows from the roof of a 30-story building.

"We wanted full-height wooden fins [running inside the curtain wall of the main gallery] without any joint lines, and they wouldn't fit into the elevators," says principal Brigitte Shim, explaining the complicated construction. "It was amazing—like building a ship in a bottle."

Based in Toronto, Shim-Sutcliffe is known for its exacting attention to detail and spatial tectonics. But its assignment, in Hong Kong's busy Causeway Bay area, was to renovate a three-level interior in a 1980s office tower that didn't offer scope for much of either. The ceilings were low, the curtain wall unremarkable. Floor plates were crammed with elevators, fire stairs, and other service areas. The clients, a financial trader and his philanthropist wife, wanted the 48,400-square-foot space to be a fitting multi-use home for their trading firm, art foundation, and growing holdings of blue-chip contemporary art. "They wanted a place to show their collection," says Shim. "But the existing space wasn't very nice, so we were limited with what we could do."

You wouldn't think so, however, given how skillfully the architects mastered the constraints. On entering the 29th-floor reception area, one immediately encounters a "sense of scale and generosity," as Shim puts it. To introduce the limited but rich material palette and precise detailing seen throughout the project, Shim and her partner Howard Sutcliffe placed a custom bent-bronze desk atop flooring of wide American-walnut planks and used 1/8-inch reveals to make the gypsum walls seem to float within the bronze trim that frames them. To the right are trading offices and, to the left, a library, while head-on is an expansive abstract painting by Chan Kuochiang, an artist supported by the clients' foundation. "We wanted art to become part of the day-to-day experience of the space," says Shim, who collaborated on the project with Dmytriy Pereklita and Karen Mak of dkstudio, two former students of hers in Canada who are now based in Hong Kong.

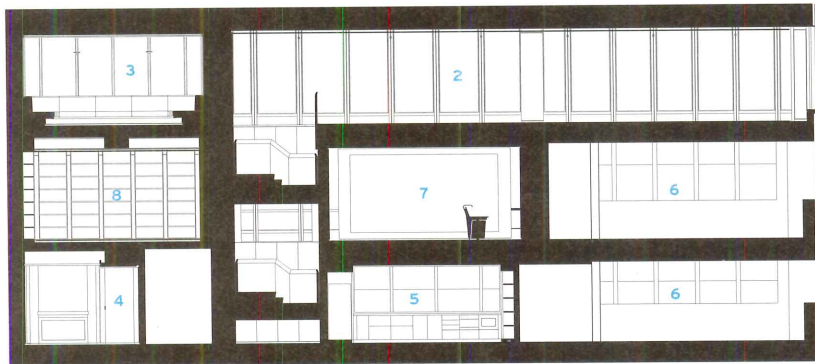
To say art occupies a central place in the project is an understatement. Connecting all three levels, an existing internal stair—the core of the space—was transformed with one of artist Jim Lambie's signature striped vinyl-tape floor installations: in this case, in a bold pattern of black, white, gray, and metallic silver and gold. Shim and Sutcliffe didn't just provide a neutral background for the site-specific work but subtly augmented it by cladding the stairwell in

**TAPE MEASURE** Artist Jim Lambie created one of his vinyl-tape pieces on the floor of the gallery, which also includes pieces by Damien Hirst and Anish Kapoor. The 25-inch-deep wood fins along the curtain wall had to be lowered in from the roof, because they were too tall (nearly 10 feet) to get into the building's elevators.





**QUIET LUXURY** In the clients' office, the architects mixed antique furniture with a ceiling made of American walnut and a bronze-clad storage wall (above). Lambie's art piece continues from the gallery on the 30th floor down the stairs to the 28th floor (opposite). A white-oak balustrade and walls surfaced in bronze enhance the effect of the art.



SECTION A - A



30TH FLOOR

- |               |                     |             |
|---------------|---------------------|-------------|
| 1 MAIN OFFICE | 4 FOUNDATION OFFICE | 6 OFFICE    |
| 2 GALLERY     | 5 KITCHEN           | 7 RECEPTION |
| 3 LOUNGE      |                     | 8 LIBRARY   |

matching bronze and bracketing the stair in impeccably crafted white oak.

Lambie's installation continues on the 30th floor, where it flows without interruption into the project's showcase space: an 880-square-foot gallery featuring works by Damien Hirst and Anish Kapoor. Here, too, the architects' challenge was to work with the existing space, especially the span of flat, repetitive windows that runs along its length. Rather than fight the curtain wall, Shim and Sutcliffe accentuated it with 25-inch-deep white oak fins, which they placed at the mullions to project into the space. Besides heightening the rhythm and articulation of the space, the fins—which, with a seamless height of nearly 10 feet, were among the pieces that had to be lowered from the roof through the windows—give the effect of expanding the room by creating deep bays.

With their verticality, the fins also create the illusion of greater height. They appear to extend above the ceiling, for which Shim and Sutcliffe devised a continuous surface. "We wanted a ceiling that didn't have smoke detectors, sprinklers, and so on; we wanted a totally clean plane," says Shim. This plane also curves to accommodate a hidden LED system that evenly washes light onto the adjacent wall and artworks.

Such attentiveness to detail remains consistent throughout the project. On the 30th floor, for example, you see it in the clients' office, with its American-walnut ceiling, bronze-clad storage wall, and antique furniture (including a massive fireplace that also had to be hoisted through the windows) and in the lounge area covered with Josef Frank-designed fabric. It continues down to the foundation and firm offices and a kitchen on the 28th floor.

Meanwhile, black-granite floors, curved white-oak paneling and custom bronze uprights fit together like pieces of a puzzle in the bathrooms. "We fitted them out like a boat," says Shim, expanding on the ship-in-a-bottle metaphor. Elsewhere, diaphanous films were applied to windows to manipulate and blur some of the views to the outside. Great pains were taken to frame the views within the project. Overall, the interior is a rigorous composition of gaps, reveals, precision joinery, decisive lines, and meticulously finished materials, softened by the occasional curved element.

"We wanted to create a sensual experience, no matter what size the space," says Shim. "It was about accepting what we couldn't change and then elevating it a bit." ■

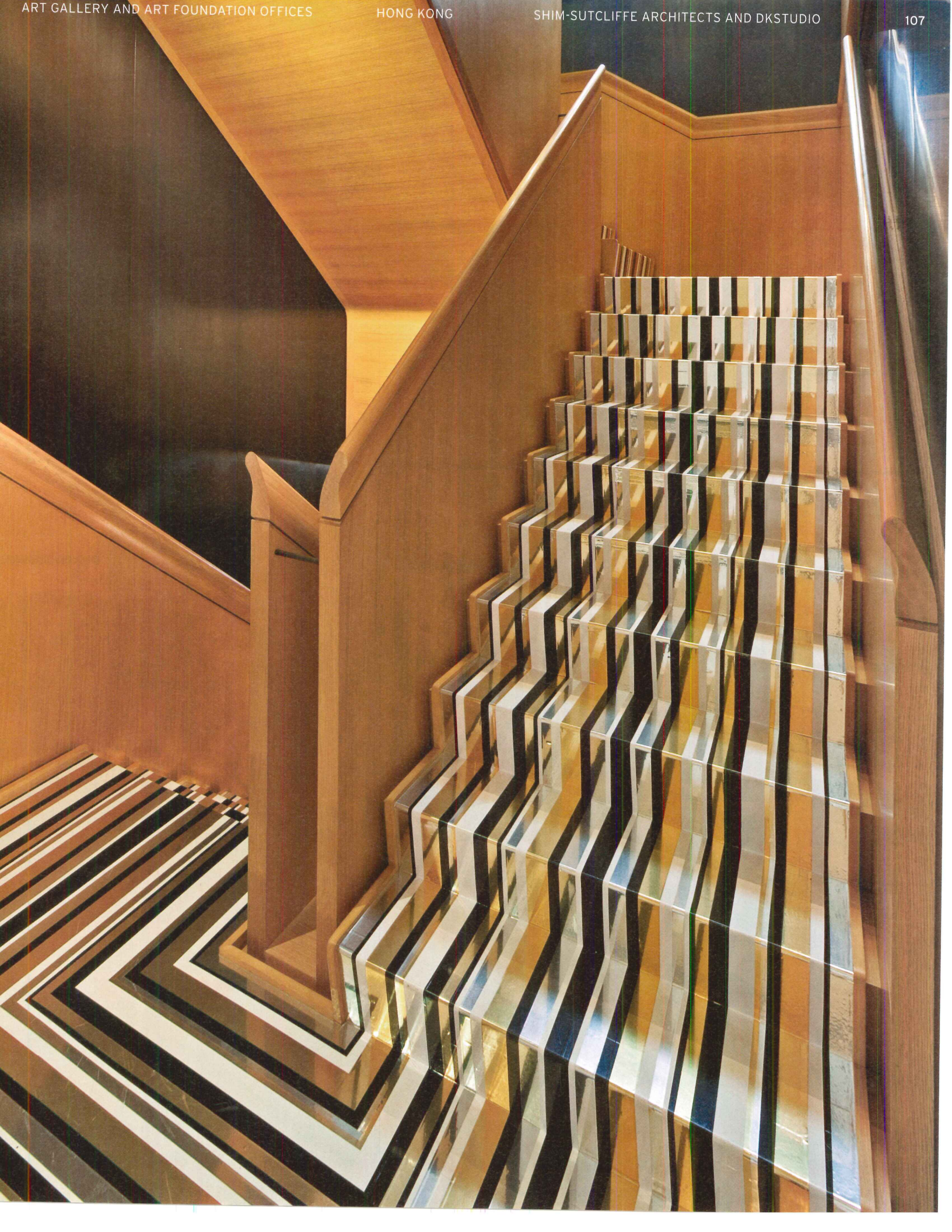
credits

**ARCHITECT:** Shim-Sutcliffe Architects – Brigitte Shim, Howard Sutcliffe, partners  
**EXECUTIVE ARCHITECT:** dkstudio – Dmytriy Pereklita, principal in charge; Karen Mak, project manager; Nathan Dykstra, Andrew Lau, project team  
**ENGINEERS:** Siu Yin Wai & Associates (structural); Krueger Engineering (m/e)  
**LIGHTING:** Suzanne Powadjudk  
**CLIENT:** withheld at clients' request

**GENERAL CONTRACTOR:** Decca CLI Design  
**SIZE:** 48,400 square feet  
**COST:** withheld

**SOURCES**  
**WINDOWS:** Sunbury HK  
**FROSTED ACRYLIC SHEETS ON WINDOWS:** Acrylite  
**AMBIENT LIGHTING:** Eclipse Architectural; Philips  
**DOWNLIGHTS:** Nulux







Wall Fabrics | Auckland, New Zealand | Fearon Hay Architects

# A CUT ABOVE





A crystal-clear intervention shows off the goods at the offices and warehouse of an international textile company. **BY JEREMY HANSEN**

PHOTOGRAPHY BY JACKIE MEIRING



**ROLL CALL** Unlike those of conventional warehouses, administrative spaces at Wall Fabrics are open to the production floor via thin panels of glass trimmed in rosewood (above). Because of this transparency, bolts of the product—textiles in an array of patterns and colors—become part of the aesthetic for the entire industrial space.

Some conventions beg for a challenge. Case in point: a fabric warehouse in Auckland, New Zealand, where visitors stride up a concrete ramp from a street on the central city's light-industrial fringes. Passing through crystalline glass doors, they find themselves not in a dull reception area leading to anonymous offices, but among colorful bolts of gorgeous cloth—all while loading and deliveries carry on hectically around them. The architects responsible for this upending of typical warehouse hierarchy say hiding the fabrics from view was never an option. "A traditional office warehouse is highly divided," says Tim Hay, cofounder of Fearon Hay Architects, "but here there's a beautiful texture and visual scene. Why would you want to compromise that? It's lovely to be in this room and be able to survey the whole space." This embrace of openness instead of segregation at Wall Fabrics, a wholesaler of high-end fashion textiles, is bringing welcome benefits, according to the firm's owner, Roger Wall. "I think everyone's interested in this space, which changes things—everyone's attitude has lifted. It's a simpler place to work," he says.

The 1970s building, made of precast concrete slabs interspersed with steel-framed windows and topped with a gently pitched roof, was purchased almost two years ago for the company's combined warehouse and office. Wall told Hay and his co-designer, Jeff Fearon, that the 16,000-square-foot space, blessed with abundant daylight, needed to hold thousands of yards of fabric as well as provide shared facilities for the administrative staff and warehouse personnel. Customers visit the warehouse to inspect new stock, an ever-changing vista of color and pattern. At the same time, fabrics are dispatched from here to the company's Fabric Store retail outlets in New Zealand, Australia, and Los Angeles.

Determined to maintain the warehouse's sense of openness, Fearon and Hay opted for the most delicate separation of zones, an ethereal glass wall punctuated by rosewood-trimmed panels that pivot open. Some, with handles, serve as actual doors. This glass wall keeps warehouse noise out of the office yet maintains a strong visual connection. It appears to be weightless, supported by a blackened steel-plate transom hung from a beam and fastened to the office ceiling with a row of steel cables. "The wall feels like a suspended glass ribbon," Hay says. "The reflections break up the mass of it, and its doors are like gills that allow air to move."

The wall is topped with white plasterboard that rises to the ceiling on the warehouse side. The glass panels don't extend all the way along the interior, however. They pull up short of the building's edge to lend a greater sense of spaciousness to a shared kitchen and dining area, where Wall hosts Friday lunches for the whole staff. A self-confessed fanatic for mid-20th-century furniture and a sleuth at sniffing out a bargain, Wall has outfitted the offices with an arsenal of Eames furniture that he purchased cheaply over a decade ago from American Express, when the credit-card firm was moving its Auckland operations. He is also an enthusiastic art collector, displaying works by prominent New Zealand artists democratically throughout the warehouse and office zones. He pushed Fearon and Hay to add a solid suspended wall at the end of the office area for hanging art, but even this insertion emphasizes the porousness of the spaces, with the wall stopping short of the floor, connecting with it via a glass panel.



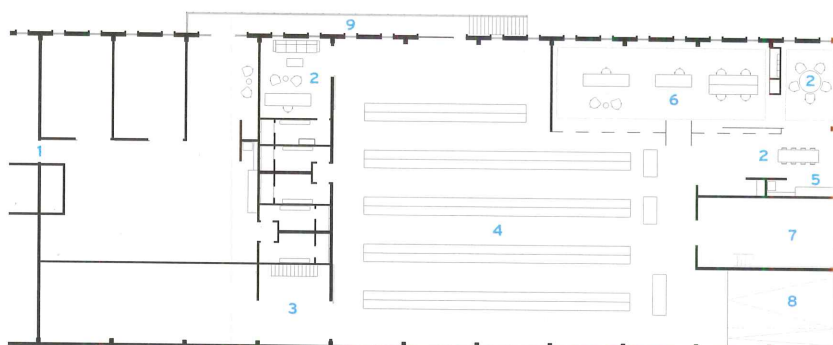


**OPEN HOUSE** The exposed beams and rough concrete floors (left and opposite) of the original structure remain intact, with the glass panels that divide the offices from the warehouse being Fearon Hay's only major insertion. These pivoting doors (left and opposite) keep machinery noise out of the office area while maintaining a visual link between support and production spaces.

The architects established their firm 15 years ago and gained attention for designing modernist residences in isolated locations, such as the Shark Alley House on Great Barrier Island, a four-hour ferry journey from Auckland. More recently they have completed a slew of civic and commercial projects. One of them, the conversion of an abandoned century-old cinema in downtown Auckland into an office and restaurant complex, recently won the New Zealand Architecture Medal, the highest annual honor bestowed by the New Zealand Institute of Architects. Fearon and Hay were praised for their unfussy retention of many elements of the original building, and their work in the fabric warehouse reflects a similarly generous embrace of its innate character. Its unrefined concrete floor has been retained, and its ceiling beams remain exposed. Apart from the big gesture of the insertion of the glass wall, Fearon and Hay have made no significant changes to the structure.

The project did, however, include the design of one private office at the end of the warehouse, where Wall takes meetings and makes morning and evening phone calls to international associates. It's a thoroughly pleasant but under-utilized room, as Wall prefers to spend his day among his staff and the many couriers, customers, and general visitors who bustle in and out each day. In Wall Fabrics' new premises, the warehouse floor has turned out to be the boss's favorite place. ■

*Jeremy Hansen is the editor in chief of HOME, a residential architecture magazine based in Auckland, New Zealand.*



FLOOR PLAN

0 30 FT.  
10 M.

- |                |               |                  |
|----------------|---------------|------------------|
| 1 ENTRANCE     | 4 WAREHOUSE   | 7 LOADING DOCK   |
| 2 MEETING ROOM | 5 KITCHENETTE | 8 EXISTING ENTRY |
| 3 STORAGE      | 6 OFFICE      | 9 BALCONY        |

#### credits

**ARCHITECT:** Fearon Hay Architects – Tim Hay, Jeff Fearon, directors; Rufus Knight, interior designer; Doug Weir, Rachel Higgs, design team

**ENGINEER:** Creative Structures

**GENERAL CONTRACTOR:** Josh Dalton Builders

**SIZE:** 16,000 square feet

**COST:** withheld

#### SOURCES

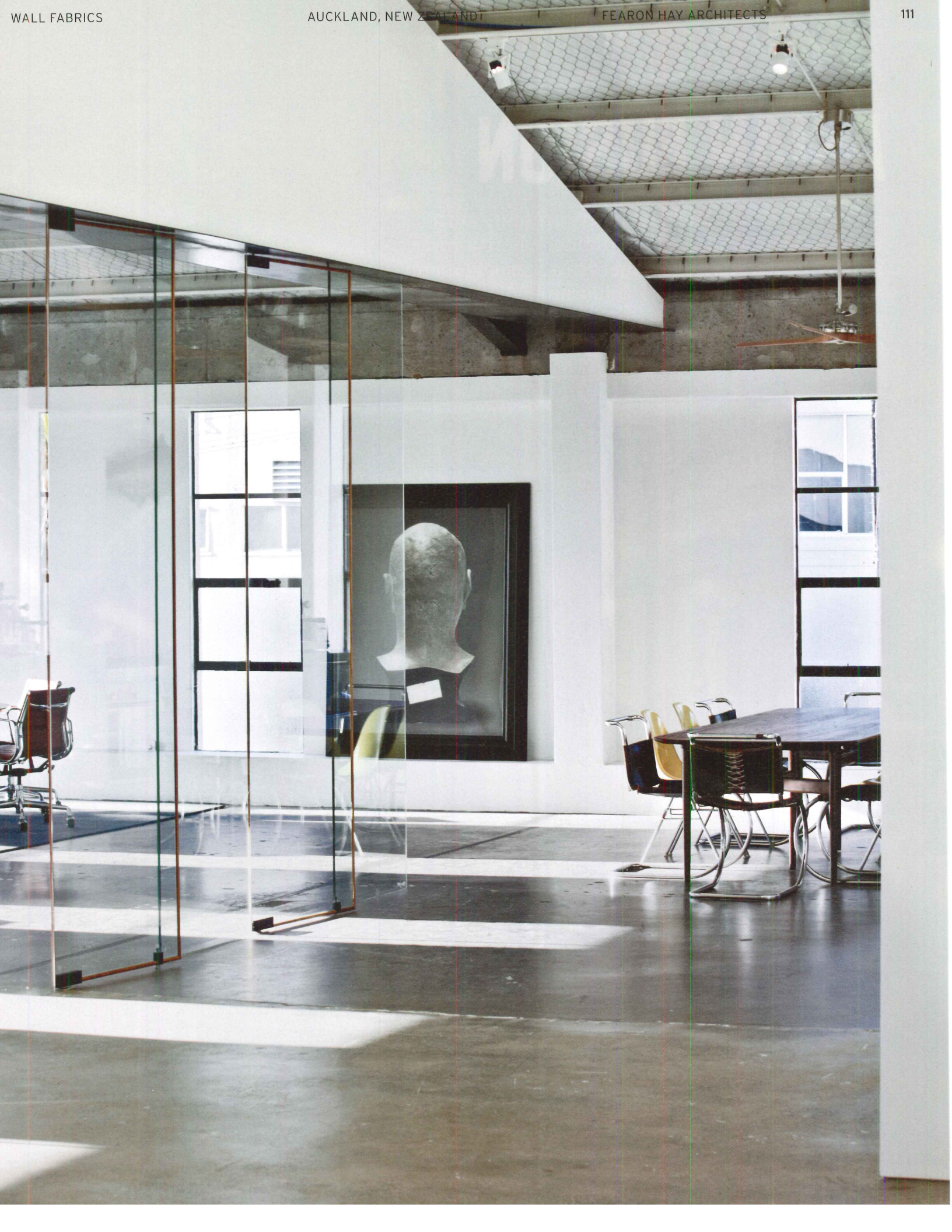
**GLASS:** Metro GlassTech (frameless glass)

**INTERIOR FURNISHINGS:** Terrazzo + Stoneworks (restroom basins); Dornbracht (fittings); Boffi (ceiling fans); Trendwood Kitchens (kitchen)

**LIGHTING:** Kreon

**PAINTS AND STAINS:** Resene







Mercato by Jean-Georges Vongerichten | Shanghai | Neri&Hu Design and Research Office

# ASIAN FUSION

East meets West—and past meets present—at the top of a historic Shanghai building, where a rustic Italian restaurant treats diners to a seasonal menu, amidst layers of time and richly applied materials.

BY CLARE JACOBSON

PHOTOGRAPHY BY PEDRO PEGENAUTE







**E**nter Mercato and your first impression is its rawness. The rough concrete, weathered steel, and exposed ductwork might seem out of place in Shanghai, a city where fine-dining interiors tend to be blingy. Then again, it might seem less surprising for a restaurant with diverse international roots.

Located on the sixth floor of the city's colonial-era Three on the Bund building, the Italian-country restaurant is owned by the French-born, U.S.-based restaurateur Jean-Georges Vongerichten, a chef known for tailoring the mood of his dining rooms to suit the context of the food. It was designed by architects Lyndon Neri and Rosanna Hu, partners at the Shanghai firm Neri&Hu Design Research Office, a team that previously infused popular European and American aesthetics into such local establishments as Capo, Commune Social, and Table No. 1. According to Neri, Shanghai is becoming a vibrant, contemporary metropolis. Such a global city, it seems, requires a global look. And the “farm chic” touted in Mercato’s press materials is one of the Western world’s favorites [RECORD, July 2013]. “One could argue it’s what everyone is doing,” says Neri. “But the design is really a play on materials. It’s not so much a stylistic thing.”

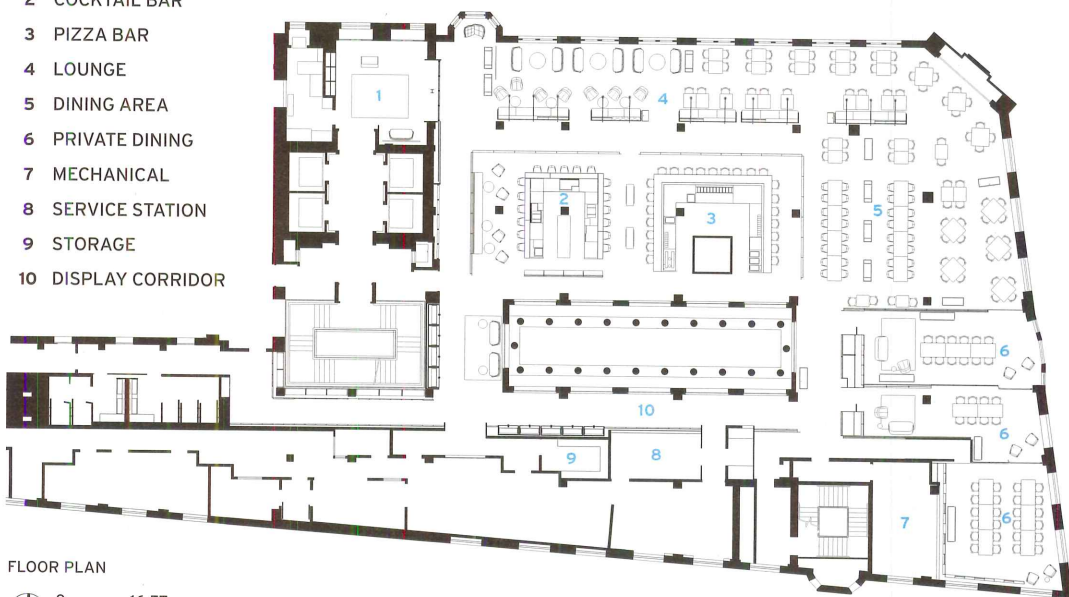
The coarse materials are markedly different from the refined copper leaf and tigerwood used in Vongerichten’s first Shanghai restaurant, two floors below Mercato. Designed by Michael Graves & Associates—for whom Neri was associate in charge for Asia projects—the Art Deco-inspired Jean-Georges was part of Graves’s 2004 renovation of the seven-story 1916 former Union Assurance Company building. It caters to the same high-end clientele as the original three-Michelin-star Jean-Georges in Manhattan. The 10,800-square-foot Mercato aims for another clientele similar to that of the chef’s ABC Kitchen, a more casual spot

**TIME WARP** Evoking the historical context of the locale, the entrance (above) features a Victorian plaster ceiling and reclaimed wood floor juxtaposed with a raw steel gate, graphic signage, and a suspended rail of glass lamps. In the dining room (left), the architects stripped back the strata of finishes—built up after years of renovations—exposing structure and constantly playing the new against the old.





- 1 RECEPTION
- 2 COCKTAIL BAR
- 3 PIZZA BAR
- 4 LOUNGE
- 5 DINING AREA
- 6 PRIVATE DINING
- 7 MECHANICAL
- 8 SERVICE STATION
- 9 STORAGE
- 10 DISPLAY CORRIDOR



FLOOR PLAN  
 0 16 FT.  
 5 M.

credits

**ARCHITECT:** Neri&Hu Design and Research Office – Lyndon Neri, Rossana Hu, principals in charge; Briar Hickling, Mariarosa Doardo, Joy Qiao, Amy Hu, design team; Brian Lo, senior associate in charge; Yun Zhao, Xiaowen Chen, Jean-Phillipe Bonzon, product team; Christine Neri, associate in charge; Hao Zhou, Evelyn Chiu, Xiwei Ren, graphic team

**CLIENT:** House of Three in collaboration with Jean-Georges Vongerichten

**SIZE:** 10,800 square feet

**COST:** withheld

**COMPLETION DATE:** July 2012

**SOURCES**

**FURNITURE:** Neri&Hu Design and Research Office

**CARPET:** Tai Ping

**LIGHTING:** Roll & Hill

**PLUMBING FIXTURES & FITTINGS:** Toto (rest rooms)





**SPACE STATIONS** The main space recalls a street market, with a cocktail bar and pizza bar at its center—both encased in steel mesh and wire glass boxes with recycled wood canopies. A network of tube steel members, inspired by old butcher rails, intertwine with exposed ductwork and form a system for hanging shelving and lighting. Glass and wood display cases (opposite) divide and define dining and lounge areas. Suspended glass bottles, jars, and flasks add layers of color and texture around windows and above the island seating; and technical drawings of old ship parts, painted on concrete walls, pay homage to Shanghai's history as a port.



in New York's Flatiron District. "Mercato needed to be more casual, democratic, and open," explains Neri.

At Mercato, casualness appears in both the materials and the spatial organization. The framing of Three on the Bund—it is one of the first steel structures in Shanghai—allowed Neri&Hu to create a large, open dining area typical of a building from that period. They kept little of the décor of an existing restaurant—also designed by Graves, for chef David Laris—replacing the terrazzo floor with wood reclaimed from old houses in nearby Anhui Province. What they did maintain are the original circular window details and an atrium created by Graves in 2004.

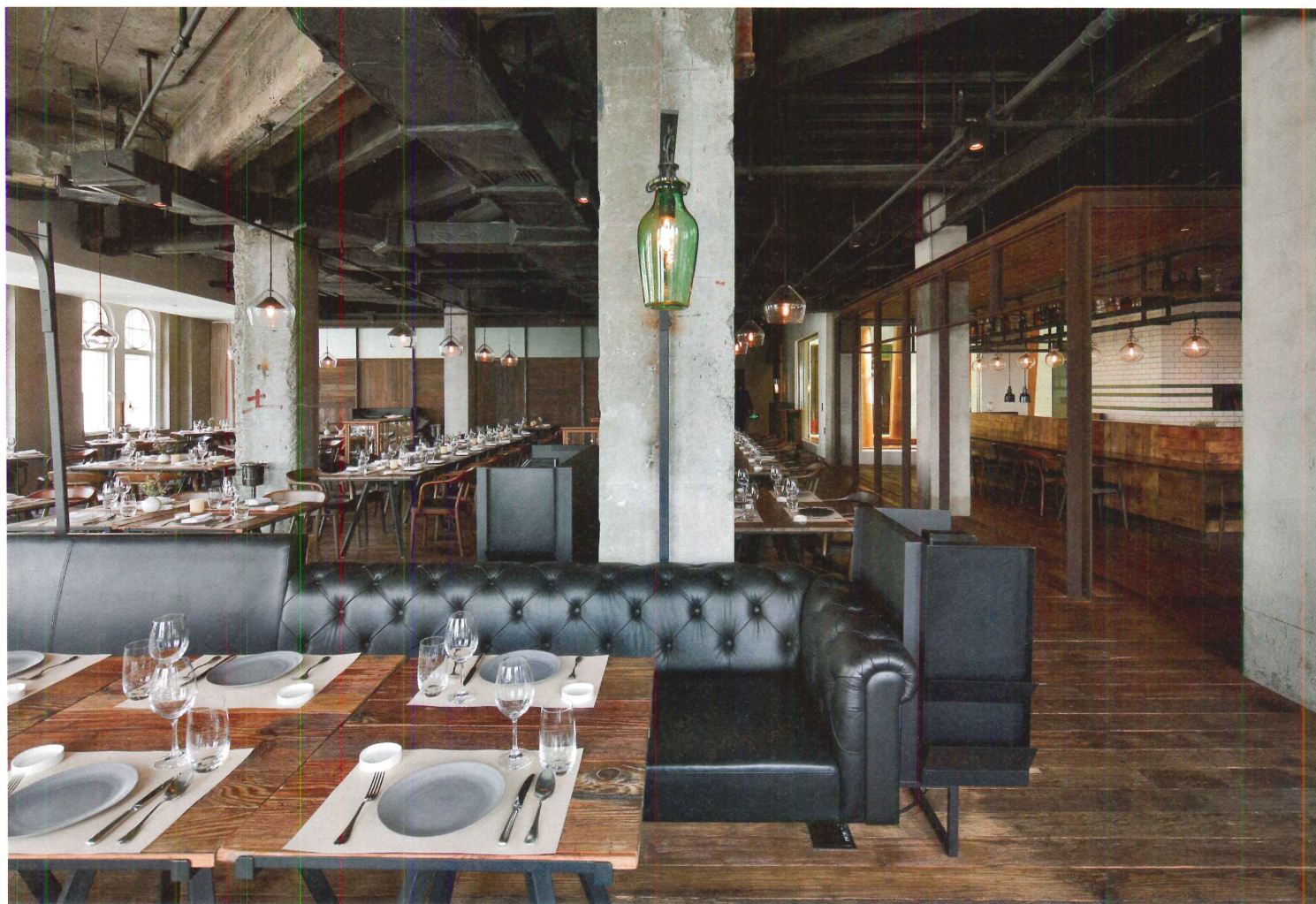
The architects sought to evoke the marketplace of the restaurant's name by inserting two islands, like market stalls, framed in steel and open to the dining room around them. Surrounded by stools, one is a cocktail bar, while the other dishes up pizzas and other specialties from a wood-fired brick oven. "Imagine you go to a market and these are the vendors," says Neri. Mercato does not operate like a market, however. There is typical table service, but the activity around the islands brings energy to the main space. There are also three private dining rooms, a necessity for conducting business in Shanghai.

Neri&Hu continued the market theme with custom furnishings and evocative props. Glass-and-wood display

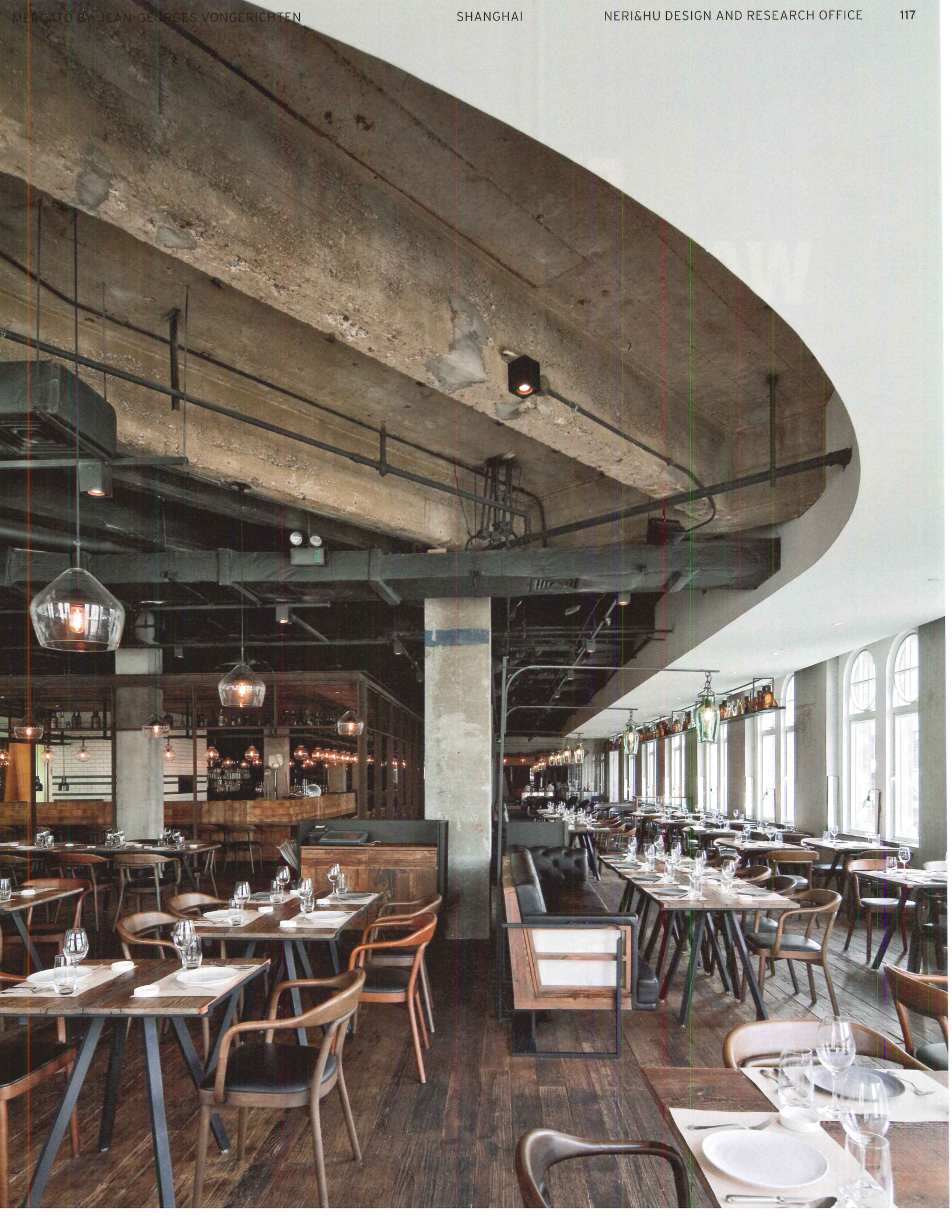
cases—containing vintage scales, binoculars, and rulers and topped with glassware, pots of herbs, and bowls of lemons—divide and define dining and lounge areas. Suspended glass bottles, jars, and flasks add layers of color and texture around windows and above the island seating; and technical drawings of old ship parts, painted on concrete walls, pay homage to Shanghai's history as a port. According to Neri, the rugged architecture drove most of the product and graphic design. The one exception: comfortable mid-20th-century-style tables and seating, upholstered in black leather. "We have a distinct advantage within our practice because we do a lot of the product design," says Neri. "The client didn't have the budget to buy proprietary pieces."

The richness of the deep, earthy browns and blacks allows the real highlight of Mercato—its perimeter wall of windows—to be the restaurant's focal point. Framed by white travertine walls and a slice of white ceiling around the room's perimeter, this fenestration allows Shanghai's muted daylight and fanciful nightlights to filter in. More importantly, it offers some of the city's best views of the Bund's bright white historic buildings, the multicolor skyscrapers of the Lujiazui financial district, and the Huangpu River that runs between them. It is hard to compete with such an exquisite local scene, but the design of the globally inspired Mercato provides a luscious complement. ■

**RAW POWER** Around the perimeter of the room, the walls are clad in white travertine (opposite) to serve as a temporary departure from the otherwise earthy palette and to allow diners to focus on the breathtaking views. The rugged architecture drove most of the product and graphic design. The one exception: comfortable mid-20th-century-style tables and seating, upholstered in black leather (below).









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CIRCLE 46

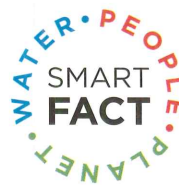


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CIRCLE 38



# RECORD KITCHEN & BATH

121 SAGONACK HOUSE  
 124 MELTZER LOFT  
 127 GRACIE SQUARE MAISONETTE  
 129 MADISONHOUSE

Small and large dwellings, from space-challenged New York City to mountainous La Quinta, California, exhibit clarity and restraint by using pared-down materials. Their designs create cohesion from kitchen to bath, and various rooms in between.



**Sagaponack House** Sagaponack, NY  
 Architect **Bates Masi**

**A UNIQUE SITE**, wedged between the Atlantic Ocean and a freshwater pond on New York's Long Island, gave the Sagaponack House an opportunity to make the most of the scenic views. But the location also posed a challenge to the architects, since coastal and wetland zoning dictated a limited footprint for the property. Bates Masi Architects, of Sag Harbor, New York, viewed this commission as an exercise in reducing and carving out spaces from a solid mass to realize the clients' 7,500-square-foot vacation house.

The "carving" concept is repeated in the smallest detail, even within the house's various wet spaces. The children's bathrooms, for instance, feature skylit tub-and-shower combination rooms that resemble a series of boxes hollowed out from larger volumes. One of the main materials used throughout the house, solid surfacing, figures prominently in each of the sons' baths: tub surrounds chiseled with the kids' own names and nicknames; slotted drain floors; storage niches within the

**BATH TIME** Pebble wall tiles in a child's bath (left) emphasize the interplay of light and shadow. They envelop a custom solid-surfacing tub surround carved with nicknames, as well as a slotted solid-surfacing drain floor in the adjacent shower area.





walls; and countertops with cutouts serving as towel holders. While some of these elements, such as the cubic volumes and planes of solid surfacing, appear again in the parents' bathroom suite, one feature in the four children's baths is singular—striking wall tiles faced with smooth stones. Not only do they convey depth from light hitting the surfaces, but they also add a note of understated whimsy. “It looks like some kid was stacking these up on the wall,” says principal Paul Masi. Still, the master bath has its own perks, such as his and hers steam showers and an outdoor tub.

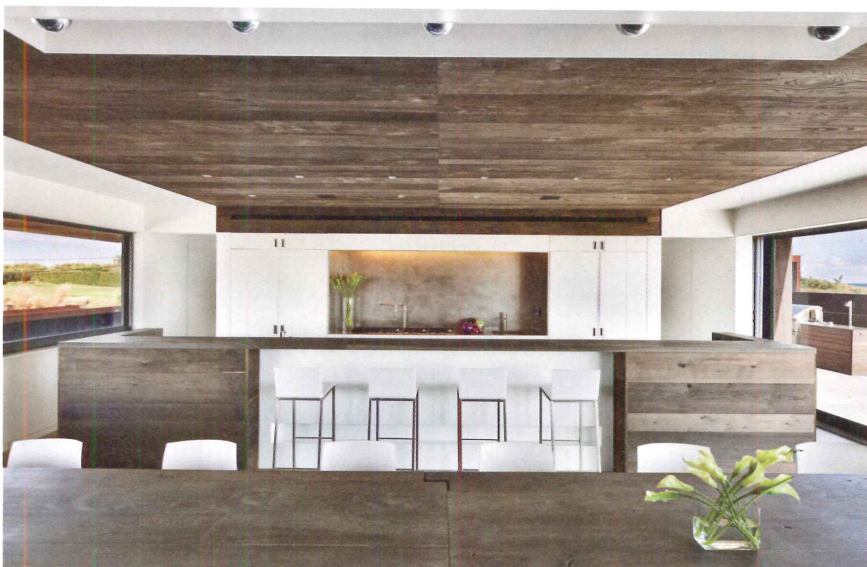
In the house's common areas, the architects juxtaposed layers of contrasting materials to emphasize the play of rectangular masses and voids. The kitchen's breakfast bar/island is clad in oak, which is also used on the space's ceiling, a 20-foot-wide divider wall, and custom dining tables in both the kitchen and a separate dining room. A contrasting solid-surface alcove in the front of the island accommodates pull-out stools. Masi continues the carving out process with a second, deeper recess at the island's base to provide more leg room. Likewise,

a stainless-steel niche visually cuts into white-lacquer cabinets to contain the range, sink, and pot filler. All other appliances are concealed behind the cabinet doors which, like their counterparts in the baths, have flush stainless steel-pulls rather than protruding hardware.

The art displayed on the kitchen's oak divider wall depicts crushed soda cans, while on the other side actual beverages form the main attraction. Some 156 wine bottles rest on mesh-fabric in the wall's integrated rack, gently lit by cold cathode tubes to create ambient lighting for the more formal dining room. “The repetition of the bottles and the label designs is beautiful, much like book spines in a library bookcase,” says Masi. *Sheila Kim*

**MANGIA, BEVI** Oak dominates the kitchen (above and opposite, top), save for white lacquer cabinetry that conceals appliances and frames a stainless-steel backsplash. Flooring throughout is poured concrete. For the custom wine rack (opposite, bottom), the architects used mirror-glass to capture reflections of movement, while long swaths of mesh fabric hold the bottles. The custom ceiling fixture is a Lucite box with silver-tip bulbs.





## credits

**ARCHITECT:** Bates Masi Architects – Paul Masi, principal in charge; Harry Bates, principal; Aaron Weil, project leader; Satoshi Ohkami; Kerry Sandoval

**INTERIOR DESIGN CONSULTANT:** Victoria Pryor

**GENERAL CONTRACTOR:** Wright & Co. Construction

### SOURCES

**MILLWORK:** Molina Furnishings

**WINDOWS AND GLAZING:** Pilkington; Arcadia; Kawneer

**SLIDING DOORS:** Arcadia

**PLUMBING:** Jado Porcher (tubs); Lacava (bath fittings); Grohe (kitchen fixtures);

Hangrohe (kitchen fixtures)

**POURED CONCRETE:** Get Real Surfaces

**WALL TILE:** Ann Sacks (kids' baths)

**BATH GLASS:** Westhampton Glass

**INTERIOR LIGHTING:** Element Lighting; Delta Lighting

**PULLS:** Gruppo Romi

**FURNITURE:** ABC Home (dining chairs); Unica Home (stools); James Damato (dining tables)

**SURFACES AND FINISHES:** Corian (solid surfacing); Tebbens Steel (backsplash); Benjamin Moore (paint)





Meltzer Loft New York City  
Architect Reddymade Design



**FOCAL POINT** Glossy white kitchen cabinets serve as a neutral backdrop for the client's collection of vintage furniture, such as the early 1970s-era dining table by Vladimir Kagan (above). To introduce some color, Reddy created an ingenious modular bar—in a vibrant red—that glides in and out of the counter (above and opposite), extending the surface for serving and visually separating the kitchen when desired.

**THERE'S A TRICK** to living in small spaces, explains designer Suchi Reddy, who crafted her own 375-square-foot Greenwich Village apartment like a “little ship: everything is built in, everything is white, and everything has to be in its place.” So when former gallerist Sara Meltzer, a single mom with 8-year-old twins, asked Reddy to renovate her 2,400-square-foot Tribeca loft within a tight budget—and an even tighter time frame—the resourceful principal of Reddymade Design [Quick Take, page 62] used her own lifestyle as a guide.

Working with the existing floor plan—which included adequate mechanicals, electrical, and plumbing—Reddy focused on reportioning the layout. She added room-dividing shelves in the bedrooms that blend with the unit's bleached-wood floors, upgraded the master bath, and painted the entire apartment white—a quiet palette for the client's eclectic mix of contemporary art and vintage 20th-century furnishings. She even revived a tired 30-square-foot powder room with a serviceable





black mosaic floor by painting its badly patched ceiling in the same obsidian color and wrapping the walls in a playfully irreverent black-and-white “Sassy Toile” wall covering. The kitchen, however, needed a lot of work.

Open to the living room, “It was too small, and the refrigerator door was too big—it didn’t open properly,” recalls Reddy. And though the other appliances were usable, the island was so shallow and far from the range and sink that it wasn’t functional, while stained-wood cabinets with frosted glass insets, a tiled backsplash, and dark counters looked messy and dated.

Mindful of budget, the designer maintained the same footprint and swapped the cabinetry for a glossy white IKEA line, increasing storage in the 154-square-foot kitchen with an expanded island. She installed a durable fused-glass counter and backsplash, then replaced the 36-inch refrigerator with a shallow double-door, freezer-drawer model surfaced with chalkboard for the kids’ schedule.

To chime with her client’s sense of graphic style and color, as well as to create a subtle division between the kitchen and living areas when she entertains, Reddy inserted a red-gloss laminate bar into the island counter that glides in and out on casters. Thick chopping blocks fill the gap when it’s extended. This friendly barrier also keeps guests out of the prep area when the cook needs to concentrate.

The job was delivered in about six weeks, on budget. “There is nothing special,” says Reddy. “It’s just simple.” Simplicity is often the best policy. *Linda C. Lentz*

## credits

**ARCHITECT:** Reddymade Design  
– Suchi Reddy, principal; Jameela Derrick, Kathryn Wise, interns

**GENERAL CONTRACTOR:**  
Spearhead Builders

**CONSULTANT:** Adam Manjira Lesser  
(millwork)

**COST:** \$33,000

**COMPLETION DATE:** November 2012

## SOURCES

**APPLIANCES:** Liebherr  
(refrigerator); Wolf (range and hood)

**MILLWORK:** IKEA (cabinets); Mockett  
(hardware); Formica (red laminate)

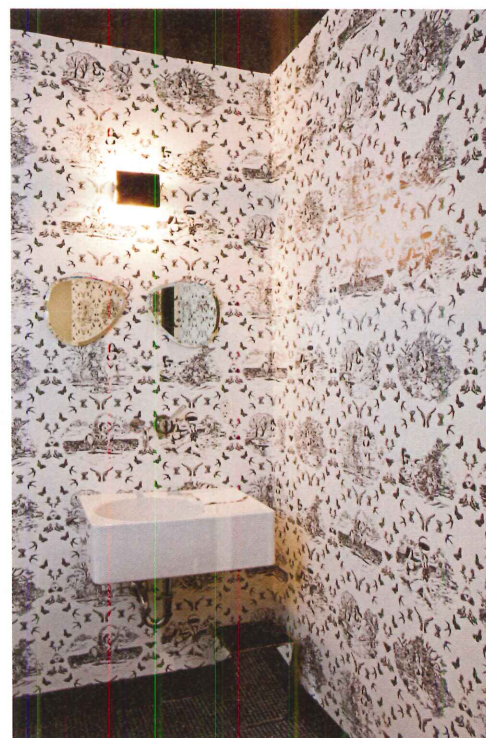
**LIGHTING:** WAC (kitchen downlights);  
Rewire Los Angeles (vintage Charlotte  
Perriand sconce); Lutron (controls)

**FIXTURES & FITTINGS:** Vigo  
(kitchen faucet); Duravit (powder room  
basin); Nigel Coates (powder room  
mirror);

**SURFACES:** Glassos (kitchen  
counter); Flavor Paper (powder room  
wallcovering); Benjamin Moore (paint)

## CONVERSATION

**STARTER** The powder room (right) features traditional materials with a twist. The black-and-white wall covering is a slightly risqué variation on toile, the sink was originally designed for the German school system, and the mirrors evoke old aviator glasses. The sconce, however, is an actual vintage Charlotte Perriand.







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CIRCLE 41





**Gracie Square** New York City  
Architect **JM Design and NYLoft**

**IT WAS** a tall order for a petite Upper East Side apartment: the clients—a business executive and an artist—needed to dine, entertain, and relax with their four sons within the duplex’s 700-square-foot ground level. Furthermore, it was a first-time collaboration between architect Jeannette Menasce, who designed the entire residence, and Ana Sternberg, CEO of Bazzèo by NYLoft, a boutique cabinetry company. Despite these challenges, the two joined forces and transformed the Gracie Square maisonette kitchen into a sleek, shape-shifting space.

Having spent nearly a year imbuing the rest of the maisonette with economical sophistication, Menasce had clarity on the program needs. “The design intent was to merge the different functions and activities of the kitchen,” she explains. To unify the kitchen, dining room, and den, she relied on strong, horizontal lines and a spare color palette of high-gloss white, rich walnut, and subdued grays.

The island, custom-made by Bazzèo with reclaimed hardwood, is the kitchen’s centerpiece. While monolithic, its cleverly concealed base and dramatically chamfered countertop create the illusion of weightlessness. Along with obscuring appliances and storage, the island hides an inventive folded wing that converts the countertop into a dining table. Sternberg and Menasce enabled the storage system to become part of the room’s overall design. “We suggested using the walnut in the cabinet interiors, so when you open the doors, it forms a backdrop,” Sternberg explains. This simple method of revealing different materials alters the room’s atmosphere. “The space is constantly changing,” says Menasce. “Movement, in itself, is design.” *Anna Fixsen*



**SHAPE-SHIFTER** The custom island by Bazzèo is the centerpiece of the Gracie Square maisonette kitchen: the walnut top unfolds to rest on a small base that is easily stowed away in a lacquered cabinet below. The clients report that it once seated 17 guests. “It’s a lot of fun,” says Menasce. “That whole center island really comes alive.”

#### credits

**ARCHITECT:**  
Jeannette Menasce  
**ARCHITECT OF RECORD:** RKT Architects  
**GENERAL CONTRACTOR:**  
Structure Contracting

#### SOURCES

**CABINETS:**  
Bazzèo by NYLoft  
**SOLID SURFACING:**  
Caesarstone  
**APPLIANCES:** Miele;  
Viking (range)  
**PLUMBING:** Elkay (sink);  
Dornbracht (faucet)  
**FLOOR AND WALL TILE:**  
New York Stone  
**DOOR TRACK SYSTEM:**  
Klein USA  
**LIGHTING:** Flos  
(pendants); Contrast  
Lighting (downlights)



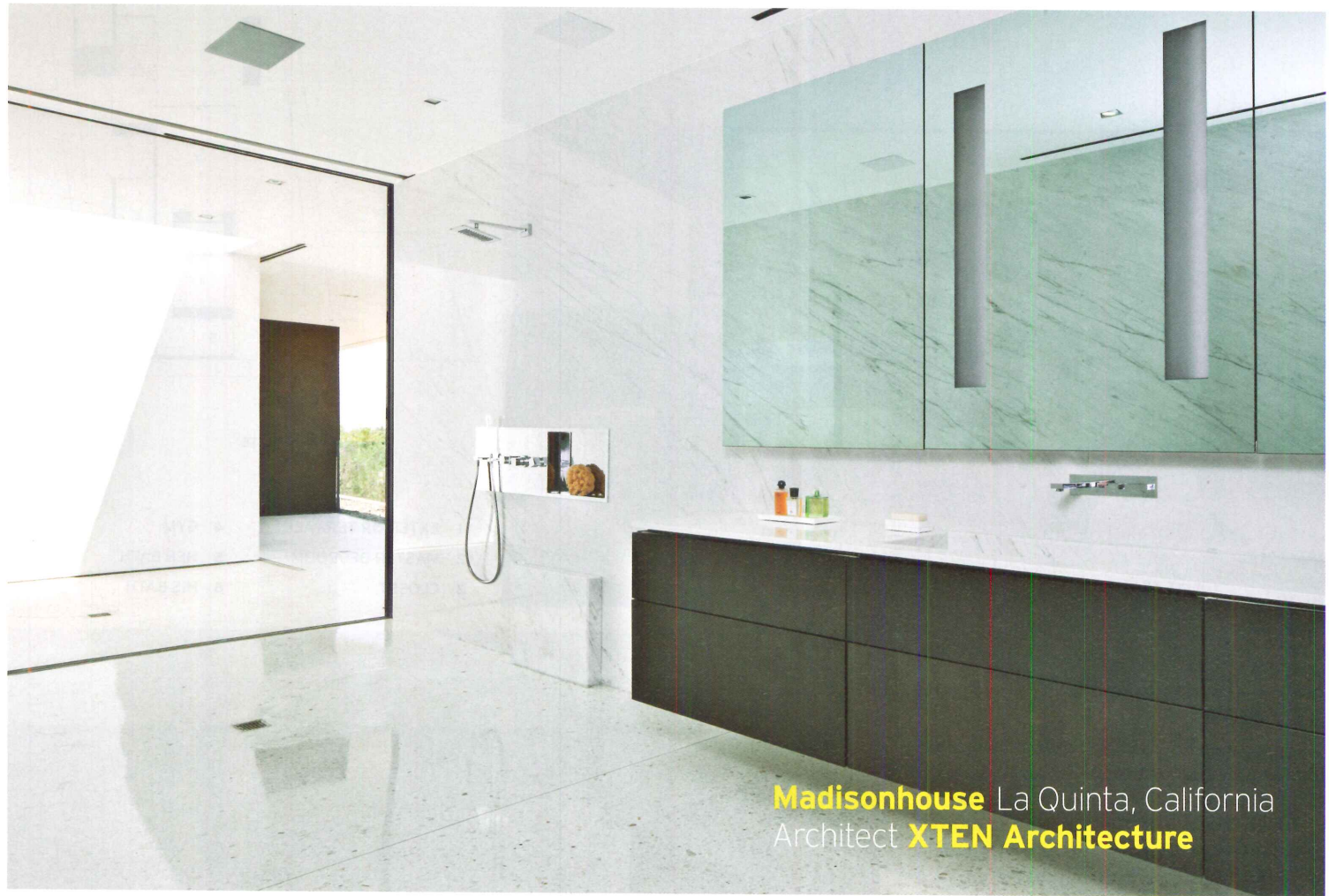


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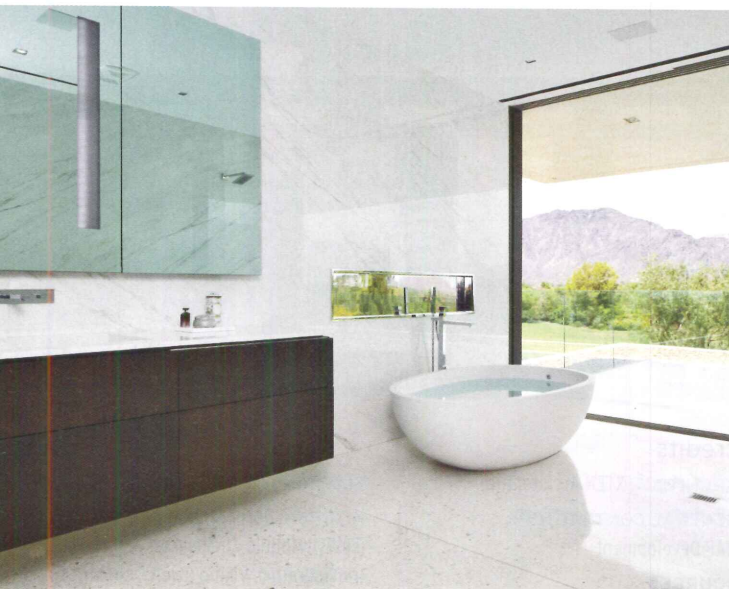
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Onto, Matteo Thun





**Madisonhouse** La Quinta, California  
Architect **XTEN Architecture**

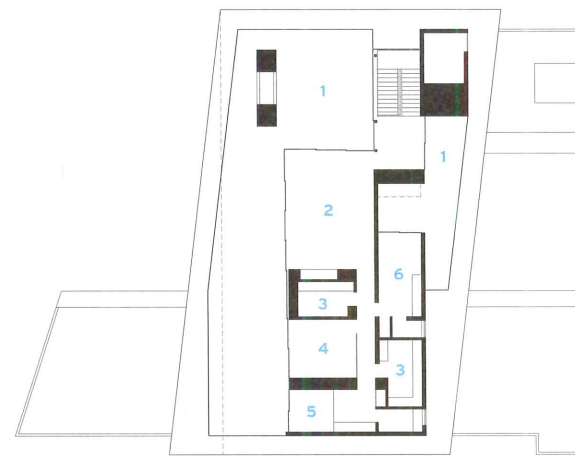


**HIS AND HERS** In the master-bathroom suite, his bath (top) is one large shower room with drainage built into the terrazzo floor. The marble-topped oak vanity spans 12 feet in length. Her bath (above) features a freestanding egg-shaped tub with a rain shower just beside it. Glass pocket walls in both baths give way to outdoor terraces.

**MADISONHOUSE**, named for the Madison neighborhood of La Quinta, California, where it is located, could also be called “Open House” in terms of its design. And that is how the property’s dwellers wanted it. XTEN Architecture was given almost completely free rein to create a true outdoor-living home, with unobstructed views of the area’s mountains. After executing sun diagrams and desert-climate studies, the architects created a 10,650-square-foot house that features expanses of sliding and pivoting glass doors and walls in even the most private of spaces—the bathrooms.

There were, of course, a few programming mandates, such as separate his and hers baths in the second floor’s master-bedroom suite. The husband’s is like one giant shower, with a drain integrated into the room’s terrazzo floor. The wife’s has a similar shower, with a drain floor, but the room’s centerpiece is a sculptural, freestanding tub. Next to the shower in the husband’s bath, a full-height glass wall slides into a pocket frame, giving him direct access to an outdoor terrace that overlooks the house’s courtyard; the bath sliding wall for the wife opens onto a terrace that is exposed to a swimming pool below and a nearby golf course. The differences end there: both spaces feature white marble walls with custom chrome accents and marble-topped rift-cut-oak sink vanities. The medicine cabinets in each of the spaces have built-in lighting and television screens behind their mirrored fronts. Mechanized shades in the ceiling can be lowered to afford privacy in either bath, and the generous overhangs of the ground-level





MASTER SUITE



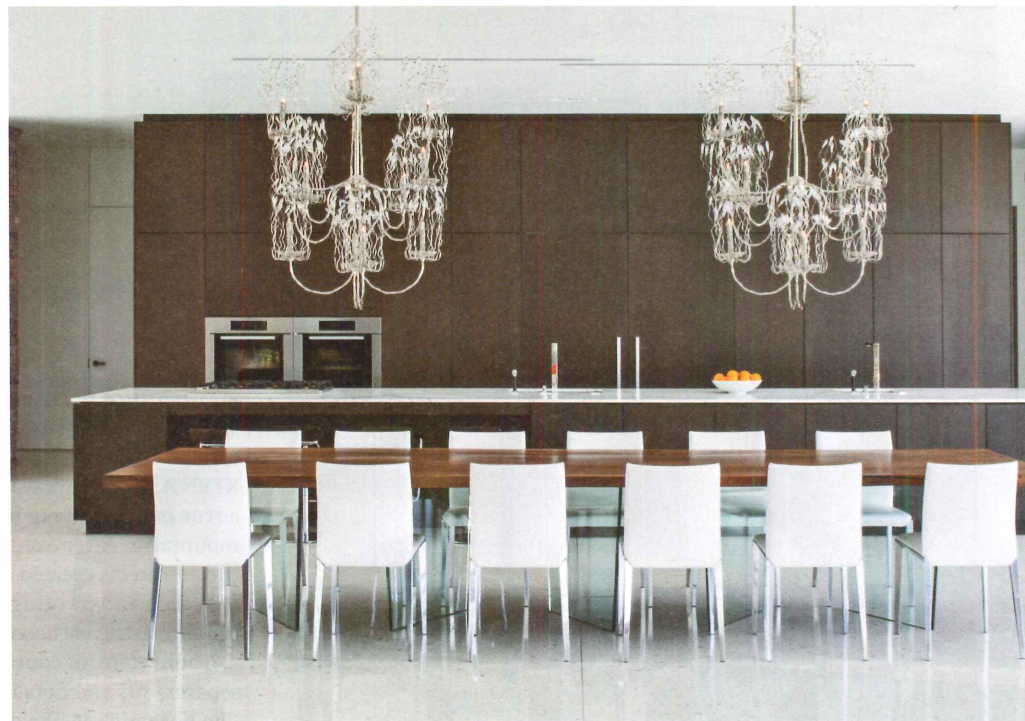
- |                    |            |
|--------------------|------------|
| 1 EXTERIOR TERRACE | 4 GYM      |
| 2 MASTER BEDROOM   | 5 HER BATH |
| 3 CLOSET           | 6 HIS BATH |

floor's roof help shield the wife's tub from public view.

The concept of blurring the line between indoor and outdoor spaces weaves its way through the rest of the house, as does the restrained palette. In the kitchen and dining area, a massive, dark-oak cabinetry wall and an island, each approximately 30 feet in length, anchor the space. A lightly veined marble forms the countertop. The architects concealed the appliances within these pieces, with vertical refrigerator pulls the only conspicuous element.

Contrasting with these weighty units are the dining table and chandeliers. "There are so many other massive elements here," explains Austin Kelly, AIA, principal of XTEN. Using a 17-foot-long slab of sustainably harvested walnut, the architects customized a table Kelly had seen at a John Houshmand showroom, recessing the piece's glass-fin base into the top to enhance its floating appearance. They chose crystal-and-soldered-metal chandeliers for their softer, filigreed quality. "The lines also echo the contours of the palo verde tree, which we planted in the courtyard," says Kelly.

On the east elevation, glass doors pivot open to the courtyard, while the opposite side's glass walls slide away for easy access to the pool. "I was there when it was 110 degrees, but once everything was open, a great cross breeze coming down the valley made it feel like 80," says Kelly. "We designed the house to open to become this comfortable, natural thermal chimney." *Sheila Kim*



**LINE DANCING** Deep terraces outside the master baths (top) reinforce the horizontal planes of the house. Bronzed anodized aluminum frames the openings. The dining table (above) appears to float, thanks to its base of angled glass fins. The architects installed two chandeliers because "one is a focal point, but two create a line," says Kelly.

#### credits

**ARCHITECT:** XTEN Architecture

**GENERAL CONTRACTOR:** MAP Development

#### SOURCES

**MILLWORK:** APAL Distribution

**GLAZING:** Glassmasters

**SLIDING DOORS:** Fleetwood Doors & Windows

**COUNTERTOPS:** Herrera Marble

**FLOORING:** Marbella Flooring

**KITCHEN:** Dornbracht (faucets); Franke (sinks); Modulo Cucine (cabinetry); Miele (refrigerator); Viking (ovens, cooktops)

**DINING FURNITURE:** John Houshmand (table); Molteni (chairs); GGM Italy (stools)

**CHANDELIERS:** Brand van Egmond

**BATH FIXTURES:** Gessi (showers, faucets, mixers, tub filler); Agape (tub)





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CIRCLE 34



# Making Sense of the New LEED

The latest version of the widely adopted green building standard is set to debut in November with the most thorough overhaul since its inception. Here's what you need to know. [By Nadav Malin](#)

A REVAMPED LEED is launching later this year. The new rating system, referred to as LEED version 4, or v4 for short, has generated a lot of controversy in the design and construction industry, both from practitioners concerned about how different it is from the current LEED, and from product suppliers worried about new demands from their customers.

Mara Baum, director of sustainability for HOK's healthcare practice, captures the mood well when she says, "It feels like too much change now, but that's making up for not enough change in the last few years," noting that many aspects of LEED hadn't been modified since the launch of version 2.0 in 2000. "The old version was starting to feel stale," Josh Radoff, principal with the consulting firm YR&G Sustainability, concurs.

There are important pieces that were missing from the rating system, according to Scot Horst, senior vice president for LEED at the U.S. Green Building Council (USGBC). In the realm of product ingredients, for example, "We still don't know what it is we're bringing into our space and exposing ourselves to when we do a green building," he says. "It's kind of a shameful thing." A new ingredient-transparency credit to address this shortcoming has proved particularly controversial, raising the ire of some product manufacturers and their suppliers in the chemical industry.

Since it first launched in March of 2000, LEED has been through many incremental revisions. It expanded from one rating system, initially created for office buildings—LEED for New Construction and Major Renovations—into multiple rating systems for different building types, including schools and healthcare facilities. The most noteworthy changes were the addition of LEED for Existing Buildings (EB) and LEED for Commercial Interiors (CI) in 2004, and then an update that aligned all the rating systems around a consistent 100-point scale in 2009.

LEED EB, now called "LEED for Existing Buildings: Operations and Maintenance," covers retrofits and ongoing operations but not major renovations. It now rivals the new-construction rating systems in market reach, with approximately 2,500 projects certified, comprising over one billion square feet. Unlike the new construction rating systems, which award points based on predicted energy and water efficiency, LEED EB rewards actual performance.

## LEED V4 KEY CONCEPTS

THE LATEST VERSION OF THE RATING SYSTEM INTRODUCES SEVERAL NEW STRATEGIES FOR REALIZING BETTER-PERFORMING, HEALTHIER BUILDINGS, WITH SMALLER ENVIRONMENTAL FOOTPRINTS.

### INTEGRATIVE PROCESS

THE NEW CREDIT FOR INTEGRATIVE PROCESS, A COLLABORATIVE WORKING METHOD OFTEN REFERRED TO AS "INTEGRATED DESIGN," SPELLS OUT STEPS FOR IDENTIFYING OPPORTUNITIES FOR ENERGY AND WATER SAVINGS THROUGH AN EARLY EXAMINATION OF INTERRELATIONSHIPS AMONG BUILDING SYSTEMS.

### LIFE-CYCLE ASSESSMENT (LCA)

TWO CREDITS IN LEED V4 RELY ON LCA—AN ANALYSIS TECHNIQUE THAT QUANTIFIES THE IMPACTS ASSOCIATED WITH ALL STAGES OF THE LIFE OF A PRODUCT OR A BUILDING, FROM RAW-MATERIAL EXTRACTION THROUGH INSTALLATION OR, IN SOME CASES, USE AND DISPOSAL.

### MATERIALS SOURCING AND TRANSPARENCY

ONE OF SEVERAL NEW MATERIALS CREDITS ENCOURAGES PRODUCT SUPPLIERS TO DISCLOSE THEIR USE OF POTENTIALLY TOXIC SUBSTANCES.

### ENVELOPE COMMISSIONING

LEED V4 INCLUDES AN OPTION FOR TESTING THE BUILDING'S EXTERIOR ENVELOPE FOR AIR- AND WATER-TIGHTNESS.

Short of making all projects wait for certification until they've demonstrated that they actually perform as predicted—which might discourage many owners from pursuing LEED—the USGBC is moving to strengthen the connection between aspiration and performance. For example, according to Radoff, unlike the old measurement and verification credit, the new advanced-energy-metering credit "reflects how operators use data, and gives people a better head start" at tracking their actual performance.

### CHANGE AT LAST

The update was developed in accordance with the USGBC's consensus process, which includes volunteer committees and "technical advisory groups" who draft changes, and multiple public-comment cycles that provide stakeholders—both USGBC

members and nonmembers—the opportunity to weigh in. LEED v4 was approved in July by 86 percent of the voting body, after three years of development and six public-comment periods.

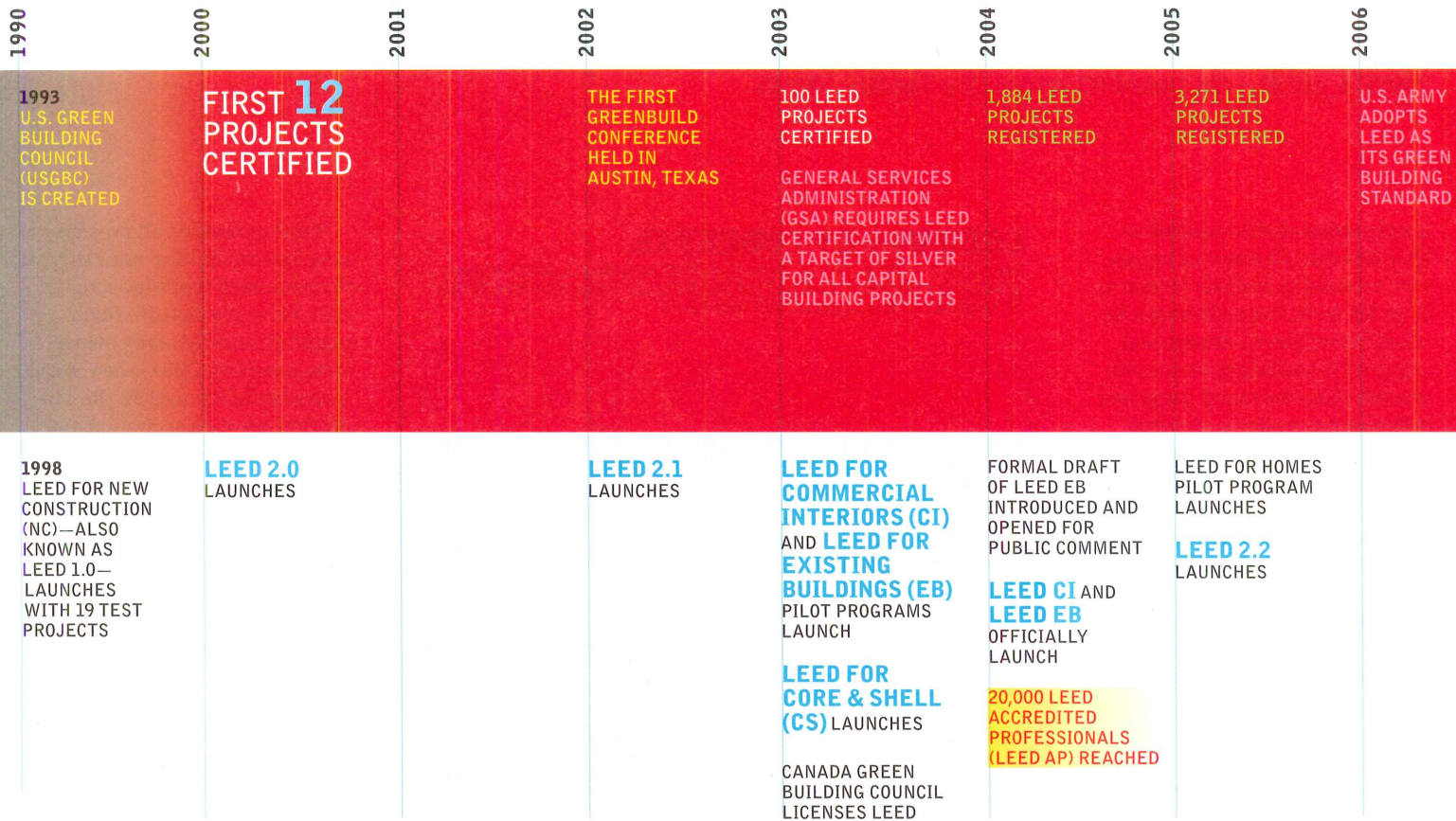
For the previous release, LEED 2009, the USGBC determined that the market was still getting familiar with the rating system and wasn't ready to accommodate major changes. The earlier update focused on point reallocations rather than the rating system's content, and it required only two public-comment periods before the member ballot. But that restraint created enormous pent-up demand for changes, inside and outside the organization. There was much broader audience participation this time, says Chrissy Macken, USGBC's assistant project manager for v4, both because LEED is now more widely used and because "it's the first time that we've proposed changes to basically every prerequisite and credit."

LEED v4, originally slated to launch in 2012, is now set for public release in November. That's when project teams will be able to register and get access to online forms, reference guides, and other supporting materials. However, in response to concerns that some product- and materials-related measures in the new system are too far ahead of the market, USGBC took the unusual step of promising to keep LEED 2009—also known as LEED version 3—open until June 2015. For approximately a year and a half, teams will have the option of registering for either system.



# LEED TIMELINE

SINCE ITS LAUNCH MORE THAN A DECADE AGO, THE RATING SYSTEM



The USGBC has already announced incentives for opting into the new system, such as waiving the application fee for the first project in each country to achieve Platinum—the highest possible LEED rating. There will probably be more such enticements as the USGBC tries to convince project teams to make the leap to v4, even while the more familiar LEED 2009 is still available.

“My hunch is that it will be a harder sell to use v4,” says Radoff. The latest version raises the bar for energy performance and in other key areas, so “to earn the most points and get the highest level certification, 2009 will be the answer,” he says. However, Radoff believes that updates in v4 make it a better tool for guidance on green strategies, so YR&G will be using it as a reference, along with other sources, even on projects that are seeking certification under LEED 2009.

### WAITING AND SEEING

“People will hold off on v4 for as long as possible,” predicts Kirsten Ritchie, sustainable-design director at Gensler in San Francisco. Ritchie is especially concerned about the effort needed to update all the LEED documentation infrastructure that has been built into the construction process over the past decade.

Baum suggests reviewing both rating systems’ checklists to see if there are particular aspects of the project that might better align with one or the other. But to go with v4, she warns, the client will have to be comfortable with uncharted territory. “We simply don’t know how long it will take to document some of these new credits,” she adds.

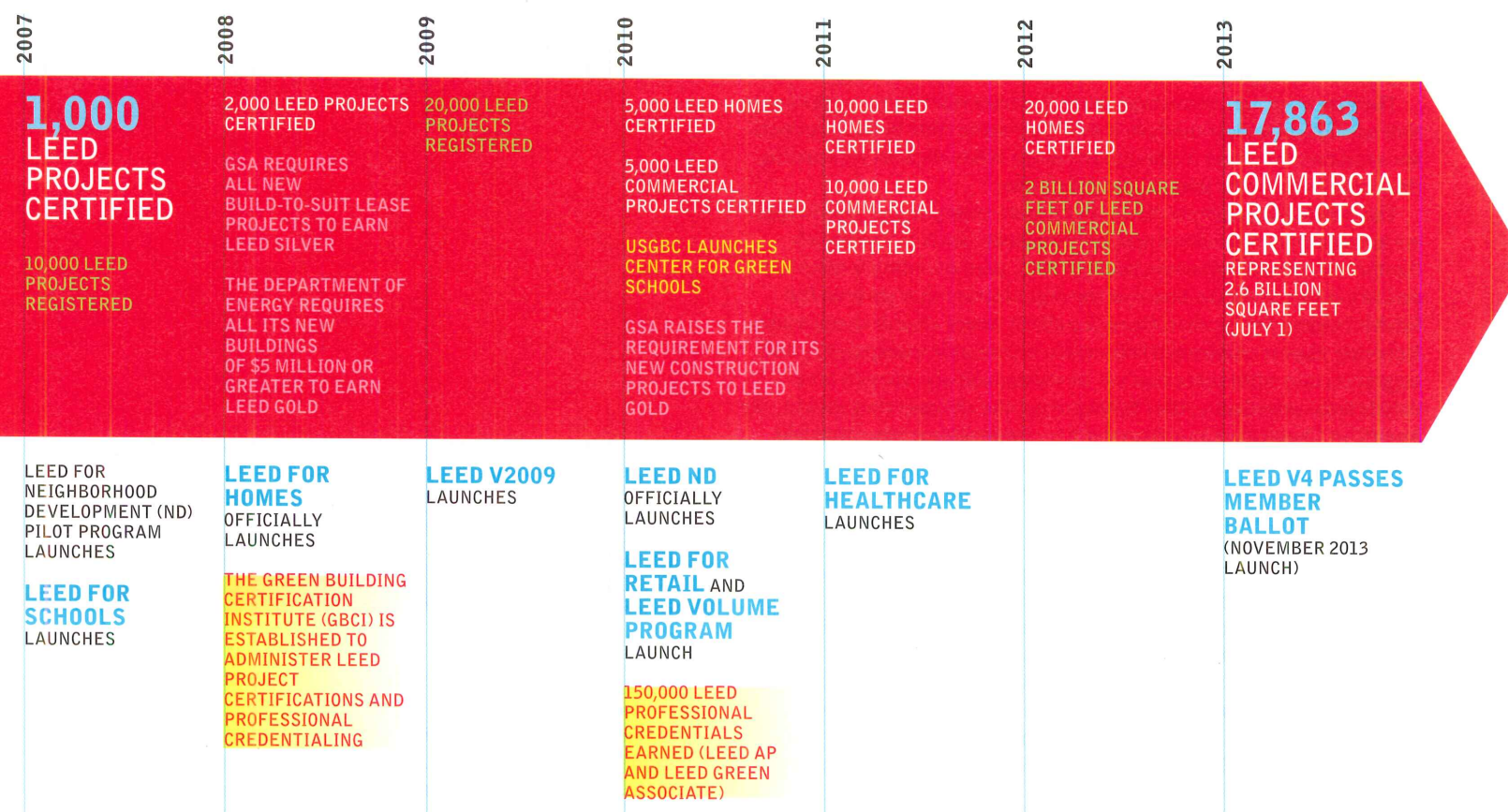
There are reasons an owner might opt to use LEED v4 despite the unknowns. “We have some clients who may be just game to move the ball forward,” says Radoff. There are those clients seeking the prestige of being associated with the latest version. The market in general, however, is unlikely to value a v4 certification more highly than a LEED 2009 certification, according to Radoff.

The USGBC doesn’t have a great track record when it comes to managing major version upgrades and new platforms—frequent software glitches and inconsistent guidance have complicated life for users. That may be enough to convince many project teams to take a wait-and-see approach, in the hope that most technical problems are resolved before the LEED 2009 option goes away. But this time, the USGBC has taken steps to achieve a smooth launch. The organization started much earlier in developing the supporting materials and systems, coordinated development of reference guides and submission forms so that they are better aligned, and has been testing these tools on about 100 actual projects since the spring of 2013, with the help of volunteer beta testers.

Through its certification arm, the Green Building Certification Institute, the USGBC has also taken much tighter control of the LEED review process over the past two years. They’ve hired dozens of experienced professionals to oversee reviews to try to avoid the inconsistency and quality problems that plagued LEED reviews when, starting in 2008, they were largely outsourced. Finally, the credit forms that teams fill out to document their compliance have been simplified and streamlined, according to Macken.



## HAS EXPERIENCED EXPONENTIAL GROWTH



### THE BRASS TACKS

Changes in this version are broad and deep. Along with myriad minor adjustments, there are fundamental modifications. In the Location and Transportation category, for example, the credit rewarding brown-field redevelopment has been expanded to address building in areas such as historic districts and federal enterprise zones. Also, to encourage bicycling, it's no longer enough to provide a bike rack and showers; the project also has to show that it's accessible via bike paths. Some changes are largely pedagogical: "stormwater management" was changed to "rainwater management" to better reflect the value of rain as a resource rather than as a problem to be drained away.

In some cases, seemingly minor changes have major implications. Just changing the referenced energy standard from the 2007 version of ASHRAE 90.1 to the 2010 version will make it more difficult to pursue LEED and reduce the number of energy points most projects earn. "The increment jump between the two is pretty significant," says Radoff.

Among the entirely new elements of v4 is a credit for integrative process. This approach (also known as "integrated design") is widely understood as key in creating high-performance buildings in a cost-effective way, but it has never been explicitly encouraged in LEED before. The new credit spells out the steps for identifying energy- and water-saving opportunities early, before designs are too developed. (A previous draft of the credit included a broader range of assessments, but it was simplified in response to public comments.) Early feedback on this new option has been positive.

More controversial, however, is the new focus in the Materials and Resources category on environmental life-cycle assessment (LCA). LCA is a method for measuring and gauging the impact of all the stages in the production of a product or building, from raw-material extraction through installation, or, in some cases, use and disposal. It has been employed for several decades as a product-development tool within corporations; more recently, it has emerged as a way to inform smart product choices in design and other realms.

LEED version 4 introduces LCA at two levels: the whole building and individual products. The whole-building LCA credit encourages use of LCA tools in the design of a building's structure and shell to minimize the impact of the chosen materials. Ideally, this process invites the structural engineer into design decisions, just as energy modeling engages mechanical engineers in decisions about a building's thermal characteristics.

Frances Yang, a structural engineer in the San Francisco office of Arup, likes the way this credit brings more parties to the design table early in the process, but notes that "the rules aren't really clearly defined." Nevertheless, "many of my structural engineering colleagues are looking at this and starting to experiment with it," she says.

At the product level, v4 rewards projects for using materials that have an environmental product declaration (EPD), a third-party-validated LCA summary. While EPDs are a new thing in the U.S., they are well established in Europe, and many manufacturers are responding to LEED's forthcoming mandate by developing them for their U.S. products. Given





the growing use of LEED internationally, Horst feels that it's important for the rating system to adopt EPDs. "LEED was more provincial before the introduction of v4," he says.

The Materials and Resources category also includes new credits that address how raw materials are extracted and potential health hazards in product ingredients. Both of these aspects of a building materials' impact are not captured well in LCA studies or their resulting EPDs.

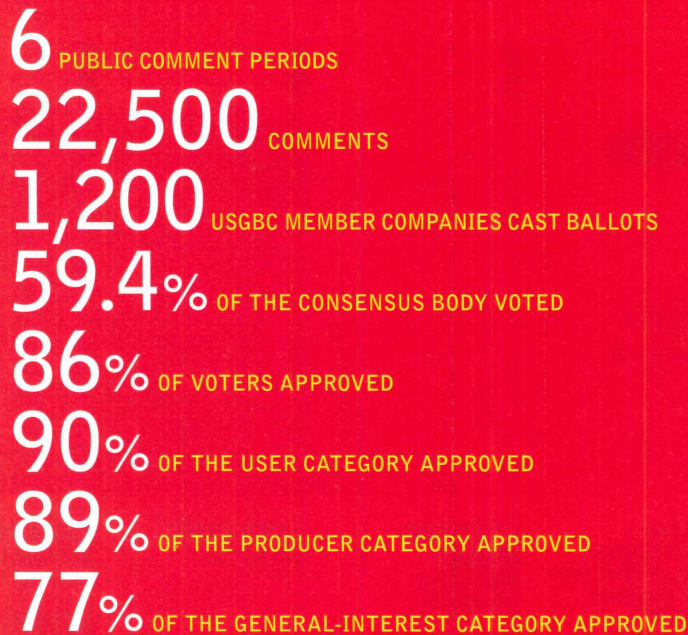
The raw-materials extraction credit includes references to standards that are not yet widely used, so it may take some time before products are available that meet it (though there are other avenues for earning the credit that can be used in the meantime).

The product-ingredients credit seeks more transparency from suppliers and relies on relatively unproven standards, such as the Health Product Declaration (RECORD, January 2013, page 63; editor's note: the article's author is on the board of the organization that governs the Health Product Declaration Open Standard). Major chemical and manufacturing players challenged this credit: it demands transparency and targets certain substances that are in widespread use, such as brominated flame retardants. After failing to get the changes they sought, the American Chemistry Council and other organizations have attacked LEED, seeking, among other measures, to prevent the government from using the rating system. Whether they triumph is yet to be seen.

Some of the changes in v4 are intended to make better-performing buildings. Previous versions of the rating system have successfully created an entire industry for building commissioning—an intensive quality-assurance process that begins during design and continues through construction, occupancy, and operation. Commissioning is generally credited with improving how building systems work, and now v4 is expanding that scope by including an option to test the building envelope for air- and weather-tightness. This testing was initially proposed as a prerequisite, which would have made it a requirement for all LEED projects, but it was downgraded to an optional credit in response to cost concerns.

Ritchie is happy to see this new option in LEED. "In hot, humid climates, building-envelope commissioning should be standard prac-

## LEED V4 BY THE NUMBERS



tice," she says. Ritchie points to the benefits in controlling moisture penetration and protecting occupant health. "The challenge early on will be finding enough qualified providers," she adds.

Ritchie is also pleased that LEED has added an option that should encourage project teams to attend to acoustical qualities. LEED for Schools has included both a prerequisite and a credit for acoustics since its launch in 2008, in recognition of the critical role of classroom acoustics in learning. Some of that language has been incorporated into credits in the other LEED rating systems—a move that's likely to bring acousticians into the design process on more projects and raise the rating system's credentials for improving occupant health and well-being, Ritchie suggests.

### THE FINAL SCORE

Despite concerns about some of the details, most LEED experts are pleased that v4 is finally becoming available. With the higher bar in key measures, LEED is retaining its leadership role, so it's still "a good way for clients to communicate their sustainability goals and achievements to a broader market," says Yang.

Radoff points out that LEED certification isn't a guarantee of a great space for building occupants: "You can design a lot of cubicles without access to operable windows or daylighting and still do OK in v4." But he acknowledges it wouldn't have been appropriate to make those elements mandatory for all projects. Ritchie, meanwhile, is concerned about too much change. "I wish we could have found a way to keep more of version 3, since we have good traction with that," she says.

LEED has been as successful as it's been for the past decade by walking a fine line between leading the construction industry into sustainability and not getting too far out in front. Only the market will tell if this new version maintains that balance. ■

Nadav Malin is president of Brattleboro, Vermont-based BuildingGreen, the publisher of Environmental Building News and LEEDuser.



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### Learning Objectives

- 1 Outline new strategies incorporated into LEED v4, and

explain how these strategies address limitations of earlier versions of the rating system.

- 2 Define "integrative process" and explain why such a process should result in a more energy- and water-efficient building.
- 3 Define the concept "life-cycle assessment" and discuss how it applies to a building and its components.
- 4 Discuss those aspects of LEED v4 intended to encourage manufacturers to disclose product ingredients and explain why they have been particularly controversial.

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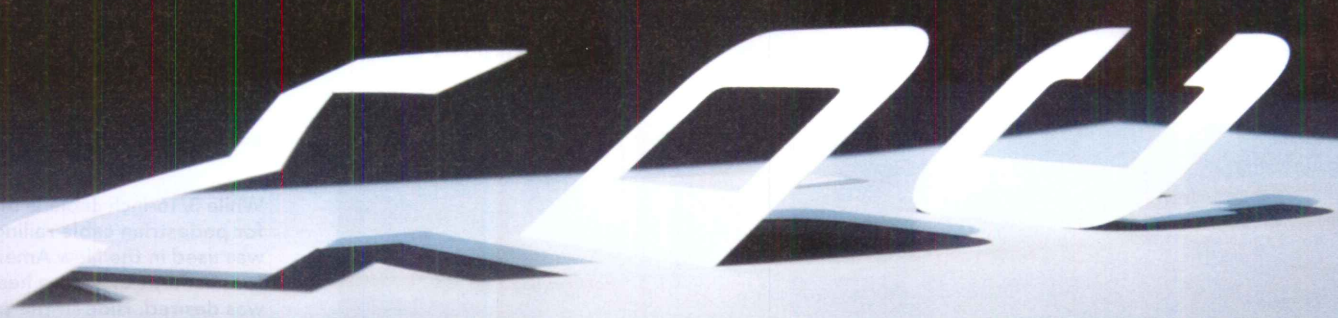


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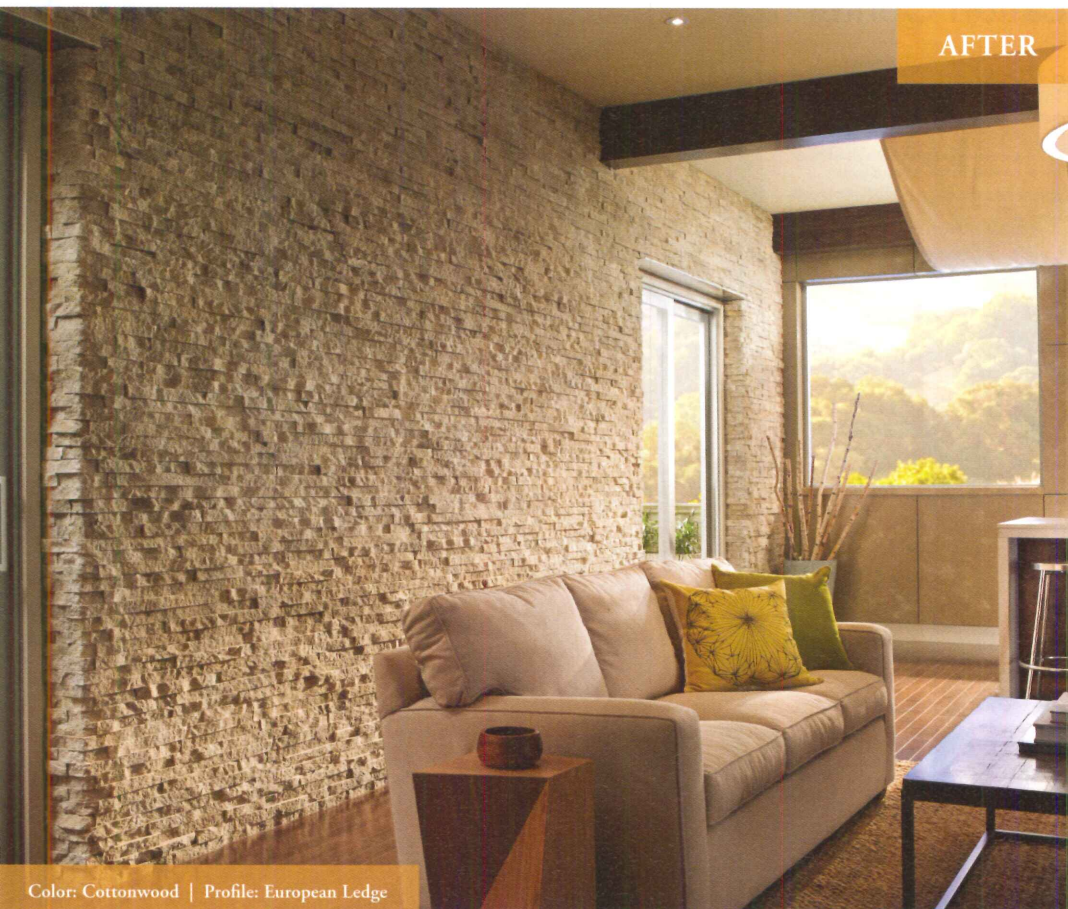


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## ARCHITECTURAL RECORD Continuing Education Center

### Sculpting the Skyline

FROM ARCHITECTURAL RECORD

By Joann Gonchar, AIA

The article explores the architectural concepts and structural strategies behind Kuwait City's tallest building and discusses the construction methods used to build it.

#### LEARNING OBJECTIVES

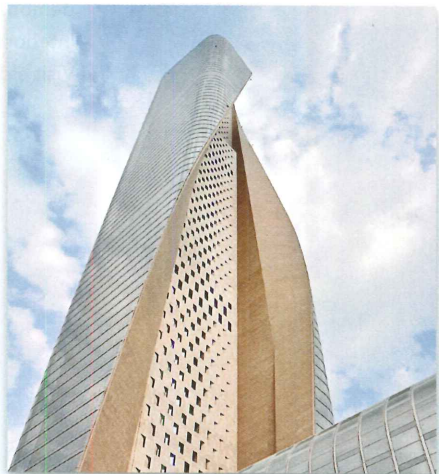
- 1 Explain how evaluation of programmatic requirements and environmental conditions helped designers generate the form of Kuwait City's Al Hamra Firdous Tower.
- 2 Describe the key structural elements of the tower and its foundations.
- 3 Explain the structural and construction challenges presented by the tower's geometry.
- 4 Describe how construction methods were adapted for the harsh desert environment.

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Photo: WG Clark Construction

## Design Is in the Details

Ensuring durability in wood construction

Sponsored by reThink Wood, American Wood Council, and US WoodWorks

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Photo: Bob Perzel

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Photo courtesy of WG Clark Construction; Architect: Ankrom Moisan Architects

Campus housing under construction  
Project: Mercer Court, University of  
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# Design Is in the Details

Ensuring durability in wood construction

Sponsored by reThink Wood, American Wood Council, and US WoodWorks | *By Layne Evans*

Architects specify wood for many reasons, including cost, ease and efficiency of construction, design versatility, and sustainability—as well as its beauty and the innate appeal of nature and natural materials. Innovative new technologies and building systems are also leading to the increased use of wood as a structural material, not only in houses, schools, and other traditional applications, but in larger, taller, and more visionary wood buildings. But even as the use of wood is expanding, one significant characteristic of wood buildings is often underestimated: their durability. Misperceptions still exist that buildings made of materials such as concrete or steel last longer than buildings made of wood. Although this connection between materials and building longevity is often assumed, it is not borne out in fact, as will be discussed in this course.

Examples of wood buildings that have stood for centuries exist all over the world, including the Horu-ji temple in Ikaruga, Japan, built in the eighth century, stave churches in Norway, the oldest remaining built in Urnes in 1150, and many more. Today, wood is being used in a wider range of buildings than would have been possible

even 20 years ago. Glued laminated timber (glulam), cross laminated timber (CLT), and a variety of structural composite lumber products are enabling increased dimensional stability and strength, and greater long-span capabilities.

These innovations are leading to taller, highly innovative wood buildings. Examples include the eight-story Limnologen in Sweden, the nine-story Stadthaus in the UK, and the 10-story Forté in Australia, currently the world's tallest modern residential wood building.<sup>1</sup> Although durability is important in every structure, a long future takes on an additional dimension in iconic structures such as these.

As with any structural material, perhaps the most important single factor to a long and useful service life is effective design. Extensive research and documented experience have led to a number of proven strategies for ensuring that wood material reaches its full potential for longevity. This course outlines the informed design, specification, detailing, and quality control during construction, installation, and maintenance that are collectively key to achieving maximum durability in today's wood construction.

## CONTINUING EDUCATION



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### Learning Objectives

After reading this article, you should be able to:

1. Analyze factors contributing to the long term durability of wood buildings.
2. Implement effective design strategies for controlling moisture in wood buildings.
3. Discuss comprehensive approaches for protecting wood buildings from insect damage.
4. Determine effective quality control measures that will have significant positive long-term impact on building durability.

To receive credit, you are required to read the entire article and pass the test. Go to [ce.architecturalrecord.com](http://ce.architecturalrecord.com) for complete text and to take the test for free.

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Photo courtesy of Lend Lease (developer)

When the Forté was completed in 2012, it was the world's tallest residential wood building.

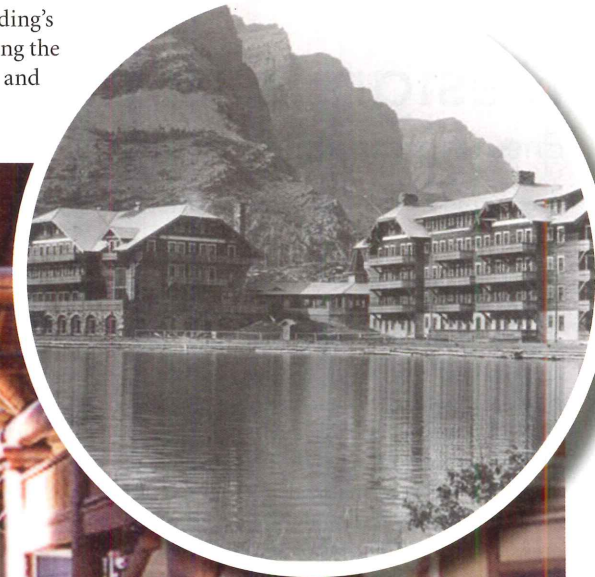
### DURABILITY AND SUSTAINABILITY

Durability is a key component of sustainability. Before making a large investment in a building, it is important to consider its environmental impacts versus realistic lifespan. For example, it has been suggested that concrete should be used for buildings because it can last 100 years. However, research indicates that there is actually no significant relationship between the material used for a building's structural system and its service life. Rather, a study of buildings demolished between 2000 and 2003 in the Minneapolis/St. Paul area found that most were demolished because of changing land values, changing tastes and needs, and lack of maintenance of non-structural components.<sup>2</sup> Only eight buildings (3.5 percent) were demolished because of structural failure. In fact, wood buildings in the study were typically the oldest; the majority were older than 75 years. In contrast, more than half the concrete buildings fell into the 26- to 50-year category, with only a third lasting more than half a century. Some 80 percent of the steel buildings demolished were less than 50 years old, and half were less than 25.

Overall, the fact that wood buildings had the longest lifespans shows that wood structural systems are fully capable of meeting a building's longevity expectations; however, considering the embodied energy in demolished buildings and

the implications of material disposal, the fact that wood is adaptable either through renovation or deconstruction and reuse is a significant advantage.

Many architects believe wood can add to a building's longevity, and thus sustainability, not only because of its physical properties but because wood buildings tend to be valuable to their occupants for reasons related to aesthetics, comfort, acoustics, and innate positive human response to wood. Marc L'Italien, whose architecture firm EHDD often uses wood materials on its projects, puts it this way: "Whenever we can, we select materials with integral finish, both from a sustainability angle and because there is inherent beauty in well-detailed natural materials. This is one of the most overlooked aspects of sustainability. It's not about the points. It's about designing places where people want to be. The more they like their environments, the less likely these structures are to be demolished. A strong following and internal flexibility allow them to be repurposed when the users and owners change over time."



Completed in 1915, the Many Glacier Hotel, located in Montana's Glacier National Park, is still in use today.

Photo courtesy of David Restivo, National Park Service; inset photo by T.J. Hileman, courtesy of Montana State University Library



## DESIGN: TOWARD A DURABLE WOOD BUILDING ENVELOPE

Although wood structural systems are capable of meeting service life objectives, there are potential threats to longevity that must be considered, as there are with any material. Moisture is one of the most challenging and no material is immune. In steel-frame buildings, for example, warm, moist air can condense on the cold steel members, creating problems such as rust, corrosion, and mold on adjacent drywall. In concrete buildings, condensation can occur on cold surfaces, creating similar problems. In exterior applications, concrete can spall due to water seepage, rusting its steel reinforcing. Likewise, if masonry isn't detailed for proper drainage and drying, spalling can result. In wood buildings, moisture may lead to decay, mold, and other issues. However, with proper detailing to prevent bulk water intrusion and moisture entrapment—i.e., to avoid excessive wetting and promote drying—these issues can be avoided.

For wood, an additional consideration is protection against insects. In some parts of the country where termites pose a significant problem, building codes require the use of preservative-treated wood or wood species that are naturally insect resistant.

Regardless of material, long-term durability starts with good design—including proper detailing, product selection, and quality control.

### Natural Moisture Levels in Wood

Wood and water in natural balance are compatible. Wood tolerates high humidity and is capable of absorbing and releasing water vapor without compromising its structural integrity. This moisture buffering effect of wood is called hygroscopicity.

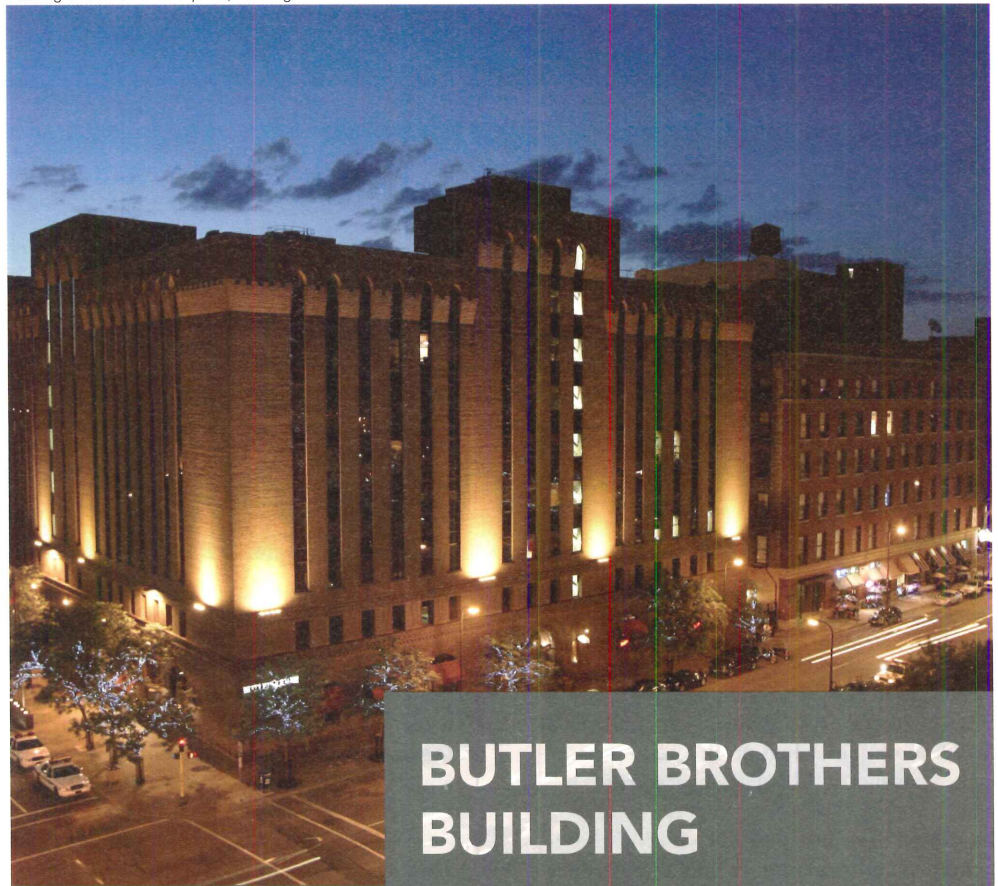
Although problems may arise when wood gets too wet for too long, wood buildings that are properly designed and constructed perform well in all types of climates. "All materials have challenges when it comes to moisture; however, when moisture is managed properly, wood buildings perform well even in the wettest parts of the country," says Ethan Martin, P.E., regional director for WoodWorks in the Pacific Northwest.

Moisture content (MC) is a measure of how much water is in a piece of wood relative to the wood itself. It is expressed as a percentage calculated by dividing the weight of water in the wood by the weight of that wood if it were oven dry. For example, 100 percent MC signifies that a piece of lumber has the same amount of water, in weight, as it does wood.

Two important MC numbers to remember are 19 percent and 28 percent. A piece of wood is considered dry if it has an MC of 19 percent or less. Fiber saturation averages around 28 percent.

Fiber saturation is important because it is the point at which cell walls are holding

Building exterior: Butler Square; building interior: Preservation Alliance of Minnesota



## BUTLER BROTHERS BUILDING

In 1900, T. B. Walker (who eventually founded the Walker Art Center) bought the 1.4-acre "baseball block" in Minneapolis, Minnesota, and with partner Levi Butler, decided to use the site for a nine-story warehouse building.

In 1906, construction began on the Butler Brothers Building, a 500,000-square-foot warehouse for the Butler Brothers

Company, a mail order retailing firm. It was designed by architect Harry W. Jones at a time when American architecture was shifting toward more structural simplicity. Its thick interior masonry bearing walls, cut by vertical recessed windows and topped by corbelled parapets, gave it a fortress-like appearance. Heavy timber post and beam construction provided the warehouse's 300-pound-per-square-foot loading requirement. The Douglas fir timbers were sawn at Walker's own lumber mill in Aitken, Minnesota, precut and put together on a module measuring approximately 14 x 16 feet. The columns receive the beams with cast iron brackets, and gradually diminish in size from 24 inches square on the ground floor to 9 inches on the ninth floor.

In 1974, the successful rebirth of Butler Square as a mixed-use retail/office building served as a catalyst for the surrounding area and was responsible for much of the restoration that has taken place in the city's Warehouse District. The heavy timber framing served as a focal point of the building's new atrium—created to bring natural light into the interior (where there weren't any windows) and considered key to the building's marketability.





Photo: University of Washington West Campus Student Housing, Mahlum Architects, courtesy of WG Clark Construction



For this project in the Pacific Northwest, protecting wood from moisture was a priority. The yellow exterior sheathing is mold-resistant drywall. It was used as an exterior substrate, onto which the weather-resistant barrier and cladding were attached.

as much water as they can. If more water is introduced, it will go to the cell cavity. Research by FPInnovations, a non-profit forest research center, has shown that, at a temperature of approximately 68°F, decay fungi can colonize kiln-dried wood products when the MC rises to a threshold of 26 percent.<sup>3</sup> It's not the water per se that harms wood, but a consistently elevated moisture content that allows fungi to proliferate.

The fiber saturation point is also the limit for wood shrinkage. As the MC changes, wood shrinks or swells, but only according to the variation of water in the cell walls, not the cell cavity, meaning that wood only shrinks and swells when it changes moisture content below the point of fiber saturation, or 28 percent. Below 28 percent, wood expands as it absorbs moisture and contracts as it dries. Shrinkage and expansion is largest in the direction around the growth rings (tangential) and is also significant across growth rings (radial). Consequently, the width and depth of sawn lumber (e.g., across the depth of plates and band or rim joists) shrink the most. Shrinkage in the longitudinal direction, such as along the length of a wall stud, is much less significant.

These naturally occurring movements of wood are not problematic with proper design and construction, yet they are an important consideration for taller wood buildings of five stories or more. The rule of thumb is that, for every 4 percent change in MC below 28 percent, there is approximately 1 percent change in dimension across the growth rings (radial and tangential directions). This means that horizontal solid wood members of buildings, such as plates and joists, have the most effect on building movement. Engineered wood products are dryer from manufacturing and also usually have lower

shrinkage coefficients when compared with lumber and solid wood timbers, but they may be more susceptible to water absorption.

Simple construction details, such as ensuring that materials are compatible and leaving gaps between sheathing panels and between floors in cladding, will accommodate shrinkage and swelling. Given an environment with consistent temperature and relative humidity, the moisture content of wood will stabilize—interior wood at 8-14 percent moisture content; outdoors at 12-18 percent depending on indoor and outdoor climates.<sup>4</sup>

The shortest path to trouble-free use of wood in buildings is to begin with dry wood and then prevent excess moisture intrusion during construction and in building service. By starting with dry lumber, some of the shrinkage will have occurred prior to purchase as the MC drops from 28 percent to 19 percent or even lower. Meanwhile, preventing excessive wetting and allowing the wood to dry during construction will greatly reduce the potential for differential movement that may cause building serviceability and durability issues in a wood building. Dry lumber will be stamped with the letters S-DRY (surface-dry, meaning that the MC is 19 percent or lower when it is planed or surfaced to the standard lumber dimension) or KD (kiln-dried). Rough-cut lumber is generally dried and then planed. For kiln-dried softwood framing lumber, the MC is typically around 15 percent.

### Sources of Water & How to Control Them

Moisture loads placed on a building must be accounted for and balanced in the building envelope design. The character of these loads is a function of the climate, surroundings, and type of building. Managing moisture in structural

wood products is essential in order to control swelling and shrinkage and to prevent problems associated with pests and decay.

Potential exterior sources of moisture include rain (wind-driven rain in particular) and snow, as well as groundwater, adjacent irrigation systems, and outdoor air bringing in water vapor. Any design and construction features that may trap moisture and slow the wood's drying should be avoided. Interior moisture sources include building occupants and their activities, poor detailing of the building envelope resulting in air leaks and plumbing failures, and poor ventilation and thermal design. A four-member family can generate up to 10 gallons of water vapor a day.<sup>5</sup>

The primary objectives when addressing moisture loads are to keep water from entering the building envelope in the first place, and to balance the relative humidity of the indoor air within the building itself. Moisture management can be achieved by best-practice design details that protect wood-frame buildings and envelope assemblies against decay, using four lines of defense. None of these measures are perfect in themselves, but, in combination, they can create conditions where the risk of moisture problems is negligible. They are summarized as the 4 Ds:<sup>6</sup>

**Deflection:** Rain deflection is critical in preventing bulk water from entering the building envelope, whether through wall or roof coverings, or openings such as doors and windows. Pitched roofs, overhangs, and flashing should be used to deflect water away from the structure. To minimize the effects of wind-driven rain, exterior wall coverings should be installed over a drainage plane. If water penetrates the exterior siding, the drainage plane is designed to direct water down the vertical surface to the outside via weep-holes, rather than allowing it to enter the wall cavity.

**Drainage:** For any water that penetrates the cladding, roof shingles, or other building envelope surfaces, a well-designed drainage path, such as the drainage cavity integrated in rainscreen walls and other drainable building envelope assemblies, will allow water in the

Photo courtesy of Mark Parlee, The Building Consultant



A molded kick-out flashing device efficiently diverts water into the gutter and prevents water intrusion at the roof/wall intersection.



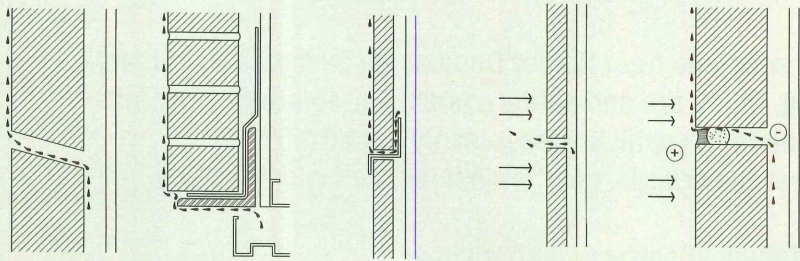
Source: *Design of Wood Frame Structures for Permanence*, American Wood Council.

Images courtesy of Canadian Wood Council and Canada Wood

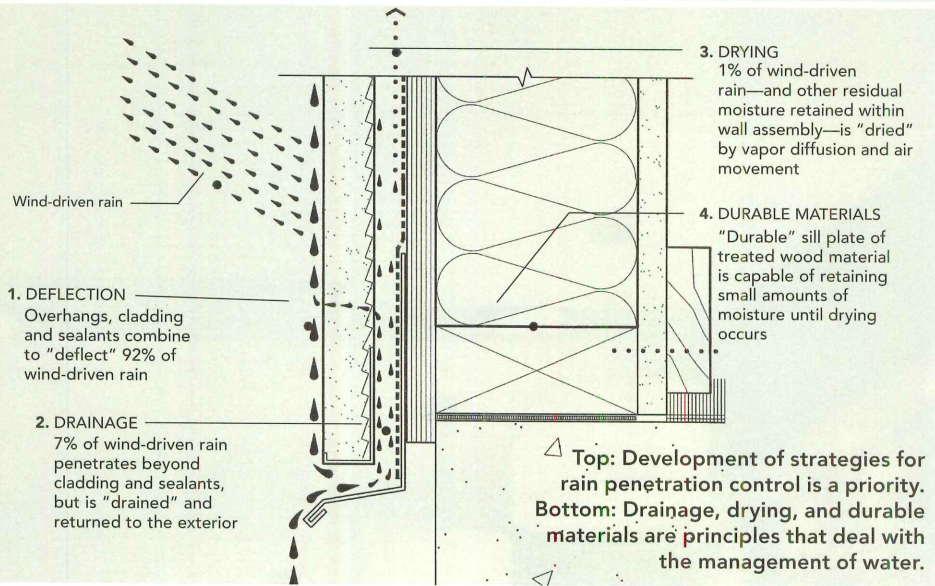
## CONTROLLING MOISTURE: DEFLECTION CHECKLIST

Deflection is the first principle and main priority of water management. Some of the primary strategies that have proven effective at reducing the amount of rainwater on exterior walls include the following:

- Place the building so it is sheltered from prevailing winds by other buildings, trees, etc.
- Use a pitched roof where appropriate.
- Provide sizable roof overhangs and water collection systems at the roof perimeters.
- Provide architectural detailing including flashing and caulking to direct rainwater away from the building.
- Provide an approved drainage system around the foundation perimeter to accept roof water run-off.
- Install a weather barrier within the wall in an appropriate location and with vapor permeability appropriate for the climate and moisture management approach.
- Install permeable bulk vapor diffusion retarders on the exterior of walls and floors, including below a concrete slab or on top of the bare soil within a crawl space.
- Separate wood elements from moisture sources including soil and concrete, using impermeable membranes.



Gravity      Surface Tension      Capillary Suction      Momentum (Kinetic Energy)      Air Pressure Difference



cavity to flow down a water-resistant plane and then exit the building envelope.

**Drying:** Drying is the mechanism by which building envelope assemblies remove accumulated moisture by venting (air movement) and vapor diffusion. If, due to construction or maintenance errors, water penetrates the water-resistant membrane, the wood sheathing, studs, roof truss, and other wood elements in the building envelope can get wet. These elements must be allowed to dry. In properly designed building envelope assemblies, water will evaporate and the resulting vapor will go through the assembly's outer layers, providing vapor permeability has been designed into the building envelope assemblies.

Exterior wall assemblies must be designed to allow sufficient drying both to the exterior

and interior depending on the climate. The permeability of cladding, moisture barrier, vapor barrier, insulation (exterior insulation in particular), and interior finish materials will greatly affect the wall's overall drying potential. Rainscreen cavities may also dry the wall and cladding if vented.

Experts caution that the drying ability of wall systems should not be relied on to compensate for serious flaws in other moisture management mechanisms, since only minimal amounts of water can be dissipated through drying. The bulk of the moisture protection in a wall stems from deflection and drainage.

**Durable materials:** Designers should not discount the value of preservative-treated wood or naturally decay-resistant wood for

applications such as cladding, shingles, sill plates, and exposed timbers or glulam beams, where moisture tolerance is necessary or where termite infestation is likely. Approved durable or preservative-treated wood is usually recommended when location of the member in question cannot be maintained at a safe moisture content and when climatic or site conditions may not permit control of decay or termites by construction practices alone. The role, characteristics, and availability of naturally durable and preservative-treated wood species are discussed later in this course.

See endnotes in the online version of this article.

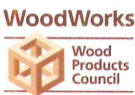
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American Wood Council is the leading developer of engineering data, technology, and standards on structural wood products in the U.S. These tools are used widely by design professionals, building officials, and manufacturers of traditional and engineered wood products to ensure the safe and efficient design and use of wood structural components. [www.awc.org](http://www.awc.org)



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# Coordinating Services in the Complex Ceiling Plane

Good service coordination leads to better performance, aesthetics

Sponsored by Hunter Douglas Contract | *By Chris Sullivan*

Interiors are rarely considered as challenging or complex as base building elements, such as enclosures or circulation cores. Yet with its myriad uses, loads, penetrations, and performance expectations, the ceiling plane is unusually intricate. If it is carefully considered from a building project's earliest phases, ceiling design and integration can be accomplished successfully. Yet too often, this is not the case; too frequently the many key decisions about ceilings are postponed or left for the trades to work out. The result is a ceiling that may not work as expected—and that doesn't look as good as it could have.

An improved focus on the ceiling plane has begun to take hold in the architectural profession. The new approach benefits from more cohesive project coordination, on one hand, as well as the use of next-generation ceiling systems and components on the other. From the use of integrated project delivery (IPD) and building

Ceiling systems must allow for a complex coordinated plane that addresses aesthetics, noise control, light reflectance, and building services delivery.



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### Learning Objectives

After reading this article, you should be able to:

1. Review the factors to be considered for successful suspended ceiling plane integration, including plenum uses, types of loads, and penetrations.
2. Discuss the main challenges and problems to avoid in projects requiring the integration of varied subsystems—such as lighting, HVAC, audio, security, fire safety, and signage—into the ceiling plane.
3. Describe the best practices in communication and coordination in a project, including how to communicate with key building trades, as well as best practices for establishing a project's order of installation.
4. List some useful design solutions and product systems that may help to organize and integrate penetrations through the ceiling plane.

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Photo by Bob Perzel



Photos courtesy of Hunter Douglas Contract



**ABOVE:** To accommodate light fixtures, air diffusers, and fire sprinklers at the Hunter Douglas offices in New York, the design by Gensler employs a frame-and-panel suspended ceiling.

**RIGHT:** Gensler specified a real wood veneer on linear metal panels for this New York office project, selecting a system that effectively coordinates with light fixtures, linear diffusers, sprinklers, and signage.

information modeling (BIM) to the application of new grids, supports, and frame-and-panel ceiling systems, these coordination methods treat the ceiling plane in a holistic way.

As with any building system requiring significant coordination, the project team must address the ceiling plane early in the project cycle. “Because ceilings serve so many purposes in modern construction in addition to acoustical control, there are many elements that must be coordinated with the selection and detailing of ceiling systems,” according to David Kent Ballast, FAIA, NCIDQ, author of *Interior Construction and Detailing for Designers and Architects*.<sup>1</sup>

It should also be considered as a complex system, requiring an integrated design approach. There are four elements of an integrated design process, according to Mir M. Ali and Paul J. Armstrong of the University of Illinois at Urbana-Champaign’s School of Architecture.<sup>2</sup> Paraphrasing an approach espoused by the Rocky Mountain Institute, Ali and Armstrong offer advice that should apply to the ceiling plane as to any other complex assembly:

1. **Whole-systems thinking**, to exploit the interactions between elements and systems
2. **Front-loaded design**, where the team thinks through the design early to avoid losing opportunities for “low-cost, high-value changes” later in the process

3. **End-use, least-cost planning**, which means focusing on occupant needs rather than the equipment that meets those needs

4. **Teamwork**—pure and simple, collaborating on what’s needed and how to do it well.

“For the ceiling, which is a complex building plane, project teams are realizing that early coordination and integration of ceilings with various subsystems that penetrate it is a path toward reducing costs, shortening construction schedules, and eliminating errors,” says Ko Kuperus, a general manager at Hunter Douglas Contract, a manufacturer of ceiling systems. “Awareness is half of the battle, and team coordination and use of high-value ceiling technologies take care of the rest.”

#### **HISTORICAL VIEW OF THE CEILING**

According to Kuperus, the basic concept of the modern suspended ceiling—a continuous aesthetic plane with the key function of hiding building services routed through the interior—has changed little over the better part of a century. “Acoustic tiles were dropped into a metal grid, and the same is true today,” he explains. “Yet over time we have added significant burdens to that tile-and-grid assembly, with more system types, more penetrations for security and audiovisual

technologies, and a much broader range of HVAC and lighting systems.”

A few of the advances have been particularly challenging. The use of the volume above the dropped ceiling as a plenum for ventilation return air, for example, demanded carefully engineered return openings across the ceiling plane. It also changed safety needs, as a fire reaching the plenum could potentially feed toxic smoke into the ventilation system, harming occupants throughout the building. Cables and wiring above the ceiling, for example, now require fire-resistive, low-smoke zero-halogen insulation.

Other specific prohibitions have been included in building codes to prevent fire and smoke development within the unseen plenum space. High-voltage electrical equipment has to be enclosed within metal conduit, raceways, and containers, for example, and electrical outlets can only be installed on ceiling tiles inside electrical boxes, with the sockets exposed to the interior below. With live voltage and lighting systems, performance during earthquakes is also a concern, and diagonal wire stays, compression posts, and seismic clips are now required in certain jurisdictions.

Yet there have been other developments increasing the complexity of the ceiling plane. “During the 1950s and 1960s, suspended





By 1961, the lighting researcher Murray L. Quin stated, “The ceiling plane of present-day buildings presents one of the most difficult product coordination areas in the building industry.”<sup>3</sup>

On top of that, by the 1970s, the ceiling plane came to be viewed as a critical component in building performance: In terms of light propagation, its surface reflectance could enhance both daylight and electrical lighting efficacy. With this, as well as its effectiveness as a membrane to contain conditioned air, the suspended ceiling became essential to energy efficiency. In addition, its acoustical properties were of tremendous value—it offered lots of surface area and could be porous and absorbent in nature, unlike the resilient floors and walls.

Yet the exposed ceiling face was hardly continuous or uniform. More services than ever before seemed to be poking out or otherwise interrupting the design surface. There were multiple grid designs, and even when grid openings were uniform, the profiles and bearing capacity of cross-members might vary. To some degree, that is still the case today, and the range of ceiling materials is vast, from wood and perforated metals to stretched fabric and translucent plastics. The systems offer varied techniques for integrating services into the exposed ceiling plane; demountable tiles have long been a feature, though some have been limited in size due to the sagging of soft materials such as cellulose or mineral board.

Simplified ceiling systems have also been introduced in recent years, and these have led to some abdication of responsibility and incomplete detailing. “Yet, whether mineral board and grid, specialized materials or metal ceilings, each ceiling type needs to be understood with respect to plenum uses, load bearings, and penetrations through the ceiling plane,” says Kuperus. This goes for both new construction and interior retrofit projects—left as an afterthought, issues of service coordination arise that also impact aesthetics and long-term system maintenance. The project design team needs to be vigilant and organized to avoid PM issues, he says. Many can also use new ceiling technologies that help integrate various building services and penetrations.

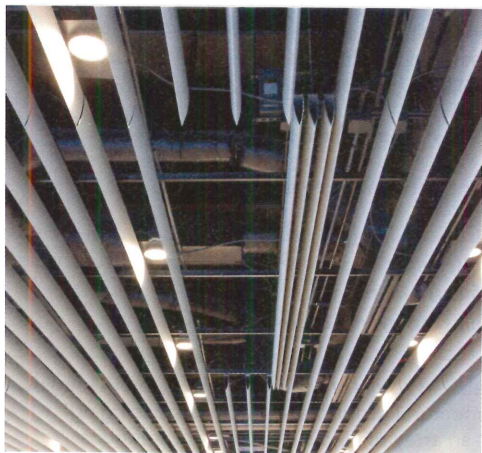
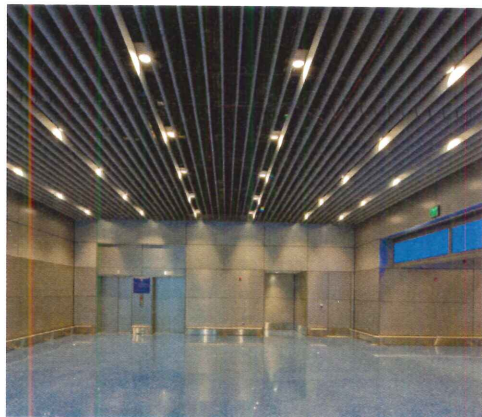
### GETTING A HANDLE ON THE COMPLEX PLANE

In fact, one would be hard-pressed to argue with Quin’s prescient assertion in 1961: “The ceiling plane is the most complex surface. So for construction project teams, the main challenge is to develop a method for successful integration of systems and components needed for the suspended ceiling.”

**LEFT: HOK designed this robust baffle ceiling system for Phoenix Sky Harbor International Airport’s PHX Sky Train™. The baffle ceiling system provides openings for service maintenance.**

ceilings and molded floor slabs of concrete and steel were developed as a ‘multipurpose power-membrane’ in which technical rationality and economy emerge as new architectural objectives consistent with the mechanized environment,” according to Ali and Armstrong. Some of these looked like today’s suspended ceilings, while others—such as Louis Kahn’s Yale University Art Gallery—incorporated MEP ducts and conduits into the concrete structural slab.

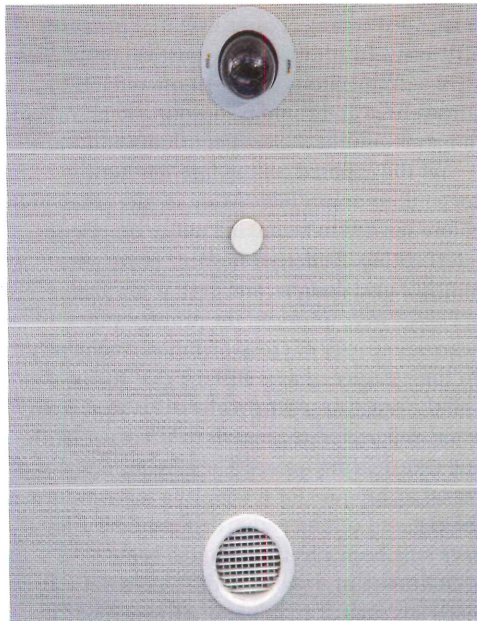
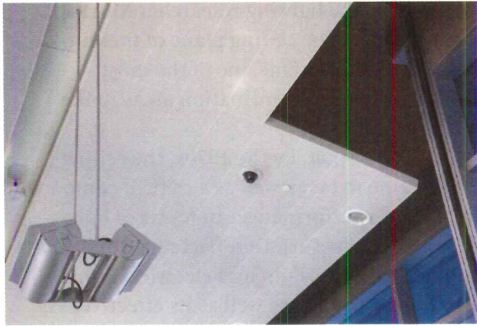
This level of integration—ceiling-routed services with building structure—has been rare. Instead, by the late 1960s, “the suspended ceiling, which supplied consistent uniform energy, became the primary modular planning element for the layout of the office,” says Ali, as well as other occupancies. Manufacturers responded with ceiling systems designed specifically for system integration. Many boasted of systems that could bring light, air, audio, life-safety and security elements through the ceiling plane, all with one grid system.



Bottom photos by Bob Perzel



Photos by Bob Perzel



This floating metal ceiling designed by HOK offers a plane for independently supported service devices. Specific elements are delivered through the ceiling panels.

### Function

The first question is ceiling function, which comprises a number of key variables that should be catalogued and reviewed. First, consider how the plenum will be used: Will ventilation return air be ducted, and how much cabling will be accommodated? How frequently will the plenum space be accessed? Second, list the anticipated loads on the ceiling plane, including elements that are independently suspended or braced. Note critical loads, such as fire sprinklers, and whether the ceiling must meet seismic requirements. Third, list and indicate on schematic or DD drawings all anticipated penetrations of the ceiling plane.

### Type

A second influence on the project approach is suspended ceiling system type. Will the team use a standard system—typically exposed tee

## SEVEN-STEP CEILING DESIGN METHODOLOGY

Ceilings are too often treated as an afterthought in a large-scale building project. Yet without proper front-end planning, they can turn out to be a source of unneeded cost increases and schedule delays.

Good early-stage planning and pre-coordination of all services is key to a well-coordinated, functional, and aesthetically pleasing ceiling assembly. Proper design and specification steps include the following:

1. Determine customer required services and ceiling functions.
2. Calculate required space for each service, and allocate plenum space to assure all elements fit above the ceiling.
3. Select ceiling material type (metal, mineral, wood) and functions, which include acoustical properties, light reflectivity characteristics, fire/smoke performance, cleanability, durability, and LEED inputs.
4. Complete ceiling aesthetic choices, such as finishes, colors, prints, patterns, and modules.
5. Narrow down ceiling system options, such as accessibility, weight, spanning capability, and dimensional tolerances.
6. Specify suitable components to be integrated and verify coordination with chosen ceiling system.
7. Link technical component specifications to the chosen ceiling system—often the key step in ensuring proper coordination.

grid members of 15/16 inch in flange width, with most openings of 2 feet square or 2 feet by 4 feet in shape—or will the choice be one of the many standard alternative systems available on the market? Will the design include metal, wood, or other specialty panels? Often the process begins as a simple material selection in the schematic design or design-development (DD) phase; in other cases, client requirements for the occupied spaces precede the choice of materials, which flow from those needs.

### Coordination

Ceiling coordination ideally begins with early-phase design reviews that include all of the key team members—architect, interior designer, MEP engineer, contractors, and key trades and suppliers. (Sounds like a big meeting? It should be; again, this is one of the most complex planes in the project.) Before or upon commencing the ceiling design review, the project manager or designer in charge should assign responsibility for various aspects of properly implementing the ceiling system and all associated services and penetrations.

Too often, coordination of the ceiling work begins in earnest somewhere around the shop drawing phase. By then, it's too late to make those low-cost, high-value changes—errors have a large impact, and revisions become costly.

### Documentation

The ceiling design review should also set the stage for creating proper and explicit

construction documentation (CDs) that match the scope of ceiling coordination. Specifications, reflected ceiling plans, and key details will define not only how the assemblies and components are physically integrated; they should also call out (a) who supplies what, (b) who installs what, and (c) who pays for what.

### Communication

Consultants, vendors, and key trades whose work impacts the ceiling plane should be aware of their critical involvement in a team-wide effort to achieve successful ceiling integration. Architects and IPD team leaders are best positioned to create this team atmosphere, although in practice it is often the ceiling supplier who does so by raising the issue of service delivery first—the tail wagging the proverbial dog. Yet neither the ceiling supplier nor the installer bear responsibility for all integration of the ceiling services. Many of the system supports, penetration assemblies, and trim components are “by others,” to use the parlance. Even when some design teams have cleverly assigned away all ceiling responsibility to a single party in the contract documents, the clauses rarely hold up under the pressures of the project.

See endnotes in the online version of this article.

➤ Continues at [ce.architecturalrecord.com](http://ce.architecturalrecord.com)

*Chris Sullivan is principal of C.C. Sullivan, an integrated marketing communications agency focused on the architectural and construction markets. [www.ccsullivan.com](http://www.ccsullivan.com)*

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# Ultimate Daylighting

Windows, glass, and digital innovations

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*By Celeste Allen Novak, AIA, LEED AP*

**N**ew advances in window research and technology are enabling the imagination and creativity of architects throughout the world. Architects are connecting building occupants to the environment through ever-larger window openings with thinner window mullions. Their designs provide views and access to natural daylight. As Ximena Rojas, marketing director at Panda Windows & Doors, explains: “In the fast-paced world we live in, people don’t have time to enjoy the outdoors anymore. If they have no time to spend outdoors, then the outdoors needs to be brought to their homes. Large window panel solutions do just that. They respond to the lifestyle of customers and bring the outdoors directly into their living areas. Large door or window openings create a sense of freshness and serenity that makes you feel like you are one with your natural surroundings.”

Innovations in window glass, coatings, and the framing systems that they are glazed into, have increased the energy efficiency of windows and curtain-wall systems. In addition, according to Dave Hewitt, vice president of sales and marketing for EFCO, a Pella Company, “daylighting without water intrusion, without draft, without excessive energy consumption, is important to name a few. This is why the pre-glazing of a window or curtain-wall unit is vital. Sunlight, yes, but more importantly comfort and performance in that sunlight are part of the successful use of daylight. Daylighting means nothing without performance.”

New windows, framing systems, and window coatings allow the architect to design larger glass openings, even when designing buildings that meet stringent green building certification programs. Architect Mark Maddalina, AIA, LEED AP, manager of sustainable design at SWBR Architects in Rochester, New York, sums it up when commenting on the

Skidmore Owings Merrill LLP designed the Burj Khalifa in Dubai, which at 2,650 feet is the world’s tallest building. More than 1.8 million square feet of high-performance low-E glass provides an anti-glare shield from the strong desert sun, and substantial solar protection to keep the interior from overheating.



Photo courtesy of Panda Windows & Doors



This custom home in a remote town along the Pacific Coast in Mendocino County, California, designed by Mork-Ulnes Design, uses large, energy-efficient windows to frame views.

windows used for the Rochester Institute of Technology Golisano Institute. Maddalina says, “The windows we used, with line voltage feed, essentially stops all heat transfer from windows into a room. Occupants comment that when the occupancy sensor goes on—any draft goes away. These windows are game changers. Manufacturers are on the verge of creating the ‘perfect’ window system—one that will provide access to daylight without sacrificing energy efficiency.”

Along with new digital tools that allow the architect to evaluate heat loss and heat gain from all sides of a building, the architect has many choices for specifying the appropriate glass for a successful green project. According to Chris Dolan, director, Commercial Glass Marketing, Guardian Industries: “Architects may be interested in the many high-performance glazing products now available. There are new coating technologies that allow architects to help meet new energy codes, move toward net-zero requirements, and support LEED® and other stringent rating system requirements. It’s important to consider climate zone, building orientation, and design intent for appearance when selecting the right glazing product.” A review of some of these new initiatives will assist designers as they design for transparency and energy efficiency. From technology to research, there are many innovations in window design.

### DYNAMIC GLASS: SUNGLASSES FOR YOUR BUILDING

Electrochromic glass is another energy-efficient technology that incorporates low-voltage current into window glazing. This product allows a window to “track the sun,” changing the values of visible light transmittance (VLT) and solar heat gain coefficient (SHGC) throughout the day. The conductors can be switched on or off through sensors automatically or manually by building occupants. These windows provide built-in sunshades for buildings and allow occupants greater control of glare or too much daylighting during their workday.

### EXPLORING LOW-E WINDOW COATINGS AND VISION CLARITY

To meet the demand for a window that maximized transparency without causing increases in energy consumption and excessive heat gain, glass manufacturers introduced low-emissivity or low-E glass. Emissivity is the measure of the ability of a material to radiate energy. The lower the emissivity, the less heat is transferred through the glass. Low-E glass has a very thin coating applied to one or more surfaces of an insulated glass unit.

Not all low-E products are equal in performance and the manufacturing process—the type of coatings and the placement of coatings on the surfaces of a double or triple glass pane window can affect window performance. Two common low-E options are sputter coat, or soft coat glass, and pyrolytic, or hard coat glass. In comparisons of building

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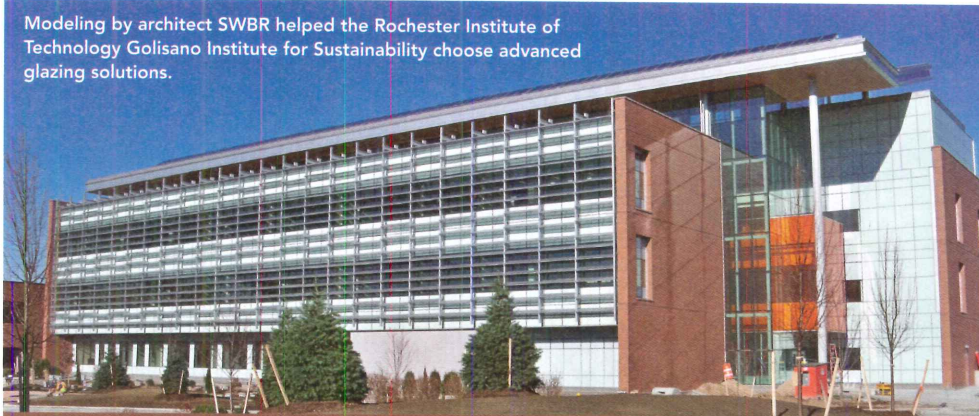
1. Discuss new pre-glazed systems and glass with thermal conductors that offer a new sustainable approach to providing greater access to daylighting.
2. Explain how digital modeling and window performance calculators can assist with evaluating thermal performance, code evaluations, and sustainable design options for green building rating systems.
3. Evaluate the appropriate glass to provide the best visual clarity to maximize occupancy well-being by providing better access to daylight and views of nature.
4. Discuss how new sliding and folding door walls can expand the interior of your project to provide connections to urban life and/or natural settings.

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Modeling by architect SWBR helped the Rochester Institute of Technology Golisano Institute for Sustainability choose advanced glazing solutions.



## GLASS THAT STOPS DRAFTS: GOLISANO INSTITUTE FOR SUSTAINABILITY

The mission of the Rochester Institute of Technology (RIT) Golisano Institute for Sustainability is to undertake world-class education and research programs in sustainability, focusing on sustainable production, sustainable energy, sustainable mobility, and ecologically friendly information technology systems.<sup>1</sup> The Institute's instructions to architect SWBR Architects who designed this project in association with Design Architect FXFOWLE, was to provide an aggressively designed thermal envelope. The Institute required that the project provide significant energy savings for a building of this type—a particular challenge for a multi-story research building located in upstate New York. Given these goals, the team approached decision-making for the building envelope system with two overriding criteria: optimize energy performance and minimize energy demand.

The envelope utilized several curtain-wall systems. Its primary facade system features a thermally broken curtain wall and an array of high-performance glass types that reduce the possibility of thermal transfer. Given the size and complexity of the system, the products were unitized, or factory assembled into larger units of seven or eight glazed components each, prior to being installed in the field. This permitted improved quality control with limited field connections and limited installation time on site.

Tracking against a baseline energy model, the architectural team sought to provide no more than 40 percent vision glass on the envelope and to improve upon the thermal performance of all components. They evaluated parallel energy and cost models specific to the envelope. The selected spandrel glazing incorporates 4.5-inch thermal insulation. Daylighting glazing primarily utilizes an advanced, 3-inch-thick glass and translucent infill. The building's vision glazing is primarily a glass with a heat-mirror film and krypton gas infill, which provided triple-pane performance within a 1-inch product.

In addition to these high-performance

products, a new and innovative glass was utilized in areas where occupants would be seated near the curtain wall. This double-paned window utilizes an electric current to charge and heat an invisible metal coating on the third surface. While it offers the appearance of standard vision glazing, it is designed to achieve a room-temperature set point, effectively eliminating the expected temperature differential and associated cold downdraft along a window, improving user comfort and eliminating the need for other perimeter heat systems in the project. Within the energy model, these were termed "perfect windows," as they become "thermally opaque" when outdoor temperatures drop below 42 degrees. The heat provided is only within the cavity on the surface of the double-pane window, so the energy required to raise its temperature is generally low and the energy is more effectively applied than in conventional perimeter systems. Similar to the building lighting systems, these windows are also tied in to room occupancy sensors.

The incorporation of this technology represents both RIT's commitment to innovation and the Golisano Institute's work in bringing environmentally smart and efficient technologies to market. SWBR architect Maddalina comments, "True innovation is not for the faint-of-heart. While the product has had its challenges with a relatively high failure rate upon initial installation and a high first cost, the project team recognizes that this technology is potentially game-changing and, as it reaches the mainstream, could represent the future of glazing technology."

Given this array of products within the curtain-wall system, the team included air and water infiltration testing as part of the installation. The system passed with no measurable infiltration found. The project is seeking LEED® Platinum certification. The electronic power glass used on this project essentially stops all heat loss from the interior to exterior while heating the interior space of the building.

performance by manufacturers between sputter- and pyrolytic-coated products, the results have shown that sputter-coated glass provides a combination of higher visible light transmission and lower solar heat gain. In addition, low-E glass prevents heat loss in cooler climates. Higher-performance windows result in better occupant comfort, a decrease in energy consumption, and a reduction of heating and cooling system loads.

The evolution of glazings and glass performance has shown dramatic improvements in visible light transmission, U-values, SHGC, and shading coefficients. See the online version of this course for a chart that demonstrates the performance enhancements to a ¼-inch monolithic lite with the addition of high-performance coatings.

Prior to low-E coatings, tinted glass was used as a means of solar control. As technology advancements continue, low-E coated clear glass offers better insulating performance and solar control than tinted glass, along with potentially truer color transmission as expressed by the color rendering index (CRI). The CRI is a measure of color accuracy ranging from 1-100, with a rating of 100 representing the truest color transmission as it relates to natural daylight.

## HIGH-TECH CALCULATORS GUIDE PERFORMANCE SELECTION

New web-based IG performance and building energy calculators that are capable of producing BIM content are now available to help architects guide performance selection. These powerful tools populate BIM content with manufacturer data for thermal and optical performance values for use in project-specific integrated mockups and building models. This digital tool creates highly detailed content representing the correct thickness and color of the inboard and outboard lites. Users can control the level of detail depending on the scale of the drawing and views on the computer. The generated report compares energy cost, utility consumption, and the financial payback of different glazing options. By simulating alternatives along with the cost of those alternatives, architects can clearly demonstrate to their clients the economic and performance advantages of choosing a higher-performance window even if it has higher initial costs.

In addition, a simple box energy model also assists the architects in "tuning" windows based on climate or on building orientation. A digital building energy calculator can easily model the nuances of selecting a different type of window for the north side of a building versus south, east, or west side. Based on the project location, the architect can select different types of coatings with similar visual appearance but different energy performance criteria to optimize each



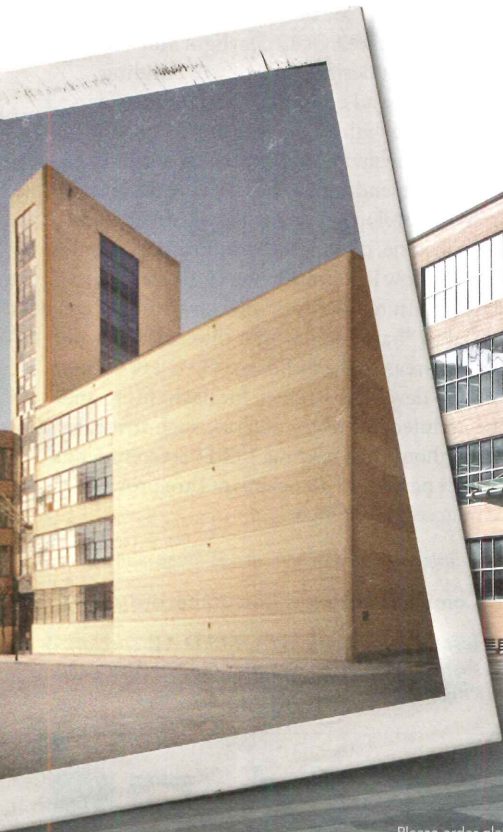
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elevation of a building. The cost of tuning the windows for orientation can be modeled and the payback period often will show that the extra expense (if any) to optimize each glazing scenario per elevation is a good bargain.

Too much uncontrolled daylight can cause glare and provide occupant discomfort. As Terry Zeimetz, AIA, CSI, CCPR of Pella Commercial, states: "It is important to understand how to control solar energy. Where is it going to be stopped, through exterior sunshades, on different panes of glass, inside the glass system with in-between blinds or shades or inside the building with some type of window treatments. The most effective strategy is to block solar energy before it enters the building. Second best is to stop it with between-the-glass blinds or shades before it gets past the inner piece of glass. The least effective way to stop heat gain is with room-side window treatments since the heat has already passed through the glass and must be dealt with."

Sometimes the solution to adding interior sun controls can have the unintended consequences of causing health problems. As an example, the use of room-side curtains or blinds collect allergens on the surface materials. New research by the Department of Occupational and Environmental Health at The University of Iowa demonstrates the potential for designing window treatments that can improve health for allergy sufferers.<sup>2</sup>

Researchers at the Vollum Institute for Advanced Biomedical Research, designed by Zimmer Gunsul Frasca Architects LLP, studied the collection of allergens on window blinds. They documented results that demonstrated that windows with ordinary room-side blinds accumulated 200 times more of certain airborne allergens than some high-performance windows with between-the-glass blinds.

Between-the-glass window options reduce long-term maintenance costs and improve energy performance. Not only do blinds and

To reduce patient exposure to airborne allergens and to provide sun control, high-performance aluminum-clad wood windows with integral blinds were used at the Vollum Institute for Advanced Biomedical Research in Portland, Oregon.

shades between panes of glass make cleaning much easier; they eliminate the need for room-side window treatments that can be damaged through accidental or deliberate actions. Between-the-glass window options are just one of many ways to control glare with the added value of reducing long-term maintenance costs and improved energy performance.

Architects continue to be drawn to the need to create transparent structures—buildings that float on the landscape as if they were a part of the natural world. However, these human structures require a balance between visible clarity and energy savings. Buildings with vast expanses of glass have been hard to heat and cool. Recent data from the Environmental Protection Agency and statistics show that in the United States buildings account for 36 percent of total energy use, 65 percent of electricity consumption, and 30 percent of greenhouse gas emissions. Technology that improves energy and light transmission includes research on the effectiveness of different low-E glass, new dynamic coatings, and structural innovations to allow for larger windows.

The criteria for the U.S. Green Building Council LEED® EQc8.1 Daylight and Views requires that designers optimize building orientation and envelope design to provide access to daylight. The next step is to identify occupant behavior and the use of building spaces. Depending on that use, the designer will need to develop a strategy to control daylight. They also need to consider room configuration and window locations to maximize access to daylight. In many cases, interior windows can be added to "harvest" daylight into corridors and deeper areas of the building. There are many ways to develop a strategy for daylighting and the architect needs to integrate such strategies throughout the building. LEED® recommends that 75 percent of all occupants are provided with access to daylight.

See endnotes in the online version of this article.

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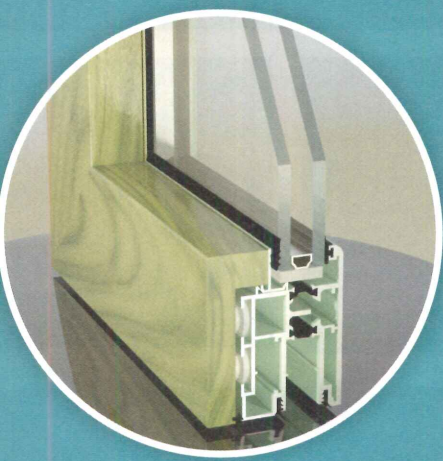
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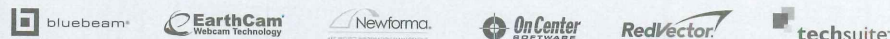
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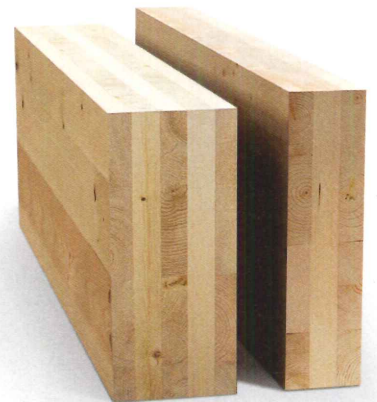
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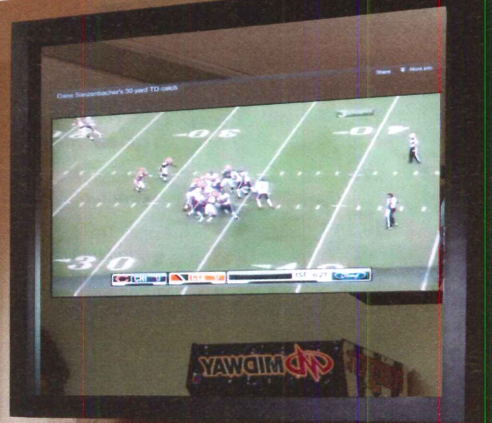
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### SPECIALTY PRODUCTS

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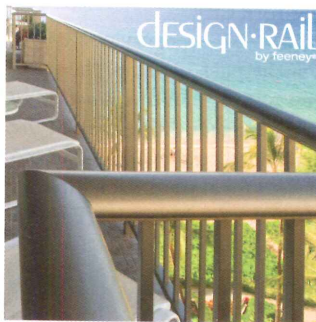
▲ DesignRail® Aluminum Railings: Pre-engineered aluminum railing systems. Innovative designs, superior commercial-grade extrusions, powder-coated and custom anodized finishes, very low maintenance, recycled content LEED.

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- Palomar Airport, Carlsbad, CA

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### SPECIALTY PRODUCTS

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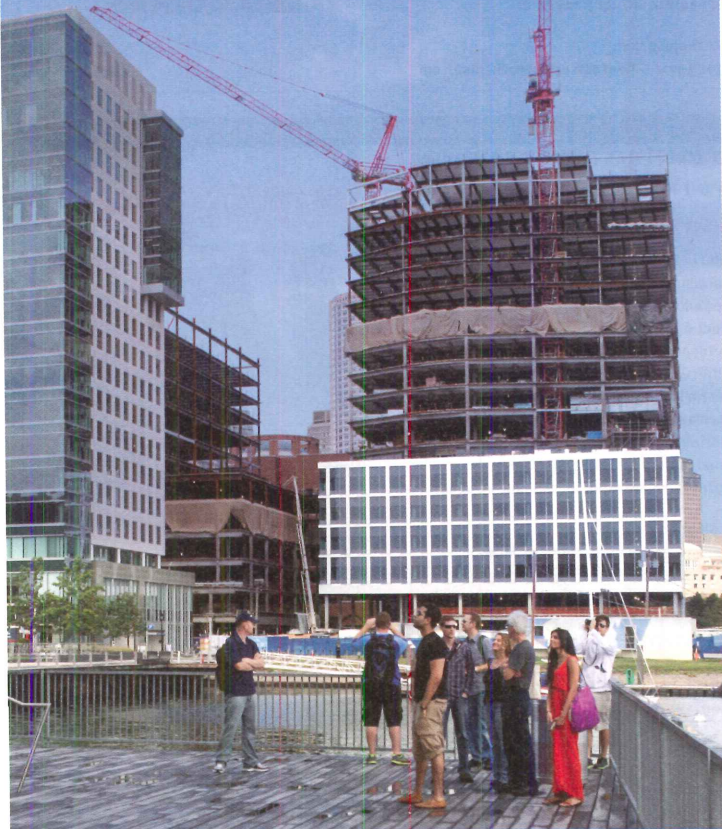


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### New and Upcoming Exhibitions

#### The Glass House: A Chapel in a Cathedral of Nature

Coral Gables, Florida

September 6–October 20, 2013

This exhibition at the Coral Gables Museum will be dedicated to the iconic Philip Johnson Glass House. The exhibit, organized in part by Johnson's biographer, will feature construction plans, documentary videos, over a dozen large-scale color photographs by photographer Robin Hill, and a model by artist Rirkrit Tiravanija. For more information, visit [coralgablesmuseum.org](http://coralgablesmuseum.org).

#### What's the Matter?

New York City

September 17–November 1, 2013

*What's the Matter?* illustrates and investigates how different generations of designers have incorporated raw materials into furniture design. Architect Kulapat Yantrasast selected iconic objects from R 20th Century's archive and contemporary designs for the show. At R 20th Century. For more information, visit [r20thcentury.com](http://r20thcentury.com).

#### Nakashima Woodworkers: An Evolving Legacy

Philadelphia

September 20–November 2, 2013

Mira Nakashima, daughter of legendary furniture designer George Nakashima, and a team of woodworkers have created a new body of work that reflects the heritage of her father's handcrafted furniture. This exhibition at the Moderne Gallery in Philadelphia will display more than two dozen pieces of original furniture from the Nakashima Woodworkers' workshop. For information, visit [modernegallery.com](http://modernegallery.com).

#### Practical Utopias

New York City

October 1, 2013–January 18, 2014

Over the past 20 years, the pace and scale of urbanization in Asia has been unprecedented. *Practical Utopias: Global Urbanism in Hong Kong, Seoul, Shanghai, Singapore and Tokyo* explores new cities built outside, adjacent to, and even within old cities. These new cities within cities serve as focal points for future visions and global ambitions. At the Center for Architecture. For more information, visit [aiany.org](http://aiany.org).

### Ongoing Exhibitions

#### After Katrina

Boston

Through September 15, 2013

In the eight years since Hurricane Katrina, faculty, students, and alumni from MIT's Department of Urban Studies and Planning and the School of Architecture and Planning have worked with a number of organizations in New Orleans and on the Gulf Coast on a multitude of issues. This exhibit at the MIT Compton Gallery commemorates MIT's efforts in New Orleans. For more information, visit [arts.mit.edu](http://arts.mit.edu).

#### A New Sculpturalism: Contemporary Architecture from Southern California

Los Angeles

Through September 16, 2013

The Museum of Contemporary Art, Los Angeles, presents a scholarly examination of the radical forms that have become prolific in Southern California architecture during the past 25 years. The exhibition aims to



rethink how museums display architecture, allowing visitors to experience it through full-scale maquettes and full-size built structures. The show includes works by 38 architectural firms based in Los Angeles, including Gehry Partners, Morphosis Architects, and XTEN Architecture. For more information, visit [moca.org](http://moca.org).

### **James Turrell: The Light Inside**

Houston

*Through September 22, 2013*

Concentrating on the extraordinary collection at the Museum of Fine Arts, Houston (MFAH), of work by artist James Turrell, this presentation makes many of the artist's installations accessible to the public for the first time. At the conceptual core of the exhibition is *The Light Inside*, a permanent work at the MFAH in the underground Wilson Tunnel. Also included is *Vertical Vintage*, a dozen light-based installations that allow visitors to test the limits of their perception, study the play of illusion, and witness how light shapes space. For more information, visit [mfah.org/exhibitions](http://mfah.org/exhibitions).

### **James Turrell**

New York City

*Through September 25, 2013*

James Turrell's first exhibition in a New York museum since 1980 focuses on the artist's explorations of perception, light, color, and space, with a special focus on the role of site-specificity in his practice. At its core is *Aten Reign* (2013), a major new project that recasts the Guggenheim rotunda as a volume filled with shifting artificial and natural light. For more information, visit [guggenheim.org](http://guggenheim.org).

### **Energy: Oil and Post-oil Architecture and Grids**

Rome

*Through September 29, 2013*

More than 80 drawings and projects, three photographers, and seven architects demonstrate the relationship between architecture and energy at this MAXXI exhibition. *Energy* explores new architectural ideas and new research pertaining to power grids and efficient distribution of energy. For more information, visit [fondazionemaxxi.it](http://fondazionemaxxi.it).

### **Ice Lab: New Architecture and Science in Antarctica**

Glasgow

*Through October 2, 2013*

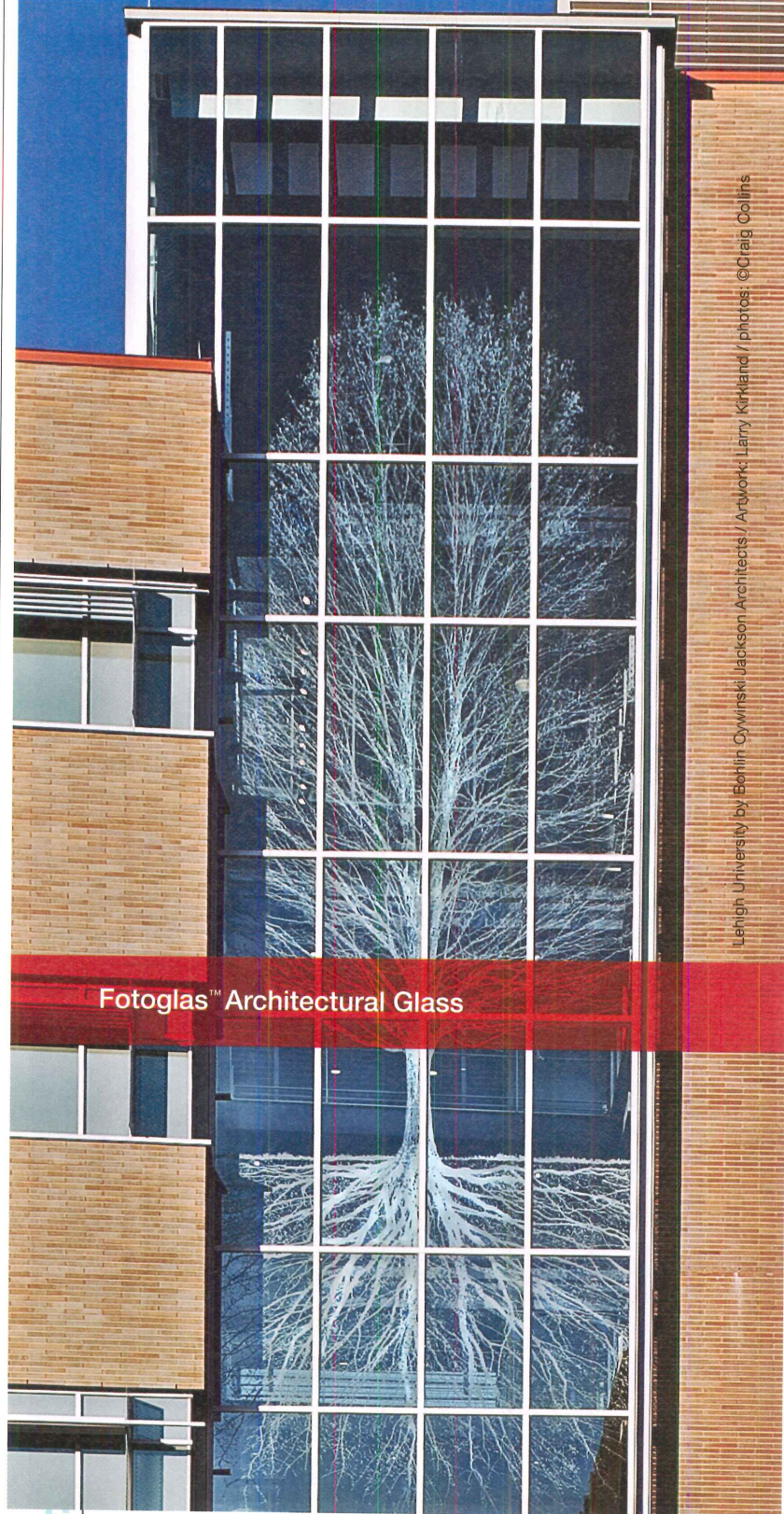
From the newly opened British Antarctic Survey's Halley VI Research station to the speculative Iceberg Living Station, *Ice Lab* gives visitors a unique view of the architecture in the coldest, windiest, and most isolated place on earth. The first exhibition of its kind, *Ice Lab* features architectural drawings, models, photographs, and films to give visitors a sense of what it takes to live and work in Antarctica. At Architecture and Design Scotland. For more information, visit [ads.org.uk](http://ads.org.uk).

### **NOMADIC FURNITURE 3.0: New Liberated Living?**

Vienna

*Through October 6, 2013*

Hardly a single area of everyday life and material culture has not been swept up in the do-it-yourself (DIY) revolution. This is the first exhibition to examine the intersection of the DIY movement with furniture design in a historical context. At the MAK Exhibition Hall. For more information, visit [mak.at](http://mak.at).



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CIRCLE 23

### Never Built: Los Angeles

Los Angeles

Through October 13, 2013

Held at the A+D Museum, *Never Built: Los Angeles* explores a “what if” version of Los Angeles through a compendium of urban projects that never made it past the drawing board. In words, drawings, models, videos, and other media, this exhibition examines the visionary works that had the greatest potential to reshape Los Angeles. For more information, visit [aplusd.org](http://aplusd.org).

### Archaeology of the Digital

Montreal

Through October 13, 2013

This exhibition at the Canadian Centre for Architecture explores the genesis of digital tools for design conceptualization, visualization, and production at the end of the 1980s and beginning of the 1990s. Featuring the work of Frank Gehry, Peter Eisenman, Shoji Yoh, and Chuck Hoberman, *Archaeology of the Digital* highlights the intersection of computer science, architecture, and engineering in the experiments by these featured architects. For more information, visit [cca.qc.ca](http://cca.qc.ca).

### In Reverse

Holon, Israel

Through October 19, 2013

*In Reverse* highlights a selection of metalwork by internationally renowned artist, designer, and architect Ron Arad. Held at the Design Museum Holon, which Arad's firm built three years ago, the exhibition displays Arad's work from the past three decades, from chairs to sculptural pieces. For more information, visit [dmh.org.il](http://dmh.org.il).

### Unbuilt San Francisco

San Francisco

Through October 25, 2013

*Unbuilt* is an opportunity to view visions for the San Francisco Bay Area that never came to pass. Featured projects include early designs for the San Francisco City Hall and other landmarks; neighborhood plans; and works that address challenges such as sea-level rise. Panel discussions and lectures also accompany the show. At AIA San Francisco. For more information, visit [archandcity.org](http://archandcity.org).

### Cut 'n' Paste: From Architectural Assemblage to Collage City

New York City

Through December 1, 2013

This installation at the Museum of Modern Art revisits early uses of collage to trace its evolution as a technique central to architectural representation. Opening with the digital collages that dominate contemporary architectural practice, *Cut 'n' Paste* pairs early photo-collages of Mies van der Rohe with avant-garde experiments in photomontage, graphic design, and film. For information, visit [moma.org](http://moma.org).

### James Turrell: A Retrospective

Los Angeles

Through April 6, 2014

This Los Angeles County Museum of Art retrospective explores nearly 50 years in the career of James Turrell, a key artist in the Southern California Light and Space movement of the 1960s and '70s. The exhibition includes early geometric light projections, prints and drawings, installations exploring sensory deprivation and seemingly unmodulated fields of colored light, and recent work with holograms. For more information, visit [lacma.org](http://lacma.org).



## Lectures, Conferences, and Symposia

### World Interiors Meeting 2013

Amsterdam

September 5–7, 2013

The World Interiors Meeting 2013 is the first international conference focusing specifically on interior design and architecture. Organized by and for interior professionals, the congress will offer panel-discussion topics that include sustainability, culture, education, and design's role in society. For information, visit [meeting.inamsterdam.org](http://meeting.inamsterdam.org).

### International Urban Design Conference

Sydney

September 9–11, 2013

Australia's cities face long-term challenges: achieving greater productivity, affordable and accessible housing, efficient public transportation, safe community spaces, services for a growing and aging population, and facing the implications of climate change. This conference, held at the Novotel Sydney Olympic Park, is dedicated to the theme of "UrbanAgiNation." For information, visit [urbandesignaustralia.com.au](http://urbandesignaustralia.com.au).

### TED City 2.0

New York City

September 20, 2013

Themed "Dream me. Build me. Make me real," TED City 2.0 will feature stories of urban ingenuity from across the globe to discuss the future of the world's cities. Co-curated and cohosted by Chris Anderson, John Cary, and Courtney Martin, the daylong symposium will feature a mix of over 20 speakers, including policymakers, writers, artists, officials, and activists. At the TimesCenter. For more information, visit [ted.com](http://ted.com).

### Monterey Design Conference 2013

Pacific Grove, California

September 27–29, 2013

This biennial conference, hosted by the American Institute of Architects, California Council (AIA CC), invites designers and architects to attend three days of lectures by international prizewinning architects including Marlon Blackwell, Odile Decq, Tom Phifer, Kengo Kuma, Marcio Kogan, and Anne Fougeron. In addition to speaker presentations, the program, held at the Asilomar Conference Center, will include social events, an exhibitor marketplace, tours, and opportunities for fulfilling AIA continuing-education credits. For more information, visit [aiacc.org/mdc](http://aiacc.org/mdc).

### World Architecture Festival 2013

Singapore

October 2–4 2013

The World Architecture Festival (WAF) is the largest festival and live awards program for the global architecture community. WAF 2013 will be a design-led experience, with opportunities to hear from some of the world's best-known architects and from talented young practices establishing themselves on the global stage. Keynote speakers include Sou Fujimoto, Charles Jencks, and Dietmar Eberle. At Marina Bay Sands Resort. For more information, visit [worldarchitecturefestival.com](http://worldarchitecturefestival.com).

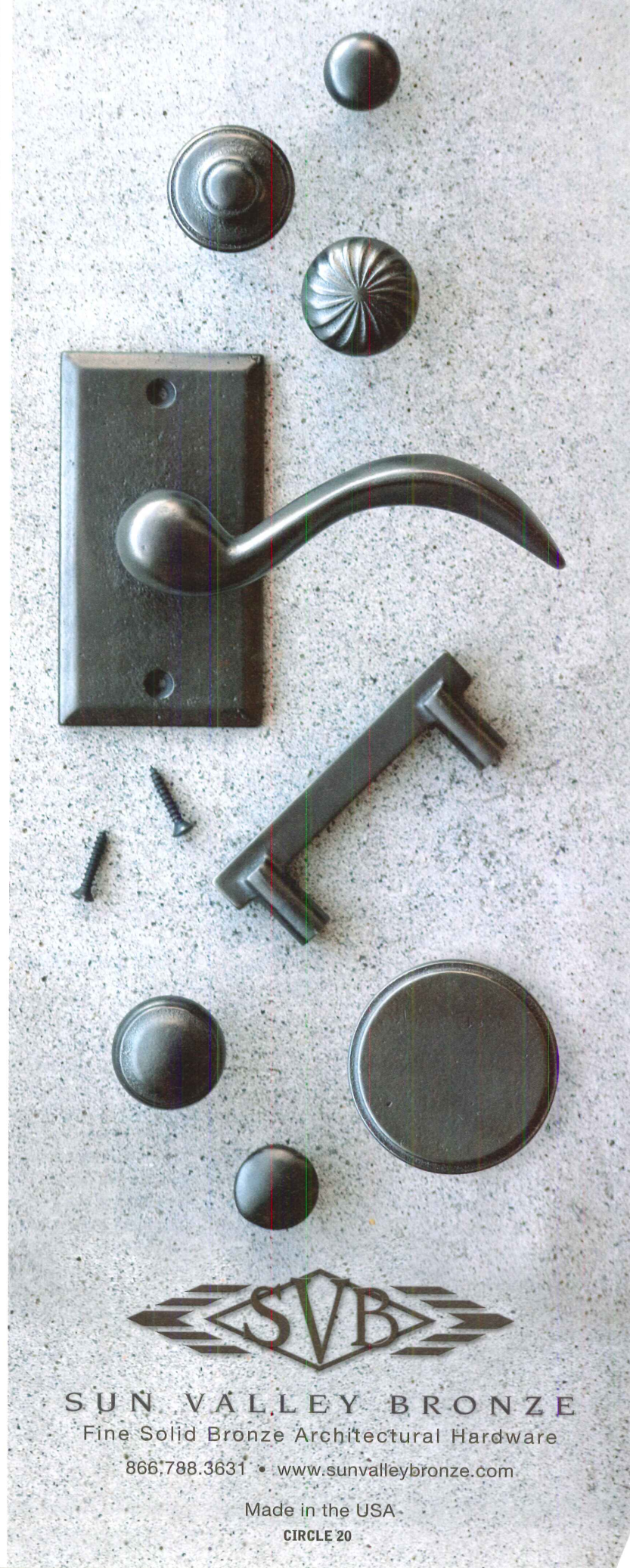
### 2013 Urban Land Institute (ULI)

Annual Fall Meeting

Chicago

November 5–8, 2013

Many cities in the United States and around the world are facing dramatic population and demographic shifts and increasing concerns



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## dates&events

related to climate change. Held at the McCormick Place Convention Center, the meeting will cover a broad range of urban issues that are critical for creating and maintaining healthy communities. Attendees will meet internationally renowned land-use experts and have a chance to watch investors evaluate real project proposals in front of an audience. For more information, visit [uli.org](http://uli.org).

### HABITechno International Seminar Bandung, Indonesia November 11, 2013

The HABITechno International Seminar, the first of its kind, focuses on innovation in housing and settlement technology. Keynote speakers are experts in public policy and include Djoko Kirmanto (Minister of Public Works, Indonesia), Prof. Robert Marans (Institute for Social Research, University of Michigan), and Bruno Dercon (Housing Policy Advisor for UN Habitat). At the Institut Teknologi Bandung (ITB). For more information, visit [habitechno.info](http://habitechno.info).

### 2014 International Roofing Expo Las Vegas February 26–28, 2014

The International Roofing Expo brings all segments of the roofing-construction and roof-maintenance industry together for three days of face-to-face interaction, product review, education, and networking. The show will feature 450 exhibiting companies in 1,000 booths and draw 9,000 participants. At the Mandalay Bay Convention Center. For more information, visit [theroofingexpo.com](http://theroofingexpo.com).

## Competitions

### 4th International Holcim Awards Submission deadline: March 24, 2014

This competition, sponsored by the Swiss-based Holcim Foundation for Sustainable Construction, is offering a total of \$2 million in prize money for leading projects that contribute to sustainability among architecture, building, civil engineering, and landscape and urban design. The competition is open to architects, planners, engineers, project owners, builders, and construction firms. Projects must have reached an advanced stage of design and have a high probability of execution. For more information, visit [holcimfoundation.org/awards](http://holcimfoundation.org/awards).

E-mail information two months in advance to [recordevents@mcgraw-hill.com](mailto:recordevents@mcgraw-hill.com).

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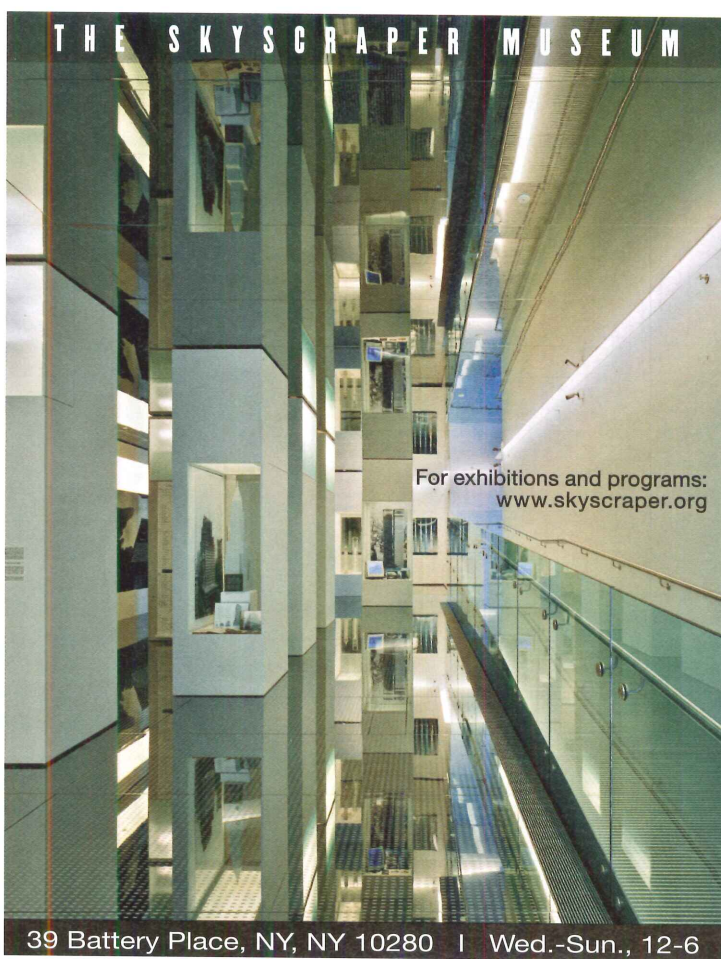



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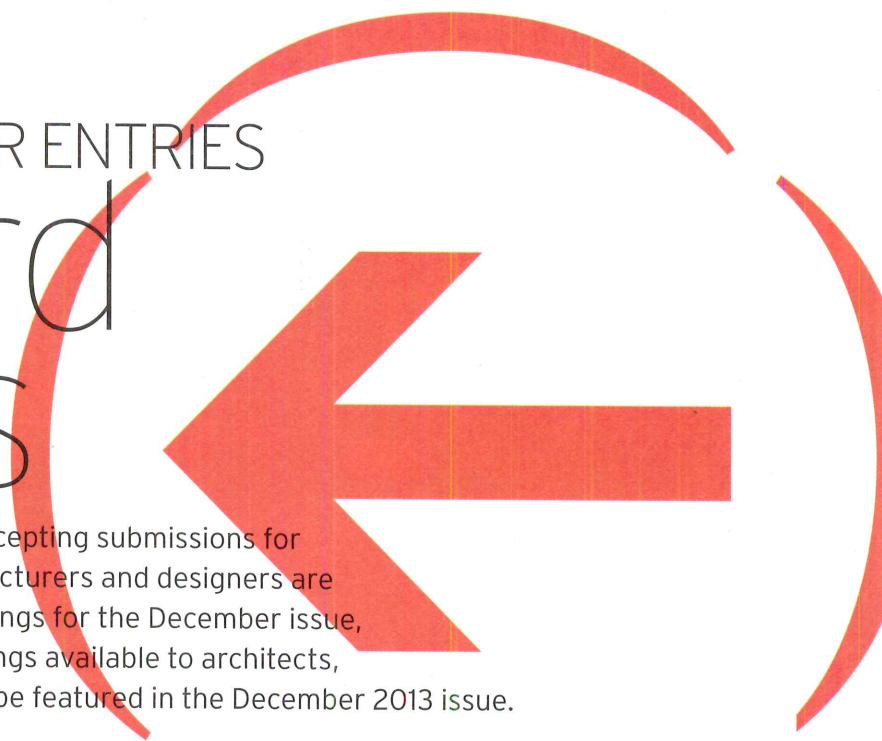
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CIRCLE 17

# 2013 CALL FOR ENTRIES

# Record Products



The editors of ARCHITECTURAL RECORD are currently accepting submissions for the **2013 Record Products** competition. Manufacturers and designers are welcome to submit new building products and furnishings for the December issue, which will present the best and most innovative offerings available to architects, specifiers, and designers in 2013. Winning entries will be featured in the December 2013 issue.

For more details and to enter online, visit [wizehive.com/apps/recordproducts2013](http://wizehive.com/apps/recordproducts2013).

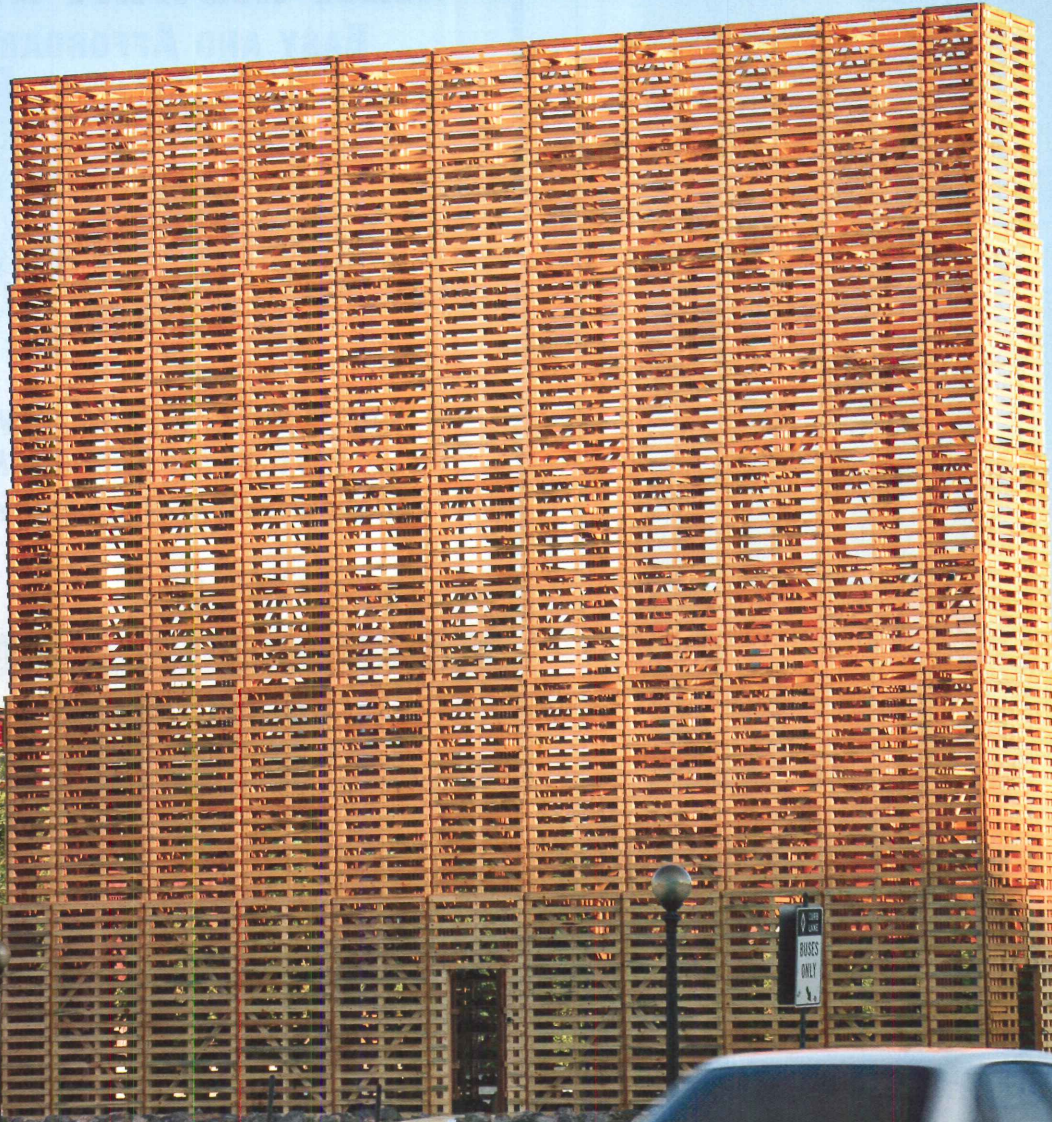
E-mail questions to [ARCallForEntries@mhfi.com](mailto:ARCallForEntries@mhfi.com). (Please indicate **Record Products** as the subject of the e-mail.)

**Submissions are due September 6, 2013.**

CIRCLE 19



PROJECT MINE PAVILION  
LOCATION DENVER  
DESIGNER PEZO VON ELLRICHSHAUSEN



A median strip along busy Speer Boulevard in downtown Denver is an unlikely place to find an enigmatic tower of latticed wood. But as part of *Draft Urbanism*, one of several exhibitions in the Mile High City's art festival the Biennial of the Americas, this delicate timber structure proves that an unremarkable setting can be the perfect counterpoint to architecture with a bit of drama. The "Mine Pavilion," designed by Chilean firm Pezo Von Ellrichshausen, takes its form—and name—from the wooden gold-mining structures that once stood on its site. Though the 50-foot-tall, 9-foot-wide pavilion rests atop a base counterweighted by dozens of heavy boulders, its interior seems surprisingly lightweight, says Sofia von Ellrichshausen, cofounder with Mauricio Pezo of their eponymous firm. Visitors can walk in and around the space for a bit of respite and a pause for reflection, she adds. "We wanted to create a place where you can have a human moment in the midst of all this traffic." *Asad Syrkett*





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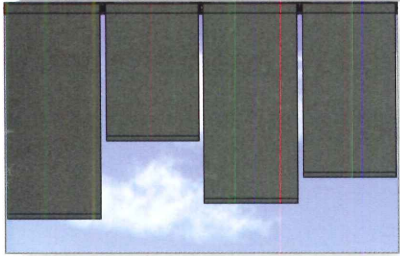
**Environment**



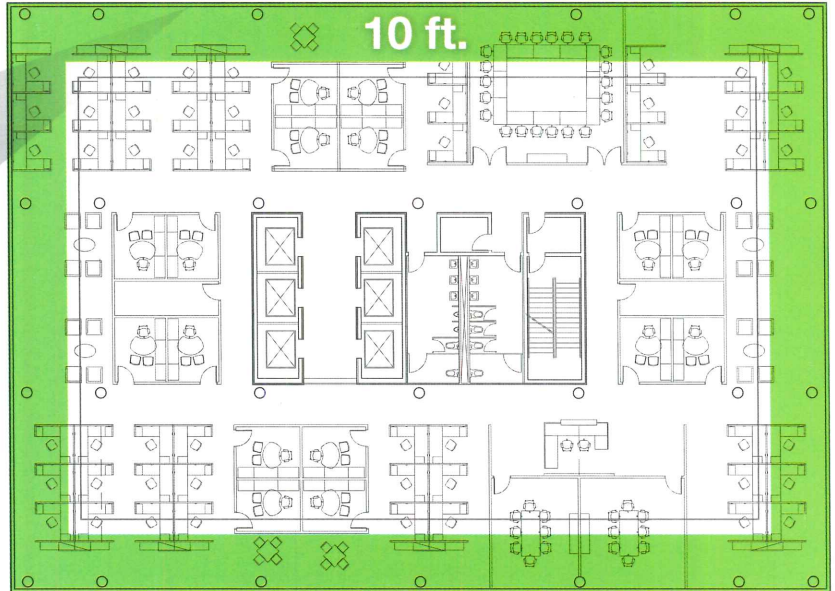
# Daylight autonomy made possible by Lutron

Using Lutron Hyperion® shading solutions can save up to 1.6 kWh/ft<sup>2</sup> per year of lighting energy.\*

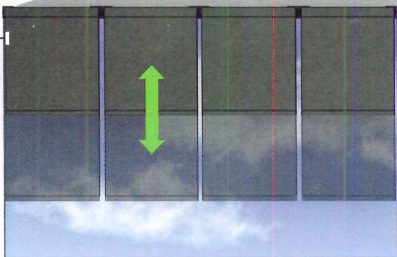
**Manual shades** provide a useful daylight zone up to only **10 ft.**



Manual shades are rarely adjusted and usually misaligned.



**Lutron shading solutions** extend the useful daylight zone up to **20 ft.**

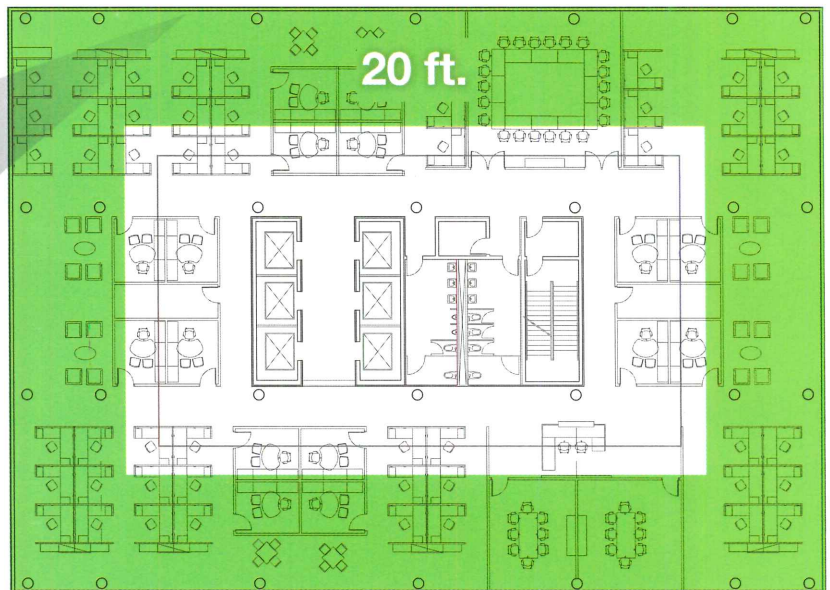


Sensor adjusts automated shades according to daylight conditions.

Maximizes useful daylight entering a space, reducing electric light usage.



Wireless window sensor (discreet mullion mount)



See how it works:  
[www.lutron.com/daylightautonomy](http://www.lutron.com/daylightautonomy)

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\* Lutron Electronics Co., Inc. worked with Purdue University to analyze the benefits and savings potential of Lutron's Hyperion automated shading systems. The results showed the impact of low-volatility shade systems that can reduce annual lighting energy usage. Savings are based on energy simulation of a perimeter private office with a lighting power density of 0.9 W/ft<sup>2</sup>, a standard clear double-pane glass, and a shade fabric with 5% transmittance and a 76% reflectance. Manual shades were simulated by closed shades. Values shown are the average of three window to wall ratios: 20%, 40%, and 50%. Daylight harvesting system required.

