

International Homes

It's not just for wine bottles anymore

Durable, adaptable cork

BERLIN

Architects are discovering a natural, sustainable and versatile building material

BY JOANN PLOCKOVA

In Berlin, the architectural firm Rundzwei recently completed a residential project called the Korkenzieher Haus, or Corkscrew House. Shaped by strict size regulations, the four-bedroom, four-bath home features a staggered spatial arrangement with a sunken lower level including the master bedroom with direct access to an outdoor lap pool. A sculptural central staircase in timber spirals up through the multiple levels, culminating in a pitched skylight.

Together with these features, the home takes its name from its facade and roof, clad entirely in cork.

"The client wanted to be different," said Andreas Reeg, a co-principal and co-founder of Rundzwei along with Marc Dufour-Feronce.

The Corkscrew House is among a growing number of projects using cork as a main material. Architects and designers are discovering the many benefits of this material long associated with the wine industry.

"It is a sort of a wonder product in terms of sustainability," said the architect Tom Surman, a principal and co-founder at the London firm Surman Weston. "Before we researched it, we didn't realize how sustainable it was."

The firm designed the Cork Studio, a garden studio for a couple in North London that, along with a green roof of wildflowers and a birch plywood interior, is distinguished by its cork-clad exterior. The design was shortlisted for a Royal Institute of British Architects award in 2017. "It can do so much as a building material," Mr. Surman said of cork. "It offers thermal and acoustic insulation. It's weatherproof. It's lightweight."

The team arrived at the material in their search for an "earthy quality," Mr. Surman said, that would help the structure blend into its surroundings. As with Rundzwei's project, it was Surman Weston's first time working with cork.

"We had never seen it used on a building in the U.K.," Mr. Surman said. "I remember when we were unpacking it. It was uniform, well made, and the colors were really nice. It looked exactly how we all hoped it would, which was a bit of relief."

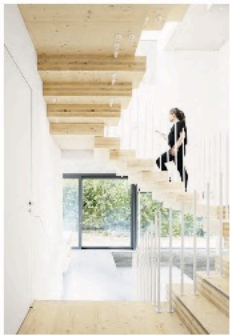
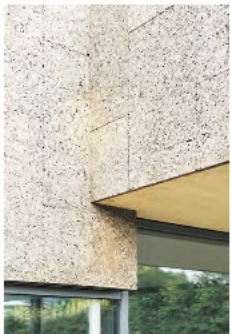
The material was also new for the construction crew, who were equally pleased with how "easy it is to work with," he said. "It's soft, easy to cut and handle."

But the firm was most impressed with its sustainability, as were the clients, the musician Tom Hardy and his partner, the textile artist Jo Gaskell.

"Cork as a building material has much to recommend it," Mr. Hardy said via



ARND BRONKHORST FOR THE NEW YORK TIMES



lating corkboard through heat and pressure that releases the cork's natural resin — forming the glue that holds the cork together without additives, in rectangular panels.

The facade version "is manufactured under slightly higher pressure and achieves a smoother and denser surface," said Mr. Reeg, of Rundzwei.

Contaminar used the material on Cork Hill House, a 650-square-meter, or 7,000-square-foot, home in Leira that was designed to blend into the landscape. "It was the first time that we worked with cork as a skin," Mr. Esperança said. "It was an interesting experience for the team. The use of a new material with such natural characteristics pleased us, this one typically Portuguese material, with a history of use in construction for acoustic and thermal insulation."

Challenged to create a "silent house" that didn't impact the landscape, he said, the team initially intended to use cork as insulation only. But both client and architect knew immediately after its installation that they also wanted to use the material for the exterior. "The color, the smell, the texture of the cork pleased everyone," Mr. Esperança said, adding, "It is a material that ages well."

He said that Contaminar also appreciated cork's ability to change color with the seasons, though others have pointed out that this was a potential challenge.

Other designers agree, like Diogo Paradinha, a principal of ATKA Arquitectos in Porto, Portugal, which used cork cladding to insulate the master bedroom in a house from noise coming from a nearby school. "It is a product suited for being outside, having great durability and properties that are maintained over time. However, because it is a natural product, it undergoes color changes according to climatic variations."

CORK, PAGE 12

Corkscrew House
"The client wanted to be different," said Andreas Reeg, a principal at the architectural firm Rundzwei, which designed the residence, right and far right, in Berlin. The entire exterior is made of cork.



WAI SENG NG

Cork Studio For a garden studio in North London, the team at Surman Weston was searching for an "earthy quality" when they came across cork.

email. "It is itself a sustainable material, as trees are not destroyed in its harvesting. It has great insulating properties, both for heat retention — we rarely have to turn on the under-floor heating — and for sound — I use it as a recording studio. It is also aesthetically very pleasing. It has practically a zero carbon footprint."

Mr. Hardy pointed out that its use in architecture also offers cork manufacturers an alternative market at a time when winemakers are using more twist caps. A natural material that is moisture- and mold-resistant, fire retardant, biodegradable and recyclable, cork is the bark of the cork oak tree. Its first harvest occurs when a tree is 25 years old, and the bark, which is able to regenerate, is then extracted every nine years

in a process called stripping.

All cork roads lead to Portugal, which is home to the world's largest area of cork oak forests, covering around 730,000 hectares, or 1.8 million acres. "Portugal can be proud of being a pioneer in environmental legislation, since the first agrarian laws that protect the cork oak forests appear in the early 13th century," said Joel Esperança, a co-founder of Contaminar Arquitectos in Leira, Portugal. Not surprisingly, the country also produces half the world's cork.

To the east of Lisbon, the insulation division of Amorim, a cork production company with a 150-year heritage, supplies most of the world with cork for insulation and facades. Ground into granules, cork is formed into expanded insu-

Let there be (flattering) light

Not looking glamorous? It could be that you just need a new lamp

BY KATE MURPHY

Have you ever left the house thinking you looked good, only to discover in a dressing room at a clothing store that you looked dreadful? Does the way you look in the bathrooms of some hotel rooms make you feel out of sorts while out of town? Are you unsettled by your reflection in airplane lavatories?

It's not you. It's the lighting. Let's call these spaces what they are: flaw accentuation chambers. Lit to your worst advantage. It doesn't matter if you're a supermodel. In cruel lighting, you will look like the villain in a classic horror flick — dark circles under your eyes, creases in your brow, wrinkles tracing around your mouth, sagging cheeks and moonscape complexion.

This is no secret to cinematographers. They use light to make people look glamorous or ghastly, depending on the scene.

"Whenever I walk in a room, I'm very conscious of the light," said the Danish cinematographer Stephan Pehrsson, who used lighting to dramatic effect in the Masterpiece production of "Les Misérables" on PBS and BBC One. "I'm always aware of lighting that complements a person, what makes you look nice, and also what makes someone look unattractive, what makes you look like a bad guy."

He's noticed a trend toward unflattering lighting in modern housing and commercial buildings. "You see lots of spotlights these days," he said. "It's really not good."

Overhead lighting is popular because it gives the space a sharp, clean look. But Mr. Pehrsson said it casts pronounced shadows across the face, particularly under the eyes, enhancing wrinkles and imperfections. It doesn't do the body any favors either. Every bulge, droop and pouch becomes like an awning, throwing shade underneath.

The photographer Jennifer Graylock, who works with celebrity and fashion clients, described the phenomenon this way: "You know when you put a flashlight under your chin and you look



ILLUSTRATION BY THE NEW YORK TIMES

scary? Overhead lighting is the opposite. It is just making you look scary from the top." This is the case in many retailers' dressing rooms and hotel bathrooms. Plus, the light that shines

down often has an icy blue or greenish tint that makes you look like you require medical attention.

While several studies show that the angle, intensity, color and quality of light

can have a profound impact on perception and mood, lighting remains an often-neglected aspect of interior design.

"People just don't realize how much lighting affects them," said Robin Muto, an interior designer in Rochester, N.Y. "Even if you're not in a bathroom looking at yourself in the mirror, if you're looking at other people in lighting that makes them look dreary, drawn and horrible, you start to feel that way, too."

So what will cast you and your houseguests in the best light? It helps to think of the kind of light that makes you feel good when you look at it. It's probably not the white-hot sun beating down at high noon. It's more likely the reflected glow from a sunset or from a warm, cozy fire. This light is softer, maybe a bit rosy and golden. It's diffuse and coming at you from the side.

To replicate this effect indoors, place shaded or frosted-glass table lamps at eye level. Or consider a torchère, which is a floor lamp that shines light up at the ceiling the way the sun shines its light

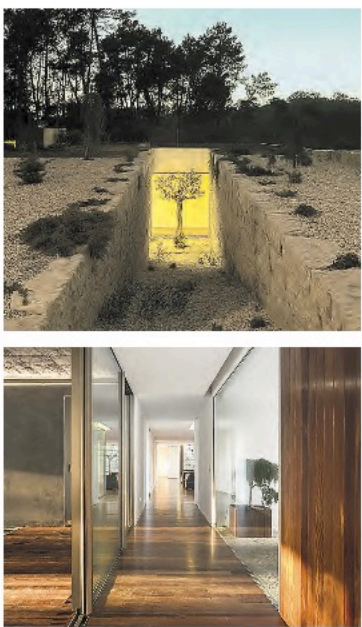
up as it dips into the horizon. If you have overhead lighting, find fixtures that can be angled so light bounces LIGHTING, PAGE 12

Like a sunset

Torchères shine light up at the ceiling the way the sun shines its light up as it dips into the horizon — the kind of light that makes you feel good when you look at it.

INTERNATIONAL HOMES

Natural choice
Cork Hill House, right and far right, was designed by Contaminar Arquitectos to blend into the landscape. It is in Portugal, which supplies much of the world's cork.



TOP: ABOVE AND LEFT, FERNANDO GUERRA/TS + SC

Durable, adaptable cork



Many uses A cork lamp, right, and a bathroom lined in cork mosaic, below, in a Prague home by Formafatal.

BOUYE/PLAYNIX



BOUYE/PLAYNIX

CORK, FROM PAGE 11

"There may be some risk, or unpredictability, of how cork will respond to the passage of time on the same facade," Mr. Paradinha said. "There may be areas where discoloration is more pronounced than in others, damaging, in theory, the image of a facade that would be expected to age uniformly." In Portugal, cork is cheaper than other materials because of its abundance. Elsewhere in Europe, cork can be slightly more expensive, depending on use. "The cost was approximately 30 percent more in comparison to a normal render facade," said Mr. Reeg, the architect for the Corkscrew House in Berlin. "But that was due to the detailing of the seamless joints and sharp corners. We suspect that a timber facade cladding

"A simple, modern look that will still work in five years."

with those minimalist details would have cost the same." Cork flooring or furniture also can offer a distinctive touch to interiors. "I was a bit skeptical about the material in the beginning, but now I really like it," said Katarina Varsova, an architect at Formafatal in Prague, who designed an apartment there for a young wine lover. His request for cork floors informed the direction of the design. The apartment features cork pendant lights, a cork stool by Vitra, a cork key holder at the entrance and a bathroom tiled in a cork mosaic. "Cork offers a softness and warmth," Ms. Varsova said. "A simple, modern look that will still work in five years." At the Corkscrew House, where the client's desire for a monolithic appearance was evident, Mr. Reeg pointed out a small area on the facade they recently opened up to see how the material has been faring against the climate. "We've had a lot of rain, humidity, nasty weather," he said. "It's still in good shape."



ATKA ARCHITECTS

Variable A home designed by ATKA Arquitectos, a Portuguese firm that often employs cork. Diogo Paradinha, a principal at the firm, notes that when used outside, "it undergoes color changes according to climatic variations."

Let there be light, but make sure it's flattering

LIGHTING, FROM PAGE 11

off the walls and hits people at a side angle. Also effective are so-called wall washers — fixtures designed so light bounces off baffles or reflectors inside the housing, which then directs the light out more horizontally than vertically. "You get a very nice, broad wash of light, like mist from an aerosol can," Ms. Muto said. To look your most attractive in the bathroom, you want lights that flank or encircle the mirror, as you might find in a backstage dressing room. Shaded or covered sconces positioned at head height about the room will further smooth and soften your appearance. But perhaps the best light sources are those you cannot see, said Doreen Le May Madden, a certified lighting architect in Belmont, Mass. She likes to hide lighting behind mirrors or within molding, or have it shining up from baseboards. Such features are why shoppers look so much better in dressing rooms at high-end stores like Neiman Marcus. "Diffusion and control of the light source are key to looking good and feeling good," Ms. Madden said. The quality of the lighting matters too. When buying light bulbs, you want to look for two key indicators. The first is the correlated color temperature, or C.C.T., which tells you how warm the light appears. It is measured on the Kelvin scale and denotes the temperature required for a black object (think

charcoal) to emit a certain color. You know how the hottest part of the flame is the blue part at the bottom, and the orange-yellow part toward the top is cooler? It's the same with color temperature. The higher the Kelvin, the bluer or whiter the light. People tend to look their best when illuminated by bulbs that measure around 2,700 kelvins. Most bulbs, whether incandescent, LED, compact fluorescent or halogen, are labeled "soft white/warm white" (2,700-3,000 kelvins), "bright white/cool white" (3,500-4,100 kelvins) or "daylight" (5,000-6,500 kelvins). However, Ms. Muto said, those labels aren't standard across types of light bulbs and can also vary depending upon the manufacturer. "A 2,700 K in a LED doesn't look the same as a 2,700 K in an incandescent," she said. But you might find an LED at a higher or lower color temperature that approximates the incandescent bulb's look. Do some experimenting by taking home a few different bulbs to find out what kind of light, at which color temperature and by which manufacturer, you find most appealing. The other metric to pay attention to is the color rendering index, or C.R.I. This tells you how true or accurate colors appear under the light. An index of 100 is as good as it gets. Ms. Madden said that for most settings, you don't want to drop too far below 90. Otherwise, things start to look weird, like under the security light-



ILLUSTRATIONS BY THE NEW YORK TIMES

ing that floods a big-box-store parking lot late at night. On websites like Bulbs.com, 1000bulbs.com and Bulbrite.com, you can easily search for your desired specifications and save yourself a potentially

fruitless trip to the hardware store. Dimmers are great for customizing the intensity, or lumens, of the bulbs you buy, depending on the mood you want to create or the task at hand (say, reading a book vs. entertaining guests). If you're a

do-it-yourself type, there are lots of YouTube videos that demonstrate how to replace an existing light switch with a dimmer switch. Just remember to cut off the power to the switch first, lest the lights prematurely go out forever.

Creating angles Wall washers, left, are designed so light bounces off baffles or reflectors inside the housing, which then directs the light horizontally. In the bathroom, far left, lighting is best placed to the sides of the mirror.