

ARCHITECTURAL RECORD

GEHRY LIGHTS UP NOVARTIS IN BASEL

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**REISER + UMEMOTO'S
O-14 TOWER IN DUBAI**
**BIG'S 8 HOUSE
IN COPENHAGEN**
**KPF'S METHODIST HOSPITAL
IN HOUSTON**
**ZUMTHOR'S MEMORIAL
IN NORWAY**

THESE NEW SUSTAINABLE SOLUTIONS INCLUDE REPURPOSING RUSTIC LUMBER FROM OLD SNOW FENCES. RITA CATINELLA ORRELL

Carbon Negative Cement Named Material of the Year

FOR THE SECOND year in a row, a concrete-related product has been chosen as material of the year in Material ConneXion's MEDIUM Award program. Material ConneXion, a global materials consultancy and library, awarded Novacem's Carbon Negative Cement as the winner. This follows last year's inaugural winner, Concrete Canvas, which won for its Concrete Cloth cement-impregnated flexible fabric technology.

According to Dr. Andrew H. Dent, Material ConneXion's vice president, library and materials research, half of the roughly 500 materials considered for this year's award were related to the building arena. "That wasn't intentional," explains Dent. "We don't think we need to represent one particular area of the materials industry, in the same way that we didn't have sustainability as a main attribute when choosing the materials." The jury was more focused, says Dent, on products that "herald some real change for the future." The high percentage of building materials signifies a push in that area toward both innovation and sustainability, says Dent.

Typical cement is responsible for approximately 5 percent of man-made carbon dioxide; the emissions are caused by the processing of limestone and raw materials and the burning of fossil fuels. Novacem's carbon negative cement replaces calcium carbonates used in typical cement formulation with magnesium silicates and uses a lower-temperature production process that runs on biomass fuels. Novacem associate engineer Daniel Bowden says that while the cement is still in development, they are already achieving strengths of up to 80 Mpa. Dent says the cement was the clear winner. "If implemented, the material would take care of most of construction's attempts at carbon reductions in one fell swoop." Bowden says that a commercial rollout is currently planned for 2014-2015.

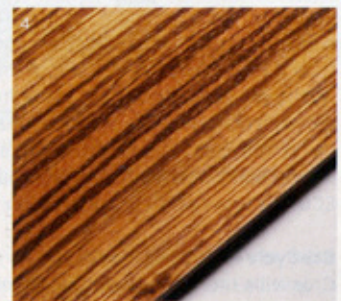


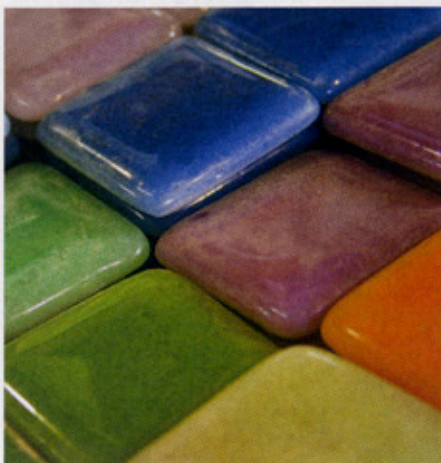
1. Novacem's Carbon Negative Cement won Material ConneXion's second annual MEDIUM Award.
2. Lumisys transparent LED signboard uses low-energy, long-life LEDs.
3. Saratech Permasorb Wallpaper removes toxins embedded in wall surfaces.
4. Eco-HPL is the first high-pressure laminate made without phenol-formaldehyde.



Out of the nine runner-ups for the award, four are construction materials with notably green attributes: Saratech Permasorb Wallpaper, which removes toxins embedded in wall surfaces; Lumisys transparent LED signboard that uses low-energy, long-life LEDs; ECOR panels made from cow manure and other recycled content; and Eco-HPL, the first high-pressure laminate made without phenol-formaldehyde.

Dent thinks industry certifications, though often limited in scope, are what give building material companies an advantage: "Construction is one of the few industries where there is a clear framework of what you are supposed to do." Novacem Limited, London. novacem.com CIRCLE 200





Redeux Material Take Back Program

ECORE ecoreintl.com

Starting last April, ECORE customers can now send back old or remnant recycled rubber and cork products for recycling to the manufacturer's Lancaster, Pa., manufacturing facility. As the products are already made from recycled materials, the reclaimed material will be "re-recycled" into new flooring, underlayments, and industrial products through ECORE's proprietary process. **CIRCLE 201**

EcoCycle Recycling Process

Crossville Inc. crossvilleinc.com/green

TOTO has formed a cross-industrial strategic partnership with Crossville to supply preconsumer waste for Crossville's new EcoCycle Recycling Processes. EcoCycle is a proprietary system for processing preconsumer sanitary ware, fired tile, and production-related waste back to powder that is used in the manufacture of new tile. Crossville is the first U.S. tile manufacturer to achieve SCS certification for its waste-recycling program. **CIRCLE 206**

Recycled Bricks and Pavers

CalStar Products calstarproducts.com

CalStar Products uses a proprietary technology to produce bricks and pavers that incorporate 40% postindustrial recycled material. This allows CalStar to avoid the energy-intensive kiln firing required for clay bricks and pavers and the use of Portland cement in concrete pavers. As a result, Calstar uses 50-85% less energy in manufacturing and generates 85% less carbon dioxide. **CIRCLE 203**

Crush Glass Tile

Fireclay Tile fireclaytile.com

Crush is 100% recycled-glass tile made from preconsumer window glass sourced from within 20 miles of Fireclay's San Jose, Ca., manufacturing facility. Crush is made to order within two weeks, and is available in 40 colors in matte and gloss finishes and 17 different size formats. Due to a proprietary glass fusing technology and state-of-the-art kiln firing, the tiles use less than a quarter of the energy used to produce traditional cast-glass tile. **CIRCLE 204**

Reclaimed Snow Fence Wood

Centennial Woods centennialwoods.com

Centennial Woods reclaims rustic lumber from Wyoming snow fences (built to help control snowdrift on roadways) and repurposes it for a second life as siding, flooring, and other applications such as this herringbone-patterned ceiling for a private residence. The company claims to have reclaimed 6 million linear feet of snow fence that would have been burned or thrown into a landfill. **CIRCLE 205**

Shinnoki Real Wood Designs

Shinnoki robinreigi.com

Shinnoki, a provider of real-wood veneer panels for interior applications, offers the Zero Line of no added urea-formaldehyde veneer. The line is made of FSC-certified wood depending on species; Bright Maple, Milk oak, and Espresso Beech, are a few. The basic panel consists of 18 mm MDF that is FSC-certified (70% Mixed) and made with formaldehyde-free glues, stains, and lacquer. Available through the Robin Reigi Inc. showroom. **CIRCLE 202**