

LEADING THE CHARGE FOR CHANGE

By Sarah B. Hood

2021 INNOVATIVE PRODUCT AWARD WINNERS MODEL SUSTAINABILITY AND SMART TECH

➤ **AN IN-PERSON BUILDINGS SHOW** was the venue for TCA's unveiling of its trio of Innovative Product Award winners. Read on to learn about the winning products.



FIRST PLACE DuROCK PUCCS NC EIFS

The highrise boom of the mid-20th century created homes for thousands of families, but this stock is aging and tower revitalization is becoming critical. When it comes to exterior cladding, new materials present an opportunity to significantly reduce energy demands; they also guard against potentially devastating fires. This year's first-place winner, the DuROCK PUCCS NC exterior insulation and finish system (EIFS) with ROCKWOOL stone wool, marries outstanding insulation performance with fire safety.

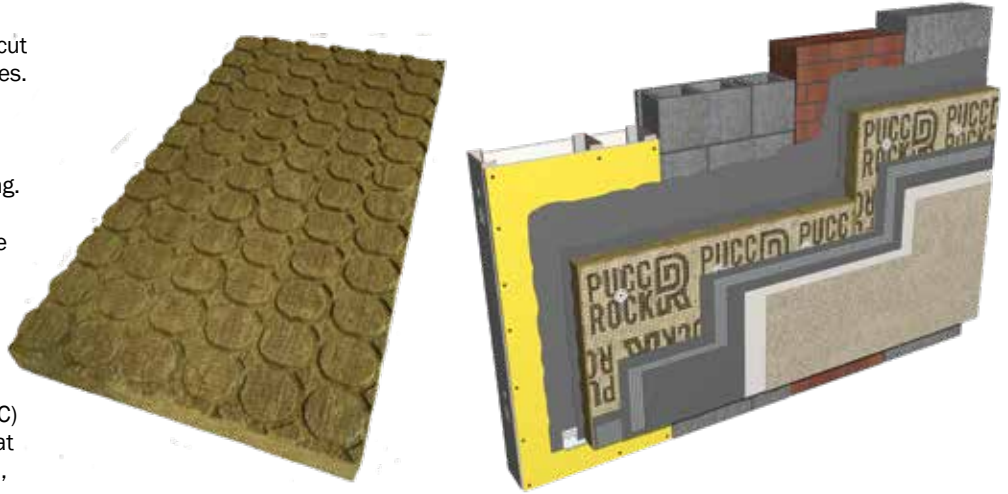
NRC-tested and CCMC-evaluated, the PUCCS NC is a non-combustible, continuous insulation system that combines an air- and water-resistive barrier with mineral wool insulation. ERA Architects were so impressed with it that they used it in the high-profile, energy-efficient retrofit of the 1967-era Ken Soble Tower in Hamilton, Ontario. In terms of Passive House Certification, "the project is now the centrepiece for the retrofitting of buildings all across the country," says Andre Turrin, technical director for DuROCK Alfacing International Ltd.

DuROCK had already developed machinery for cutting polystyrene to create the Geometrically Defined Drainage Cavity

(GDCC), but they had to modify it to cut mineral wool without tearing the fibres. They also needed to demonstrate to Canadian Code authorities that the system would self-seal around the fasteners that attach it to the building. This was achieved by strategically positioning the fasteners through the solid insulation to avoid fastening through the drained air-space, while spacing them to match conventional framing at 16-inch centres.

“The National Research Council (NRC) actually did this testing themselves at their laboratories, and lo and behold, we were able to demonstrate that we performed as well as or better than the benchmark Code-accepted solution,” Turrin says.

Financing and setting up for large-scale production during COVID-19



were challenging tasks, but with a repayable contribution from FedDev Ontario and support from NRC-IRAP, SR&ED and CCMC, DuROCK set up a new manufacturing facility that is now in full operation and supplying a growing market.

“It means a great deal to be recognized with this award,” says Turrin. “Innovation is what our company has always been about. Many years ago, PUECCS was a game-changer. Now, PUECCS NC is a game changer.”



**SECOND PLACE
MITREX SOLAR FACADES**

Rooftop solar arrays have become common, but why stop there? Mitrex envisions a future when any built surface could be stockpiling energy. Mitrex Solar Facades consist of solar cladding and solar glass that have high-efficiency solar cells sandwiched between tempered glass; the cladding has an advanced aluminium honeycomb backing.

“Other products that can be categorized under BIPV (building-integrated photovoltaics) are not fully integrated into a facade,” says Emelie Reis, business development lead for Mitrex Inc. “Integrating a building material and solar technology into one

eliminates the need to build your facade and then add solar, or to add solar only to the rooftop.”

To achieve both efficient power generation and an esthetically pleasing design, Mitrex pays special attention to coatings. A multi-layered coating process offers anti-reflective coloured cladding that absorbs most of the available sunlight for energy production, and an anti-soiling coating preventing sunlight-blocking dust or dirt from settling onto the glass, making the BIPV virtually maintenance-free.

“At Mitrex, we believe the essence of innovation is through improvement and advancement. Our products overcome the challenges of traditional building material and solar panels,”

Reis says. Manufactured in Canada, Mitrex Solar Facades can be customized to achieve the look of any surface material, pattern, texture or image, from granite, porcelain, brick or wood to original graphics.

Reis says the key to innovation in the GTA construction industry is awareness and education about new products and processes and adds, “TCA has invariably laid a strong foundation in promoting and upholding the highest standards for industry professionalism and innovation.”

“We are very passionate about creating a sustainable future. Winning an acclaimed award like this amplifies our collective goal of achieving Net Zero by 2050 and accelerating the adoption of sustainable, energy-generating human-made structures,” Reis says, which, for Mitrex, means “integrating solar into everything the sun touches.”



**THIRD PLACE
PCL JOB SITE RESOURCING**

The third-place winner, PCL’s Job Site Resourcing (JSR) is a mobile-friendly logistics management solution that disentangles the complex web of deliveries and materials movement. JSR takes into consideration all the elements that make up part of the typical jobsite, like elevators, staging areas, cranes and hoists.

JSR simplifies functions like booking systems and delivery appointments, using a cloud-based web portal and native mobile application for iOS and Android. It has already been used on more than 70 projects in North America since its inception in June 2020, saving hundreds of thousands of dollars cumulatively, including at the SickKids Patient Support Centre and The Arbour at George Brown College.

“I think the reason that JSR has been so well received at our project sites is that it gives all the project stakeholders that

visibility into the delivery activity and resource utilization on-site that they didn’t have before,” says Dawn Kaasten, business systems analyst with PCL Constructors Canada Inc.

“It has been adapted especially for the construction market. For instance, when you’re looking for a crane, you can add questions like the weight, the type of material, how many trucks and the type of offloading that is required,” Kaasten says. “Here at PCL, we’re constructors first, so I have access to all the bright minds on our projects. That might be different from companies where they’re just software developers.”

Kaasten says that COVID has brought to the forefront the industry’s need to digitize and its ability to react quickly. “Moving forward, we see that the next generation of jobsites will demand innovation, integrated smart applications and services, access to data and visibility. Job Site Resourcing is recognized as part of that,” she says. “Having Job Site Resourcing recognized is very rewarding and it gives us the confidence to continue driving the innovation envelope in the future.” ◀

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