The Catherine building: balconies, built using Isokorb® to provide a thermal break between the internal and external components, conserving energy and reducing heat loss.

An overhead view of how Schöck Isokorb® concrete connection fits into a balcony during construction tied back to the structural elements.

References

Innovative energy-saving solution built into Ottawa affordable housing complex

The Beaver Barracks Redevelopment Project uses cutting edge thermal break elements in construction - Schöck Isokorb®.

Beaver Barracks, a rental housing project, is gaining attention as one of the top sustainable housing sites in Ottawa. Innovative technologies, like Schöck Isokorb®, have been included in the project's construction to improve energy efficiency and create longer-lasting structures. Schöck Isokorb® is a load-bearing thermal insulation element for the connection of cantilevered reinforced concrete components. The project plans include Schöck Isokorb® in its balconies as a thermal insulating, load-bearing element.

Beaver Barracks is an affordable housing complex being built in downtown Ottawa by Centretown Citizens Ottawa Corporation (CCOC). The 254-unit redevelopment carries the name of the former military barracks that existed on the site. Construction started in 2009, with the first phase completed in December 2010.

CCOC's Beaver Barracks development includes a mix of bachelor, one-bedroom, two- and three-bedroom apartments and townhouses providing housing for singles, families and a diverse range of households and incomes, including those who require accessibility.

Prioritizing sustainable design and energy efficiency
The project designers placed an emphasis on energy conservation when drawing up plans for the project. Thus, a variety of sustainable design techniques and components, such as geothermal heating and cooling, high efficiency building envelopes, low VOC materials throughout, green roofs with planter boxes, a community garden etc. were used in this development.

Schöck Isokorb®, is being used in the concrete balconies. The building is seven-stories, consisting of 76 units, with apartments and ground-level townhouses, along with a row of commercial space on the ground floor.

Simple, drop-in-place installation techniques for Schöck Isokorb®, a load-bearing thermal break element for free cantilever balconies.

Saving future repair costs

As developer and manager of rental apartment buildings, CCOC was aware of challenges associated with continuous concrete balconies. One of the primary concerns with traditional concrete construction methods is thermal-bridging which causes structural damage warranting major repairs within 25 years of construction. Thermal bridging issues are also known to cause poor indoor air quality and mould. CCOC viewed Schöck Isokorb® as an opportunity to offer energy savings to their tenants, who pay their own utilities, as well as provide a higher quality of life for the occupants.

"Our objectives were to avoid future costs associated with balcony repairs, help protect the environment, and reduce our energy costs," said Kim Menard, Manager of CCOC's Development Department. "We believe these objectives were met with the installation of a concrete balcony connection made with Schöck Isokorb®, which provided the assurance the team sought in order to obtain a higher quality of life for the occupants and reduce long term capital repair costs."

"We also wanted to make sure our building is built with cold Canadian winters in mind," said Thady Murray, Project Manager with ZW Group. "Insulating our structures as best we can is always a top priority. The long term benefits are obvious with Schöck Isokorb® thermal break element."

A progressive and proactive solution

CCOC anticipates the finished buildings will use 40 % less energy than previously constructed housing. This is all part of the design team's commitment to make the building one of the most environmentally-friendly and sustainable housing developments.

To find out more about the Schöck Isokorb® product line, visit: www.schock-us.com or call 855-572-4625.

Scan the QR code to view the video.

Details	
Project	Beaver Barracks
Architect	Barry J. Hobin and Associates
Structural Engineer	Halsall Associates Ltd.
Construction Company	ZW PMI
Products	Schöck Isokorb® for the connection of cantilevered concrete components
Start of construction	2009
End of construction	2012

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