DELTABEAM® EXCELS IN A RESIDENTIAL HIGHRISE

Text: Timo Vennonen

The Winnipeg skyline will get a new landmark when the 21-storey GlassHouse is completed in 2016. DELTABEAM® has played an important role in meeting the needs of the architect, structural designer and constructor alike in this ambitious Canadian project.

One of the tallest steel structures in the Manitoba region, GlassHouse is in Winnipeg's rapidly growing sports, hospitality and entertainment district (SHED). Downtown Winnipeg has seen brisk development in recent years, and GlassHouse is seen as a trendsetting example of the new wave of sustainable accommodations in the area.

With its 196 high-end condominiums and urban appearance, GlassHouse can also be described as "chic", and is truly unlike anything Winnipeg has ever seen before. The first residents to move in by spring 2016 will experience floor to ceiling glass and life in a loft-like space achieved through the use of structural steel.

"The architects were looking for a solution that would incorporate a slab thickness of 9 to 10 inches (22 to 25 cm). DELTABEAM® was the perfect solution, offering what the architectural expression needed while making life easier for the structural designer and contractor alike," explains Peikko Canada's Managing Director **Dominic Lemieux**. As an interesting interior detail, the underside of the beams are exposed and painted black – in contrast to the exposed concrete hollow-core slabs and hardwood floors. GlassHouse also boasts more than 2,000 panes of floor to ceiling glass and a room height of 9 feet (2.7 m).

TECHNOLOGY FOR OPEN SPACES

"DELTABEAM® is a slim-floor steel structure that lets you build architecturally interesting open spaces," Lemieux says, continuing: "and the best thing is that the simple assembly process of DELTABEAM® helps to keep large projects like this one right on schedule."

The beauty of structural steel is that almost all components can be prefabricated to speed up the building process. This means that the building has been added to the Winnipeg skyline at an astounding pace since the cornerstone was laid in November 2014.

"You don't need to weld when installing these beams. This makes for safety on site and swift frame erection," Dominic Lemieux points out. DELTABEAM®s are connected to the columns using Peikko's modular PCs Corbels, which are factory-welded to the steel columns to provide lego-like ease of installation.

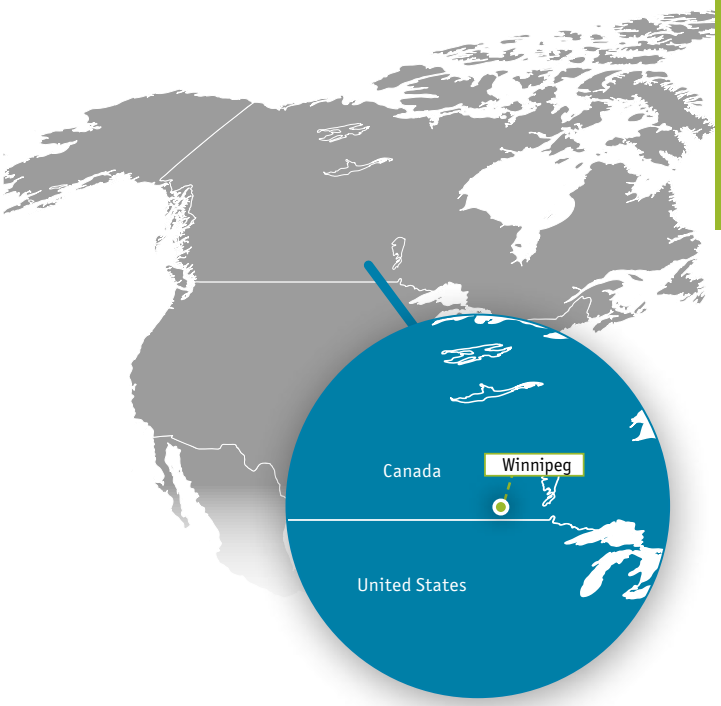
ALSO BENEFITING INVESTORS

"Choosing DELTABEAM® means more profit for investors, because our slim floor technology allows you to build more floors for a given overall height. On the other hand, constructors are happy when the chosen technical solution is quick to assemble," Lemieux explains. DELTABEAM® reduced the structural depth of each floor by a whopping 16 inches (40 cm), which translates into 2 extra floors compared to conventional structural technology. Flat ceilings also mean straightforward HVAC installations that further reduce building time.

NO EXTRA FIREPROOFING NEEDED

Structural steel needs to have the required fire rating. Intumescent paint is the standard industry procedure if the steel is exposed, but this has to be done on site. It can also take some time, as you need a primer, base coat and decorative topcoat. None of this is needed with DELTABEAM®, as the beam is cast in concrete. DELTABEAM® is supplied in a pre-painted form, and it's not going to be a crucial issue if it happens to get scratched at the worksite or corroded after a while due to exposure to the elements. "Crews can repaint these beams the way they like without the need for further inspection, whereas on other jobs you'd have to re-coat the beam in intumescent paint," explains Lemieux. "This has also been a clear bonus at the GlassHouse building site."

To prove the point, DELTABEAM® is UL-tested to achieve 2-hour, 3-hour and 4-hour ratings with no additional fire protection on the beam. ■



GLASSHOUSE WINNIPEG

Owned by Urban Capital, the GlassHouse was designed by Stantec Architecture Winnipeg. The structural design engineers were Crosier Kilgour & Partners and the main contractor is Bockstael Construction. To date, GlassHouse is the tallest steel frame structure realized with DELTABEAM®.

For further details visit **www.glasshousewinnipeg.com**