

CALGARY CITY CENTRE

LAFARGE INNOVATIVE & MARKET-DRIVEN CONCRETE MIXES
MAKE FAST TRACK HIGH RISE CONSTRUCTION POSSIBLE.



HIGHLIGHTS:

DESCRIPTION:

High-Rise Construction

PROJECT SIZE:

36 Stories

LOCATION:

Calgary, AB

CLIENT:

Cadillac Fairview Corporation Ltd.

GENERAL CONTRACTOR:

PCL Construction Management Inc.

ARCHITECT:

Ziedler / BKDI Architects

ENGINEER:

RJC Consulting Engineers

INNOVATIVE PRODUCT:

Chronolia® 48H
Agilia® Vertical

PROJECT COMPLETED:

2015

THE PROJECT

Located in the heart of Calgary's vibrant downtown Eau Claire district, Calgary City Center stands out as one of the city's iconic high rise towers. One of Calgary's tallest high rise buildings, Calgary City Center towers at 36 stories, and started offering the city's business district more than 850,000 square feet of rentable office space upon completion in 2015.

An extraordinary example of the direction many of Calgary's newest commercial and mixed-use high rise buildings are heading, Calgary City Center features a 5-storey underground parking garage and two enclosed bridges to adjacent buildings that link the project to Calgary's +15 elevated pedestrian walkway system. Calgary City Center is also one of the first office towers in Canada to be designed to achieve LEED Platinum certification.

THE REQUIREMENTS

In order to condense construction time, the selected contractor for Calgary City Centre, PCL Construction, needed a high early strength concrete mix that could reach 30 MPa within 48 hours for the project's foundation, core, columns and slab work. This would allow the construction crew to maintain an accelerated construction cycle that would see slab pours for tower floors taking place every six days, and the associated form stripping and shoring activities taking place on those slabs within 24 hours.



LAFARGE SOLUTION

Lafarge provided PCL with Chronolia® 48H, a proprietary high early strength concrete mix that would achieve the specified MPa in the time needed. In addition to the Chronolia mix, Lafarge also supplied Agilia® Vertical to the project to further help PCL accelerate their construction schedule. 3,900m³ of Agilia for building columns in the parkade and suspended floors, and 15,500m³ of Chronolia for 36 floors of suspended slabs was poured from January 2014 to February 2016. The adoption of Agilia Vertical along with Chronolia 48H by PCL into this project allowed for simultaneous pouring of the columns and slabs, making schedule efficiency gains possible.

THE RESULTS

Thanks to an innovative project management approach to Calgary City Centre, supported by construction materials that expedite building timelines such as Lafarge's Chronolia 48H and Agilia Vertical, PCL was able to complete Calgary City Centre under budget, and the project structure was completed about a month ahead of schedule. These time savings helped make it possible for Cadillac Fairview to achieve occupancy and begin generating revenue from the project sooner than planned.



CUSTOMER TESTIMONIAL

"The Calgary City Center project was designed with accelerated strength gain. To meet schedule, it was critical that PCL was able to meet a typical six day cycle on floor pours, where slabs were stripped and shored within approximately 24 hours. Chronolia 48H was part of the solution that achieved that and helped us meet this target."

Ryan Schmidt, Construction Manager
PCL Construction Management Inc.



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