

Case Study:

Mountain Equipment Co-op Montreal Store

Montreal, Quebec



Credits

Client / Tenant:
Mountain Equipment Co-op

Building owner:
Fiducie Immobilière MCM

Architect:
MTF Architects
(Studio MMA, Atelier
d'architecture
Lyse M. Tremblay, architect
Duschenes & Fish, architects)

Construction Manager:
Broccolini Construction Inc.

Structural Engineer:
Saia Deslauriers Kadanoff
Leconte
Brisebois Blais

Materials Engineering:
Inspec-Sol Inc.

Cement and Concrete
Supplier:
Lafarge North America

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ECOSMART™ CONCRETE

A Concrete Contribution to the Environment™

EcoSmart™ concrete is field tested through a series of case studies including the Mountain Equipment Co-op Montreal store

Case Study Overview

The Mountain Equipment Co-op (MEC) Montreal store is the Co-op's 8th retail store. The project mandate was to build a new two-storey, 4,180 m² retail store for MEC in conformance with the client's stringent Green Building Guidelines. Construction on the MEC store, which is located in a 'big box' shopping complex at the intersection of autoroutes 15 and the Metropolitan in Montreal, started in October 2002 and was completed in May 2003.

EcoSmart™ Concrete Usage

The building structure is concrete and steel. Concrete was chosen to provide the necessary thermal mass for effective radiant heating and cooling. Based on the EcoSmart™ literature and MEC's previous experience with their Ottawa store (50% slag content), the team initially hoped to use a 50% SCM concrete mix. The team was surprised to discover that the use of EcoSmart™ concrete in the MEC Montreal store would be a challenge both in terms of SCM availability and in terms of cost. When the concrete bids were in, the decision was made to use concrete made with Lafarge's Tercem 3000™ blended cement.



The concrete used in the MEC Montreal store was a blend of 20- 25% blast furnace slag, 4-6% silica fume and 69-76% Portland cement.

Results

The MEC Montreal Store served to increase the awareness around the issues of availability and affordability of high SCM concrete in Quebec. The project provided an opportunity to raise the visibility of EcoSmart™ concrete in Quebec and initiated the debate, if not answered the question, on what is a reasonable environmental objective for its use in the Quebec context. The demand for EcoSmart™ concrete for a high profile project like MEC has been a catalyst for competition among concrete suppliers that may change the industry's attitude and practice for future projects.



EcoSmart™ Concrete

EcoSmart™ concrete is produced by replacing cement in the concrete mix with a maximum amount of supplementary cementing material while maintaining or improving the cost, physical performance and constructability.

EcoSmart™ Objective

The EcoSmart™ Concrete Project is an innovative government-industry partnership that aims to minimize the greenhouse gas signature of concrete by developing EcoSmart™ concrete technology to the point where it becomes common practice. The Project aims to increase awareness of the benefits and challenges of EcoSmart™ concrete through case studies, applied research and communication.

EcoSmart™ Partnership

The EcoSmart™ Foundation Inc. is a not-for-profit organization that delivers the Project. The Project is supported by the Government of Canada Action Plan 2000 on Climate Change and various project partners. The EcoSmart™ National Advisory Committee, made up of representatives of the cement and concrete industry, members of the engineering and architectural communities, and Federal Government Agencies, provides support and guidance to the Project.



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