

Case Study:

The Liu Centre for the Study of Global Issues at the University of British Columbia

Vancouver, B.C.



Credits

Owner:
University of British Columbia,
Vancouver

Architects:
Architectura Planning
Architecture Interiors Inc.,
Vancouver with Arthur Erickson

Structural Engineer:
Bush Bohman & Partners,
Vancouver

Materials Engineer:
Levelton Engineering Limited,
Richmond

Contractor:
The Haebler Group, Vancouver

Concrete Supplier:
Ocean Construction Supplies
Limited, Vancouver

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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 Liu Centre at the University of British Columbia

Case Study Overview

The Liu Centre is a 1,750 m² multi-purpose facility containing lecture halls, meeting rooms, classrooms, and common areas. It serves as an important international policy research centre and teaching facility, focusing on the new generation of global issues challenging societies and governments worldwide.

EcoSmart Concrete™ Usage

Construction followed a sustainable design plan using exposed concrete as the primary architectural finish. Precast planks and cast-in-place walls and columns helped minimize the amount of concrete required. With 35% of the cement replaced by fly ash, the Liu Centre became the first building in British Columbia to use EcoSmart concrete throughout.



The concrete manufactured for the Liu Centre resulted in approximately 37% less CO₂ emissions than a conventional concrete mix with 15% fly ash replacement.

Results

The Liu Centre not only provided the opportunity to improve stakeholders technical knowledge and awareness of EcoSmart™ concrete, but also successfully demonstrated the practical application of high volume supplementary cementing materials.

Collaborative promotion by the UBC Sustainability Office and the EcoSmart™ Partnership generated great interest from building industry leaders.



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

A group consisting of Environment Canada, the Greater Vancouver Regional District (GVRD) and Industry Canada oversees the Project with support and guidance from Natural Resources Canada (CANMET/ICON), Public Works and Government Services Canada, representatives of the cement and concrete industry, and members of the Engineering and Architectural communities. The Globe Foundation of Canada acts as the secretariat for the Project and the Project is funded by the Technology Early Action Measures (TEAM) component of the Climate Change Action Fund (CCAF).



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