

Queen's University - Integrated Learning Centre (Beamish-Munro Hall)



Photo courtesy of B + H Architects

The 6,300 m² building combines a new learning centre and engineering lab that positioned Queen's as a leader in engineering education worldwide. Beamish-Munro Hall is a two story building contains the student union and lounges in addition to the machine, metalworking and rapid prototyping shops on the ground floor. Two levels of "teaching plazas" overlook the atrium.

Beamish-Munro Hall has received a **4 Green Leafs** BREEAM/Green Leaf program for green design. It has also been selected by the Canada Green Building Council as one of three Canadian projects to represent Canada at the 2005 World Sustainable Building Conference in Tokyo. Beamish-Munro Hall received a 2005 Award of Excellence in the Innovation in Architecture category from the Royal Architectural Institute of Canada. The project was also featured in the January 2005 issue of Canadian Architect.

Energy Efficiency Measures

- Enthalpy recovery wheel on primary building ventilation air with average effectiveness 71% significantly reduces heating of outside air.
- The average thermal resistance (RSI) of the walls is 2.7 (MNECB RSI-value is 1.9).

- The average thermal resistance (RSI) of the roofs is 4.0 (MNECB RSI-value is 2.1).
- Windows are double-glazed and triple glazed, air filled (12 mm space) with a low-e coating and thermally broken aluminum frames with an average U-value of 2.33 W/m² °C (MNECB USI-value is 3.28 W/m² °C).
- The combination of occupancy sensor control for some lighting and T5 lamps with electronic ballasts results in 13% less lighting energy than an MNECB equivalent building.
- Low-flow faucets reduce hot water consumption.
- Window overhangs reduce solar gains.

Caneta Services

Energy Modelling
Advising on energy efficiency

Performance

Energy Savings relative to MNECB:
26%
Estimated annual energy savings:
\$28,628
BREEAM/Green Leaf: 4 Green
Leafs

Building Summary

Location: Kingston, Ontario
Completed: 2004
Building Area: 6,307 m²