

The Frank Hasenfratz Centre for Excellence in Manufacturing



Project Description

Kiwi Newton Construction designed and built this state of the art facility for Linamar Corporation. The new training facility includes classrooms, a 200-seat lecture hall, an exhibition hall, open shop training areas, an engineering lab, testing rooms, administration areas, and change and shower areas.

The project plan included the selective deconstruction of an existing building, while leaving an existing 24,300 sf of office in place. The existing building had a sufficient structural system and EPDM roof and was therefore kept. The façade and floor were removed and the new building was built around the existing footprint, fully enclosing it and tying to the two together.

The overall goal was to provide an “Energy and Environmental Design” by integrating green initiatives into the project.

Energy Efficient Project Highlights

- Motion sensor and automated lighting to supplement the natural light.
- Individual light controls throughout the plant to focus the lighting to specific work areas where needed.
- Concrete from demolished existing infrastructure was reused as structural granular base for parking areas saving on waste and transportation.
- Air is drawn through a living green wall which filters air pollutants using the root system and then circulates it throughout the rest of the building.
- Automated skylights open and close depending on outdoor temperature and weather, drawing cool air in from the shaded pool on the north face of the building. This natural ventilation significantly reduces the heating and cooling costs.
- The building uses a “white roof” system which reflects the majority of the sunlight and keeps the structure cool compared to dark roof membranes.
- Hydronic in-floor heating was installed in the concrete floors to activate the large thermal mass of concrete and keep the building warm. A centralized heating system allows for alternative heating sources as future technology creates more efficient systems.
- In 2011 Kiwi Newton installed 250 kW of cylindrical tube solar panels. This type of panel was chosen due to the many obstacles on the roof which would not have been effective for regular flat panels. The already installed “white roof” helped capture more sunlight by reflecting light back onto the underside of these tubes as well.



Project Details

Completion Date	2009
Contract Type	Design-Build
Owner	Linamar Corporation
Gross Floor Area	New: 88,160 sf Existing: 24,300 sf

Project Team

General Contractor	Newton Group Ltd.
Engineer	Tacoma Engineers Inc.
Architect	James Fryett Architect Inc.
Mechanical	R.M Montgomery Engineering Inc.


References

Owner:	Mr. Jim Jarrell
Title:	COO, President

Awards

	2010 Award of Excellence - Grand Valley Construction Association
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Location

 700 Woodlawn Rd W, Guelph, ON N1K 1G4



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