

St. Marys Cement's Alternative Fuels Building

Bowmanville, ON, Canada (2017)

PRODUCT USED:

Hard-Cem®

OWNER:

St. Marys Cement

ARCHITECT:

Barry Bryan Associates

GENERAL CONTRACTOR:

Peak Construction Group Ltd.

READY-MIX SUPPLIER:

Canada Building Materials Ltd.

APPLICATOR:

Belmont Concrete Finishing

DISTRIBUTOR:

Form & Build Supply

BACKGROUND

St. Marys Cement has been producing cementitious materials at their six manufacturing plants for decades. Recently, however, the team at the company's Bowmanville plant saw the need for a new unheated alternative fuels building. Working together with the Barry Bryan Associates team, they drew up a design for it.

During its creation, the design team acknowledged that the concrete floor would be exposed to heavy industrial work, which could cause significant abrasive wear, reduce load-carrying capacity, and create a loss of riding surface. To prevent that from happening, they searched for a concrete hardening solution that would be compatible with the air-entrained concrete mix they had already specified.

SOLUTION

Their search ended when they found Hard-Cem, an integral hardening admixture, for their 203-millimeter-thick (eight-inch-thick), 1,858-square meter (20,000-square foot) unheated building slab. They chose this admixture because it provides abrasion resistance to the air-entrained concrete mix, which is something traditional broadcast hardeners are not suitable for. Of course, Hard-Cem is not just fully compatible with conventional admixtures and air-entrained concrete. It also doubles concrete wear life under harsh conditions. With these qualities, Hard-Cem provided a durable abrasion-resistant surface for St. Marys Cement's concrete slab, ensuring that the concrete would last longer in its industrial environment.

