St. Mary's Cement's Alternate Fuels Building  
Bowmanville, ON, Canada (2017)

BACKGROUND

St. Mary's Cement has been producing cementitious materials at their six manufacturing plants for decades. Recently, the team at the Bowmanville plant saw the need for a new alternate fuels building. Working together with the Barry Bryan and Associates team, a design was drawn up for the unheated building. The design team acknowledged that the concrete floor would be exposed to heavy industrial work, which would cause significant abrasive wear, reduced load carrying capacity, and loss of riding surface. To prevent this, they searched for a concrete hardening solution that was compatible with the air-entrained concrete mix they had already specified.

SOLUTION

The team used Hard-Cem, an integral Hardening Admixture, for their 8" thick 20,000ft² unheated concrete building slab. They chose Hard-Cem because it provides abrasion resistance to the air-entrained concrete mix, something traditional broadcast hardeners are not suitable for. Hard-Cem is not only fully compatible with conventional admixtures and air-entrained concrete, it also extends concrete wear life up to 6 times under harsh conditions.

Hard-Cem provided a durable abrasion resistant surface for St. Mary's Cement's concrete slab ensuring that the concrete would last longer in their industrial environment. Hard-Cem's full depth concrete hardening extends the service life of concrete in high-traffic areas subjected to abrasion, maintains riding surface, and reduces repair and facility downtime.

Hard-Cem is the only concrete hardener that can be used on air-entrained concrete and provides improved quality control.