

# HARD-CEM<sup>®</sup>

## INTEGRAL HARDENING ADMIXTURE FOR INCREASED ABRASION AND EROSION RESISTANCE OF CONCRETE



SMART CONCRETE<sup>®</sup>

## HARD-CEM

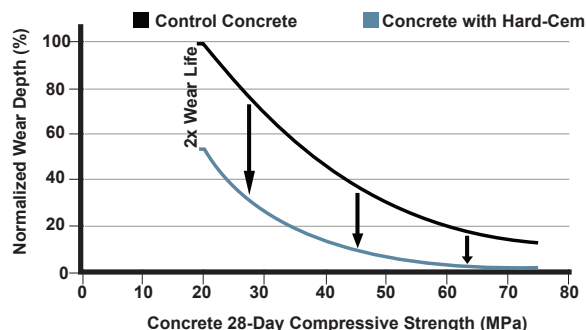
Hard-Cem is an integral hardening admixture used to increase the abrasion and erosion resistance of concrete and extend concrete wear life.

Hard-Cem is added during batching to produce durable, environmentally sustainable concrete. Since it is integral, Hard-Cem provides full-depth hardening and can be used in any horizontal, vertical, or inclined structure. Hard-Cem offers superior performance and replaces dry shake hardeners and liquid hardeners or densifiers used for abrasion resistance.



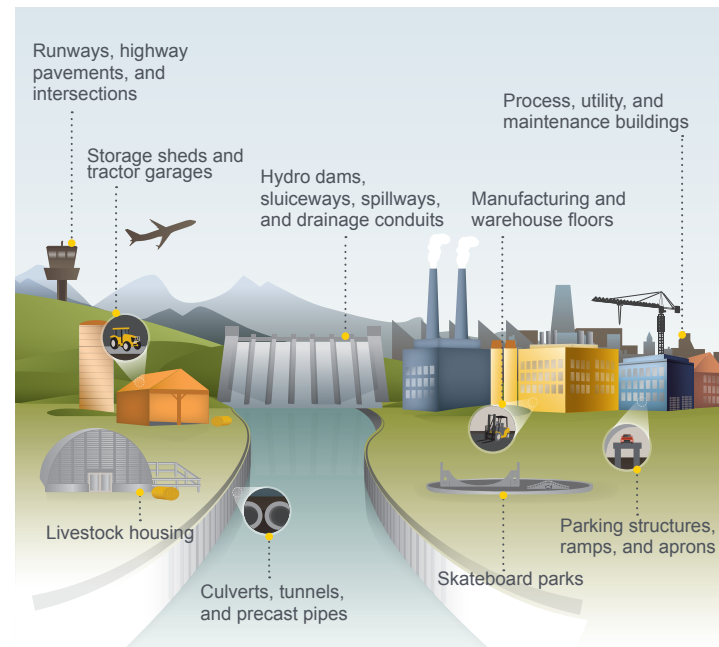
## WHY HARD-CEM

- Doubles concrete wear life under harsh conditions



- Offers the only hardener that can be used with air-entrained concrete, and improves concrete placement, finishing operations, and quality control\*
  - Contributes to LEED points with zero VOCs, reduced jobsite waste, and a lower carbon footprint
  - Lowers installed cost, and expedites construction schedules\*
  - Reduces maintenance costs, and improves concrete durability and sustainability
  - Simplifies application by being added directly to the concrete with no specialized spreading equipment needed
  - Allows dust-free use with mixer-ready bags and bulk silo dispensing, helping worksites comply with OSHA silica exposure requirements\*
  - Does not have negative side effects on water demand, workability, set time, strength development, or shrinkage
  - Is compatible with all concrete finishing types and methods
- \*compared to surface-applied (dry shake) hardeners

## APPLICATIONS



Areas Where Abrasion- and Erosion-Resistant Concrete Is Needed

Hard-Cem can be used in any ready-mix, shotcrete, or precast concrete to improve abrasion and erosion resistance and extend the wear life of the concrete. It is typically used in the following industries:

- Industrial
- Infrastructure
- Mining, oil, and gas
- Agriculture
- Hydro
- Manufacturing

## HARD-CEM IN THE FIELD

VANCOUVER, BC, CANADA  
VANCOUVER CONVENTION CENTRE



Hard-Cem delivered superior concrete hardness as well as abrasion resistance in 20,717 m<sup>2</sup> (223,000 ft<sup>2</sup>) of high-traffic convention facility flooring. Adding Hard-Cem to the concrete saved significant time during the construction schedule and reduced overall installation costs.

# HOW IT WORKS

When added to concrete, Hard-Cem's proprietary technology increases the hardness of the concrete paste and reduces fine and coarse aggregate exposure that creates degradation to concrete surfaces. Since it is integral, it continues to offer surface wear resistance throughout its life.

By increasing the abrasive-erosive service life of concrete, maintenance costs are reduced and replacement of the concrete is substantially deferred.

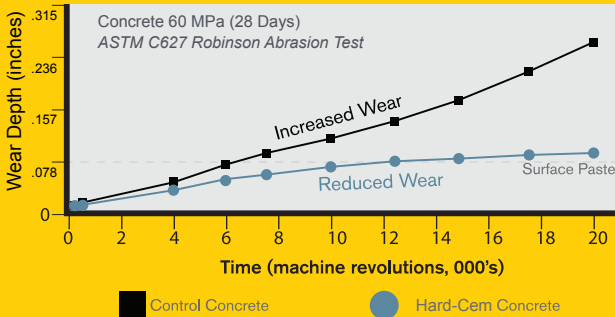
## PROVEN PERFORMANCE



CONTROL CONCRETE



HARD-CEM CONCRETE



## WHITE RIVER, ON, CANADA WHITE RIVER HYDRO



Hydroelectric concrete structures require high erosion resistance to minimize concrete wear due to aggressive water and debris. Hard-Cem fights erosion in over 6,000 m<sup>3</sup> (212,000 ft<sup>3</sup>) of concrete structures, extending the overall service life.

## WHY KRYTON

## THE MOST EFFECTIVE CONCRETE WATERPROOFING AND DURABILITY-ENHANCING SOLUTIONS IN THE WORLD



Proven durability performance for over 7.4 million m<sup>2</sup> (80 million ft<sup>2</sup>)



Reduction in carbon footprint by 49.1% since Hard-Cem doubles the wear of concrete life



Well-defined, step-by-step installation process that ensures success



Comprehensive support and consultation resources available to provide answers and guidance



Assurance from the leading warranty in the industry



Independently accredited proof of performance as Kryton works with industry, academic, and governmental bodies around the world to develop certification standards and testing methodologies



Hard-Cem won the Most Innovative Product Award at the World of Concrete. Hard-Cem has been installed in over 7.4 million m<sup>2</sup> (80 million ft<sup>2</sup>) of concrete applications to date.



Kryton headquarters are in Vancouver, Canada. Our solutions are sold by over 50 distributors worldwide. To find the Kryton distributor nearest you, visit our website: [www.kryton.com](http://www.kryton.com)



SMART CONCRETE®

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