HARD-CEM

Integral Hardening Admixture

Frequently Asked Questions (FAQ)

Can I use a sealer with Hard-Cem? Do you recommend a specific sealer?
Hard-Cem is fully compatible with all conventional concrete sealers including membrane curing and sealing compounds and liquid penetrating sealers such as silicate based sealers.

What is the standard dosage of Hard-Cem?
Hard-Cem is added to concrete at the time of batching at a rate of 40 kgs per m3 (66 lbs per yd3).

Where can I buy Hard-Cem?
Hard-Cem is sold through your local concrete provider. Concrete producers can contact info@kryton.com for a list of distributors in their geographical region.

Will Hard-Cem effect floor adhesives for carpet or tile?
When Hard-Cem is used in concrete with an overlay flooring material to be applied, Hard-Cem is fully compatible with conventional flooring overlay methods and adhesives.

Are the bags water soluble and can they be added directly to the mixer?
Bags are referred to as pulp-able or shred-able and are designed to disintegrate in wet concrete when sufficiently wetted and subjected to sufficient mixing. The bag should only be added into wet concrete sufficient wetting, mixing and dispersion within the concrete mix is ensured. Observe concrete discharge to verify full bag disintegration and no visible sign bag fragments in the concrete. Pretest prior to use if in doubt.

What is Hard-Cem Mohs Hardness?
Rather that providing hardness of the material, we have extensively measured and field proven the hardness of Hard-Cem treated concrete surfaces relative to conventional surface applied hardeners. Through testing the installed products we have verified superior performance of Hard-Cem in increasing the actual concrete surface abrasion resistance on a direct "head to head" basis.

Will Hard-Cem increase my compressive strength?
Hard-Cem will not increase or decrease concrete strength development. Concrete strength development is dependent on the mix design, not including Hard-Cem.

Will Hard-Cem improve concrete's performance at expansion and control joints?
Hard-Cem will increase the concrete joint abrasion resistance with regards to rubbing, rolling and grinding wear over time, and will also increase chipping resistance of the concrete under some degree of impact. In cases where the joint impact is expected to be severe or where joint armoring technologies are required, Hard-Cem is not a replacement for these products.

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HARD-CEM - FAQ

Can I use Hard-Cem with air-entrained concrete?
Hard-Cem is 100% compatible with air-entrained concrete allowing for interior and exterior applications.

How does Hard-Cem work?
Unlike dry shake hardeners, Hard-Cem is added during concrete batching by your local concrete provider. There is nothing to apply in the field. Hard-Cem is a very hard, chemically inert, non-cementitious, non-pozzolanic material dispersed throughout the concrete paste. The hard particles embedded in the cement paste resist abrasive and erosive forces that contact the concrete surface during concrete service life. Chemical reaction based behavior of concrete such as, for example autogenous shrinkage, are not affected by the use of Hard-Cem.

Can I use Hard-Cem with superplasticizers?
Yes. Hard-Cem is compatible and can be used with all common admixtures.

Is this a new product? Why don't I know about Hard-Cem?
Hard-Cem has been on the market since 2003. It is currently in over 60 million square feet of concrete in Canada and the United States and has been specified by engineering firms across North America. Please contact Kryton for any additional information on how you can increase abrasion and erosion resistance of your concrete, or if you are currently using surface applied products.

Will Hard-Cem increase ASR in concrete?
During the course of Hard-Cem developmental work, the product was evaluated for ASR effects from a due diligence perspective. Based on independent, third party testing according to ASTM C 1293: Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction, Hard-Cem exhibited no propensity for increased ASR in concrete.

Is Hard-Cem compatible with silica fume or fly ash?
Yes. Hard-Cem Integral Hardening Admixture is fully compatible and has used on many concrete projects containing supplementary Cementing Materials (SCM's) such as Fly ash and Silica fume.

Cad-Cem for a tracked equipment maintenance area?
Hard-Cem is not a replacement for steel wear plates/rails which are the most prevalent wear mitigation design features used in concrete flatwork directly subjected to tracked machinery traffic. Hard-Cem concrete has been successfully used in several tracked equipment facilities including Caterpillar service centers, military equipment service centers and auto salvage facilities. In all cases, those facilities incorporated steel plates into the interior and/or exterior concrete to resist direct wear from the tracked equipment. Hard-Cem was used in the surrounding concrete.

Can I use Hard-Cem on tilt up construction?
Hard-Cem has been used successfully in several tilt-up projects. The product has no effect on bond breaker/release agents. Based on field experience and feedback from concrete finishers, it is easier to achieve a flat floor finish with Hard-Cem concrete because no additional dry shake powder hardener has to be worked into the concrete surface.

Will Hard-Cem produce a smooth shiny surface? What about color?
Sheen is a function of concrete finishing in which Hard-Cem treated concrete has no effect. Hard-Cem can be finished to desired levels as it is compatible with sealers and can be coloured and polished as well if required. In fact, since Hard-Cem is integral it can achieve a finishing flatness superior to dry shake hardeners which are broadcast onto the surface and contained in the top 2-4 mm of the surface only.

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