Unit 14, Galleymead Road, Colnbrook SL3 0EN 020 3034 1066

SMART CONCRETE

Dynamic Waterproofing Solutions

SPECIFICATION IN NBS FROMAT

Kryton Hard-Cem

E11/435

DESCRIPTION

Hard-Cem® is an innovative Integral Hardening Admixture (IHA) that gives designers a better option for achieving abrasion and erosion resistance in their floors and other structures. The technology of Hard-Cem employs a unique mineral-metal microstructure that makes concrete extremely durable and long lasting without the need to use more cement or apply surface treatments. Hard-Cem is added to the concrete during batching and becomes an integral part of the concrete's cement paste. Hard-Cem fortifies the cement paste and overcomes its intrinsic weakness to physical wear, providing permanent protection against damage from abrasive and erosive forces.

Kryton Hard-Cem Recommended uses:

- Distribution centres and warehouses.
- Manufacturing facilities.
- Big box retail stores.
- Superflat floors.
- Storage facilities.
- Public transportation stations.
- Roads, bridges, and overpasses.
- Truck terminals.
- Water & wastewater infrastructure.
- Dams, spillways and power plants.
- Airport runways and aprons.
- Marine infrastructure.
- Mining infrastructure.
- Waste and recycling facilities.
- Agricultural, dairy and seafood facilities.

Features and benefits:

Performance:

- Unmatched protection against abrasion and erosion.
- Maximizes durability and service life.
- Doubles concrete wear life.
- Superior dustproofing.
- Maintains original finish and appearance over time.
- Enhances resistance to harmful chemicals.
- Compatible with air entrained concrete and suitable for exposure to freezing weather and de-icing salts.
- Suitable for wet environments (no surface rusting or staining like iron-based hardeners).

Cost savings:

- Provides cost savings as it replaces surface-applied hardeners;
- Eliminates application labour costs;
- Is added directly to the concrete (no specialized equipment needed);
- Shortens construction schedules;
- Eliminates high repair and replacement costs.

Health and environmental benefits:

- Contributes to LEED points - Zero VOC - reduces jobsite waste – recyclable.
- Mixer-ready bags allow dust free use - OSHA compliant.
- Reduces total lifecycle carbon footprint and environmental impact.

General Information

Colour	Grey
Finish	Mineral
Material	Calcium Silicate
Shape	Formless
Length	Bespoke
Width	Bespoke
Height	Bespoke
Warranty Description	20 Year
Uniclass	Pr_20_31_03_36 Hardening and accelerating concrete admixtures Primary
Caws	E11/435 Proprietary admixture E10/418 Proprietary admixture

Specification Data - Hardening and Accelerating Concrete Admixtures

General Requirements	Admixtures generally
Performance Requirements	ASTM C494. EN 934-2. ACI 212-Chapter 15 - Permeability Reducing Admixture for Hydrostatic Conditions (PRAH). REACH and UK REACH Registered.
Admixture	Kryton Hard-Cem Guidance for specification option: • Appearance: Black Powder • Specific gravity: ~3.55 • Bulk density: ~1650 kg/m³ **Manufacturer Guidance:** Consult manufacturer's literature for effects on hardened and plastic properties.
Standards	Compatible with all floor classifications in ACI 302. 1R - Guide to Floor and Slab Construction. Compatible with all Flatness and Levelness classes in ACI 117 - Specification for Tolerances for Concrete Construction and Minerals. Wear Classification: EN 13892-4 - Class AR0.5 (Severe Duty). Wear Resistance: BLY 7/by45, Bohme Abrasion - Class 1.
Sustainability data	
Contains red list materials	No
Country of material origin	Canada
Country of product manufacture	Canada
Embodied Carbon **A1 - A3 (production stage) as defined in BS EN 15804**	312.74 Kg CO_2 eq/m³ Guidance for specification option: For concrete class 0-25 MPa. Please see EPD for other concrete classes (up to 60MPa).
Recyclability	100%
Recycled content	As defined in clause 7.8 of BS EN ISO 14021