



SPECIFICATION IN NBS FROMAT

E10/418

Kryton KIM BioGard

An advanced chemical admixture that is specially designed to protect concrete from contaminants in sewer and wastewater environments.

DESCRIPTION

An advanced chemical admixture based on Krystol waterproofing agents and special additives, that is designed to protect concrete from the harsh and destructive conditions present in sewer and wastewater environments containing hydrogen sulfide.



Application

Provides protection against:

- Water penetration.
- H₂S and microbially induced corrosion (MIC).
- Acidic waters.
- Sulfate attack.
- Salts/ chlorides and corrosion.
- Alkali silica reaction (ASR).

Can be used on:

- Wastewater structures.
- Pipes, manholes and pump stations.
- Pre-cast concrete.
- Sewers.
- Lift stations.
- Drop structures.

Features and benefits:

- The concrete is better able to resist the corrosive sewer environment, adding years to the concrete's service life and eliminating costly maintenance.
- Does not leach from the concrete and will not be consumed or overwhelmed by bio-film in a sewer environment.
- Resists hydrostatic pressure, infiltration and exfiltration in pipes.
- Seals and heals cracks and micro-cracks.
- Permanent integral protection - impervious to scrapes or punctures.
- Easily added to concrete at the time of batching - no installation labour.
- Replaces costly membranes and liners for wastewater pipes or tanks.
- Pesticide-free.

Performance Requirements:

- Bio-acid resistance – Treated samples retained 85% better toughness after bio-acid attack compared to untreated samples measured by load deflection testing.
- Acid resistance – Weight loss reduced > 50% with exposure to 5% sulfuric acid solution.
- Water permeability – Reduced up to 97%.
- Crack sealing – up to 0.5 mm.
- Crack healing – Improved compressive strength recovery.
- Sulfate resistance – Greater than control (no strength loss).
- Drying shrinkage – Reduced up to 25%.
- Cracking – Reduced crack widths up to 53%.
- Freeze-Thaw – Reduced up to 87%.
- ASR – Reduced ASR expansion.
- VOC – Zero.

Consult manufacturer's literature for detailed application and mixing instructions.

General Information

Colour	Grey
Material	Other Guidance for specification option: Crystalline admixture.
Shape	Formless
Length	Bespoke
Width	Bespoke
Height	Bespoke

Warranty Description	<p>Other</p> <p>Manufacturer guidance</p> <p>Kryton International Inc. (Kryton) warrants that Kryton products are free from manufacturing defects and comply with the specifications given in their respective technical data sheet. Because conditions of use, such as site conditions, surface preparations, workmanship, concrete ingredients, weather, structural issues and other factors are beyond the control of Kryton, no warranty can be given as to the results of use.</p>
Material	<p>Other</p> <p>Guidance for specification option:</p> <p>Crystalline admixture.</p>
Uniclass	<p><u>Pr 20 31 03 95 Waterproofing concrete admixtures</u></p> <p>Primary</p>
CAWS	E10/418 Proprietary admixture
Specification data - Waterproofing concrete admixtures	
Accessories	<p>Not required.</p> <p>Krytol Waterstop Grout</p> <p>Guidance for specification option:</p> <p>For construction joints, tie holes and concrete patching.</p> <p>Krytol Waterstop Treatment</p> <p>Guidance for specification option:</p> <p>For construction joint treatment.</p> <p>Krytol T1</p> <p>Guidance for specification option:</p> <p>For repairs and surface protection.</p>
Admixture	<p>Kryton Krytol Internal Membrane (KIM) BioGuard®.</p> <p>Guidance for specification option:</p> <ul style="list-style-type: none"> • Appearance: Grey powder. • Specific gravity: ~2.75. • Bulk density: ~1.38 g/cm³ (87 lb/ft³). • Chloride ion content < 0.1% by weight. • VOCs: None.

Waterstop	Not required. Krytonite™ Swelling Waterstop. Guidance for specification option: For construction joint sealing.
Dosage	Dose at 1% of total cementitious content. Guidance for specification option: In accordance with the manufacturer's written instructions.
Sustainability Data	
Contains Red List materials	No
Country of material origin	Canada
Country of product manufacture	Canada
Material	Other Guidance for specification option: Crystalline admixture.
Manufacturing plant location	Vancouver, BC, Canada
Recyclability	100%
Recycled content As defined in clause 7.8 of <u>BS EN ISO 14021</u>	0%
Expected Life	Lifetime