

CONCRETE WATERPROOFING AND DURABILITY SOLUTIONS GUIDE



Runways, highway pavements and intersections

Hydro dams, irrigation, sluiceways, spillways and drainage conduits

Fire suppression reservoirs

Manufacturing and warehouse floors

Bridge decks

Wastewater treatment plants, water reservoirs and tanks

Marine structures: sea walls, dry docks and jetties

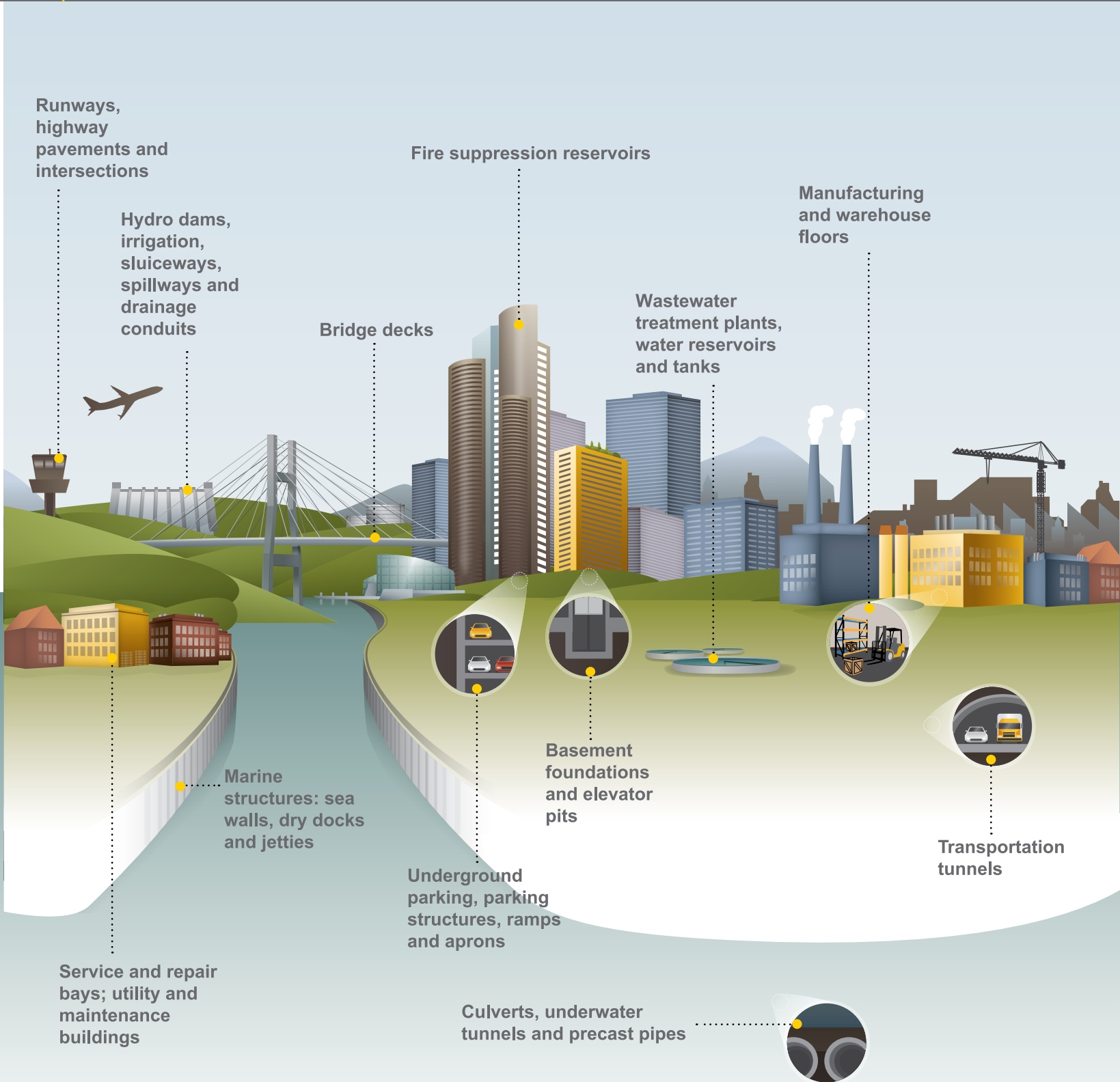
Basement foundations and elevator pits

Transportation tunnels

Underground parking, parking structures, ramps and aprons

Service and repair bays; utility and maintenance buildings

Culverts, underwater tunnels and precast pipes





KRYTON BUILDMAT

SMART CONCRETE® TECHNOLOGICALLY ADVANCED CONCRETE THAT AUTOMATICALLY RESPONDS TO ITS ENVIRONMENT



Using Kryton technologies, Smart Concrete will respond to its environment to protect itself against corrosion, erosion, abrasion and water penetration. SMART CONCRETE will last many times longer than regular concrete – even in the harshest conditions.

For 45 years, Kryton - International has been developing technologies for improving the durability of concrete structures. In the 1970's, Kryton pioneered its "Krystol" technology, which turns normally porous concrete into watertight concrete. Concrete that is able to protect itself against water intrusion by filling its capillary pores with millions of microscopic, needle-shaped crystals. In 1980, Kryton invented the world's first crystalline waterproofing admixture. Employing the same Krystol technology, surface-applied coatings and membranes are eliminated as Krystol turns the concrete itself into a waterproof membrane. Just as importantly, Krystol treated concrete has the unique ability to respond to moisture entering through newly formed cracks by growing more crystals to shut off the water. This "self-sealing" ability was a critical advancement in concrete performance. Over the past four decades, this technology has revolutionized the way concrete structures are built all around the globe.

In 1996, Kryton entered the Indian market with the idea of producing and distributing patented Kryton products to the entire subcontinent and since then has become the most recognized and respected name in concrete waterproofing. Working with government organizations such as NBCC, PWD, CPWD, MES and DMRC, Kryton has been a great part of the changing skyline of the country. Working with renowned architects and real estate developers, Kryton prides itself in being one of the first crystalline manufacturers in India and the proud holder of BIS and ISO certification

More recently, Kryton has introduced a highly specialized admixture that gives concrete up to six times greater resistance to abrasion or erosion. Kryton's "Hard-Cem" technology is ideal for industrial floors, roadways, hydro spillways and many other applications in transportation, agriculture, power generation and marine structures. Hard-Cem overcomes the performance issues, practical constraints and safety concerns of existing hardening strategies while actually costing much less.

Concrete has always been a durable material to build with. Concrete structures have proven this through the test of time but today we look at our aging infrastructure and ask if we can build things even better. The answer is yes – using Kryton's Smart Concrete

KRYSTOL INTERNAL MEMBRANE™ (KIM®)

Krystol Internal Membrane (KIM) is a hydrophilic crystalline admixture used to create permanently waterproof concrete.

KIM lowers the permeability of concrete and is used in place of externally applied waterproofing membranes. By stopping the transmission of water through concrete, KIM adds durability and longevity to concrete by protecting it against chemical attack and corrosion of reinforcing steel.

How It Works

KIM contains Krystol technology. When added to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form insoluble needle-shaped crystals. These crystals act in a catalytic reaction to fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection. This will bridge/seal cracks up to 0.5 mm.

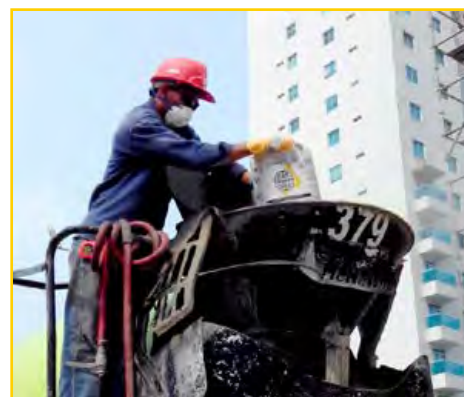
Product Benefits

- Permanent and reliable hydrostatic waterproofing solution
- Shortens construction schedules
- Reduces initial and long-term waterproofing costs
- Self-seals micro-cracks for the life of the concrete
- Increases longevity of reinforced concrete
- BIS Certified
- Is the standard for **Permeability Reducing Admixture - Hydrostatic Conditions 'PRAH'** as specified by ACI212-2010

Packaging

20 kg bags

25 kg resealable pails



**Images are for marketing purposes only. Actual packaging may differ.*

KIM is used to integrally waterproof and increase the durability of concrete subject to water exposure and hydrostatic pressure:

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> ▪ Below grade parking ▪ Basements ▪ Sewage plants ▪ Swimming pools | <ul style="list-style-type: none"> ▪ Dams ▪ Foundation walls ▪ Footings ▪ Slabs | <ul style="list-style-type: none"> ▪ Pits ▪ Water containment tanks ▪ Canals |
|---|---|---|



Marina Bay Sands, Singapore



Maya Garden, Magnesia, Chandigarh



Hero Motocorp, Halol, Gujarat

HOW IS KRYTON KIM DIFFERENT?

NOT ALL CRYSTALLINE ADMIXTURES ARE THE SAME

Crystalline admixtures classified as Permeability Reducing Admixtures for Hydrostatic conditions (PRAH) are not the same. KIM consistently produces far better results. Understanding the differences ensures you can make an informed decision resulting in watertight structures for life.



Krytol Technology is **CHEMICALLY UNIQUE**

- KIM reacts with un-hydrated cement and moisture in concrete and continues to enable the growth of more crystals, ensuring protection for the service life of the concrete
- Long needle-shaped crystals grow deeper, fill smaller spaces, and resist more water pressure
- KIM is the original crystalline admixture and is chemically different from competitors



KIM has **SUPERIOR PERFORMANCE**

- Highest level of permeability reduction and most dependable self-sealing performance
- Best dry shrinkage and restrained shrinkage crack reduction
- Only crystalline admixture proven to protect against corrosion of reinforced steel (proven by the 10-year Corrosion Study conducted by the University of Hawaii)



The **COMPLETE WATERPROOFING SYSTEM**

- Every construction detail is covered to create a watertight structure
- Entire waterproofing system comes from one manufacturer, ensuring ease of use and expertise
- Kryton is a one stop shop for all concrete waterproofing and durability needs



Kryton has the **MOST EXPERIENCE**

- Invented the world's first crystalline admixture 15 years before competitors
- Pioneers in 'Make In India' crystalline manufacturing with global quality standards
- Offers the best warranty in category with many projects outlasting their original warranties
- Successful waterproofing of high-risk projects around the globe and in India
- Renowned for fixing the unfix-able problems

Make an informed choice. Only **KIM** can reliably waterproof concrete structures for life.

KIM VS TRADITIONAL SURFACE-APPLIED WATERPROOFING

Kryton's Krystol Internal Membrane (KIM) crystalline admixture has been outperforming externally applied membranes globally since 1983 and in India since 1996. From the simple process of adding KIM to the concrete at the time of batching to improving the concrete's ability to self-seal, KIM projects require less maintenance and are more economical than those using externally applied membranes for waterproofing.



PROVEN WATERPROOFING PERFORMANCE

KIM has been used successfully in high-risk projects around the world.

- Resistance to 524 ft. (16 bar) of hydrostatic pressure
- Cannot be punctured like externally applied membranes because it is added to the concrete mix
- Permanently self-seals micro-cracks



SHORTENED CONSTRUCTION SCHEDULES

KIM is an internal crystalline admixture that turns concrete into a waterproof barrier.

- Added directly to concrete during the batching process for easy and efficient installation or at site in transit mixer
- Saves time due to delays towards weather, scheduling a sub-trade, or applying an externally applied product
- Backfill can be made just after removing the shuttering



IMPROVES DESIGN CREATIVITY

KIM eliminates the need for an externally applied membrane.

- Can contribute to over 20 LEED points
- Maximizes building footprint and freedom of design
- The only way to effectively waterproof blind-wall applications



SAVES MONEY

KIM reduces waterproofing costs for concrete projects.

- Reduces maintenance and repair costs for concrete over its service life
- Increases revenue with a larger building footprint and reduces costs with a shorter construction schedule
- Extends the service life of a structure by creating durable and long-lasting concrete

Building sustainably means building for the long-term. KIM treated concrete will last longer than regular concrete.

KRYSTOL® JOINT TREATMENT SOLUTION

The Krystol Joint Treatment Solution is the most versatile solution on the market and is used to permanently waterproof concrete construction joints, pipe-penetrations, tie-holes and control joints. Using this solution in conjunction with Krystol Internal Membrane (KIM) provides a complete, fully integrated concrete waterproofing system for the life of the concrete structure.

The Krystol Joint Treatment Solution creates completely watertight concrete down to the last detail, performing as promised in areas where other solutions fail.

How It Works

The Krystol Joint Treatment Solution is comprised of Krystol Waterstop Grout and/or Krytonite Swelling Waterstop. These products are used in various ways to waterproof all construction joints and details found in concrete construction.

System Benefits

- Supports the complete crystalline waterproofing system
- Covers and waterproofs every construction detail
- Improved performance and reliability over competitors
- Design options based on project requirements
- Easy installation of products within the system



**Images are for marketing purposes only. Actual packaging may differ.*

The Krystol Joint Treatment Solution is used to waterproof and protect construction joints and details where there is a risk of water penetration. Applications include:

- Static concrete-to-concrete joints
- Pre-planned and unintended cold joints
- Crack control joints



Gujarat Sadan, New Delhi



JLPL, Falcon View, Chandigarh



Women and Children Hospital, Brunei Darussalam

KRYSTOL WATERSTOP GROUT™

Krystol Waterstop Grout is a crystalline grout used to create an internal or external waterstop at construction joints, pipe penetrations, tie-holes and control joints.

The Krystol Joint Treatment Solution is the most versatile solution on the market and is used to permanently waterproof concrete construction joints, pipe-penetrations, tie-holes and control joints. Using this system in conjunction with Krystol Internal Membrane (KIM), Krystol T1 and Krystol T2 provides a complete, fully integrated concrete waterproofing system for the life of the concrete structure.

Krystol Waterstop Grout contains fiber reinforcements that reduce shrinkage and limit cracking.

How It Works

Krystol Waterstop Grout contains Krystol technology. When applied to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form insoluble needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.

Product Benefits

- Multi-use: internal or external waterstop
- Permanent crystalline waterproofing and protection
- Crack resistant
- Durable; resistant to rain, foot traffic and shifting

Packaging

25 kg resealable pails



KRYTONITE™ SWELLING WATERSTOP

Krytonite Swelling Waterstop is a synthetic rubber waterstop that uses swelling pressure to seal concrete construction joints and stop water.

Krytonite has superior swelling pressure and performance that stops water better than bentonite and competing swelling waterstops. It is suitable for use with regular ground water, as well as salt and sulfate contaminated water. Krytonite is extremely durable and will not deteriorate over time.

How It Works

Krytonite Swelling Waterstop is adhered to clean dry concrete at or near the center of the construction joint and the concrete is poured over the Krytonite Swelling Waterstop making it part of the concrete structure.

Product Benefits

- Resistant to high-hydrostatic pressure
- Extremely durable – will not deteriorate even with repeated wetting and drying cycles
- Innovative trapezoid shape resists dislodgement and allows for better concrete consolidation
- Controlled swelling allows for concrete strength development in advance of swelling pressure
- High-performance swelling – even in contaminated or salt water

Packaging

1 box - 20x5 mm (approx. 0.8" x 0.2") – 50 meters, 5x10m rolls



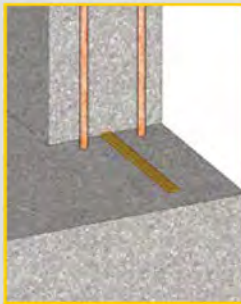
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KRYSTOL JOINT TREATMENT SOLUTION

HOW IT WORKS

CONSTRUCTION JOINTS

SINGLE PROTECTION



Single Protection: Improved waterproofing performance over common swelling waterstops

Superior swelling pressure and performance that stops water better than bentonite and competing swelling waterstops.

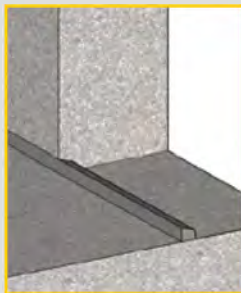
Usage: Horizontal and Vertical Construction Joints

Products: Krytonite Swelling Waterstop

Features: Exceptional swelling performance (+1000%)

- Proven to stop at least 8 bar of hydrostatic pressure (265 ft. of head pressure)
- Fills gaps, voids and contours in concrete to stop water from passing
- Maintains cohesive state after repeated wet / dry cycles

Note: like all single protection waterstops, outboard rebar is NOT protected.



Single Protection: Improved waterproofing performance for joints

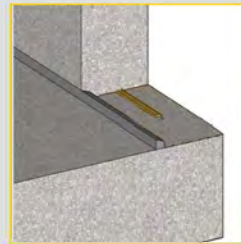
Usage: Horizontal, Vertical Construction Joints

Products: Krystol Waterstop Grout

Features: Protects outboard facing rebar

- Easily conforms to rough joint surfaces
- Easy/flexible installation
- Difficult to damage after hardened

DOUBLE PROTECTION



Double Protection: When a permanent, long term, hydrostatic waterproofing solution is needed

Superior swelling pressure and performance combined with Krystol technology delivered through a grout treatment that ensures permanent waterproofing protection.

Usage: Horizontal and Vertical Construction Joints

Products: Krystol Waterstop Grout & Krytonite Swelling Waterstop

Features: Double protection against water

- Protects outboard facing rebar
- High-risk waterproofing
- Immediate and permanent joint protection

Pipe Penetrations



Krystol technology delivered through an externally placed waterstop that ensures permanent waterproofing protection.

Products: Krystol Waterstop Grout

Features: Keyway can be chiseled or formed

- Keyway can be filled anytime after removing form
- Allows for easy and flexible installation
- Eliminates difficulties around congested rebar

Tie Holes



Krystol technology delivered through an externally placed waterstop that ensures permanent waterproofing protection.

Products: Krystol Waterstop Grout

Features: Tie Holes can be filled anytime after removing form

- Allows for easy and flexible installation

Control Joints



Aligned keyways create a controlled crack to introduce Krystol technology through two external waterstops that ensure permanent waterproofing protection.

Usage: Backfilled walls, where access is available.

Products: Krystol Waterstop Grout

Features: Double protection against water

- Keyway can be filled anytime after removing form

KRYSTOL T1[®] & T2[®] WATERPROOFING SYSTEM

Krystol T1 & T2 Waterproofing System is a surface-applied crystalline slurry treatment that transforms new or existing concrete into a permanent waterproof barrier.

Krystol T1 & T2 Waterproofing System stops the permeability of concrete and protects against the ingress of water and waterborne chemicals. It replaces the need for surface-applied waterproofing membranes and is often used in the remediation of failed membranes.

How It Works

Krystol T1 & T2 contains Krystol technology. When applied to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form insoluble needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection. This will bridge/seal cracks up to 0.5 mm

Product Benefits

- Permanent and reliable waterproofing protection that can be applied to the positive or negative side
- Integral to the concrete; Krystol T1 & T2 does not wear or deteriorate
- Applied to new or existing concrete surfaces
- Self-seals micro-cracks for the life of concrete
- Increases longevity and durability of reinforced concrete

Packaging

25 kg resealable pails



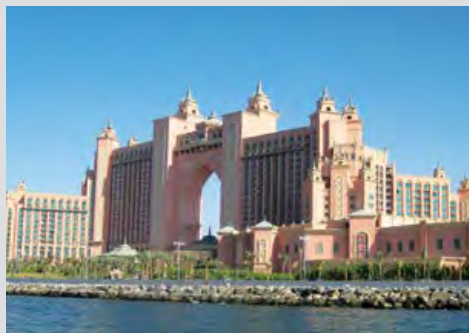
**Images are for marketing purposes only. Actual packaging may differ.*

Krystol T1 & T2 Waterproofing System is used to integrally waterproof and add durability to newly placed as well as existing concrete of any age:

- Foundations
- Walls
- Elevated slabs and ramps
- Parking structures
- Water towers
- Bridge decks
- Water containment tanks
- Podiums and terraces



Bharat Oman Refinery, Bina, India



Atlantis Hotel, Dubai, UAE



Futang Tunnel/Ying Wen Highway, Sichuan, China

KRYSTOL MORTAR ADMIXTURE™ (KMA)

Krytol Mortar Admixture (KMA) is an admixture for concrete mortar used to provide long-term protection of masonry mortars and concrete masonry units against water and waterborne contaminants by reducing permeability and absorption.

KMA simplifies installation by removing the need for surface-applied sealers. It is incorporated easily into existing masonry and stucco products and application processes. KMA provides superior waterproofing performance that lowers building maintenance and repair costs.

How It Works

KMA contains Krytol technology. When added to cementitious mortars or concrete masonry units, Krytol chemically reacts with moisture and un-hydrated cement particles to form insoluble needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.



Product Benefits

- Reduces water permeability and absorption
- Resists weathering
- Improves workability
- Reduces shrinkage and cracking
- Self-seals hairline cracks
- BIS certified
- Reduces efflorescence, algae & fungi

Packaging

1, 5 and 25 kg resealable pails



KMA provides permanent protection for:

- Rendering and plastering mortar (including stucco and other thin topping overlays) over concrete masonry walls or other prepared substrates
- Masonry mortar (mortar that goes between the masonry units)
- Concrete masonry units (bricks and blocks when they are manufactured)



Jolly Grant Airport, Dehradun, Utrkhand



Crowne Plaza Today Hotel, Gurgaon, India



Royal Mills Apartments, Rhode Island, USA

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HARD-CEM®

Hard-Cem is an Integral Hardening Admixture used to increase the abrasion and erosion resistance of concrete.

Hard-Cem is added to concrete at the time of batching to increase hardness and expand wear life. It outperforms and overcomes deficiencies of labor-intensive surface-applied hardeners. It also enhances the durability of both air-entrained and non-air-entrained concrete. Since it is integral, Hard-Cem can be used to harden horizontal, vertical or inclined concrete and shotcrete surfaces.

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 causes 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.

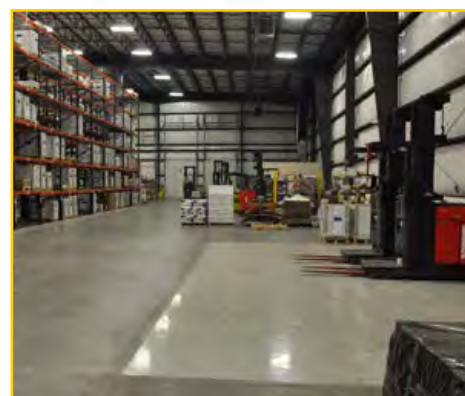
Product Benefits

- Extends concrete wear life up to 6 times under harsh conditions
- Improves worksite safety and conditions (dust-free)*
- Only hardener that can be used on air-entrained concrete
- Expedites construction schedules*
- Lowers installed cost*
- Reduces maintenance costs and improves concrete sustainability
- No side effects on concrete water demand, workability, set time, strength development or shrinkage
- Full-depth concrete hardening*
- Can be used in horizontal, vertical or inclined concrete
- Improved quality control*

**compared to surface-applied (dry-shake) hardeners*

Packaging

Available in 20 kg (44 lb.) mixer ready bags, 1,600 kg (3,527 lb.) super bags and bulk pneumatic tankers.



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 concrete. It is typically used to construct:

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ▪ Warehouse floors ▪ Service and repair bays ▪ Bridge decks ▪ Runways | <ul style="list-style-type: none"> ▪ Hydro dams ▪ Parking structures, ramps and aprons ▪ Tunnels and shafts | <ul style="list-style-type: none"> ▪ Utility and maintenance buildings ▪ Highway pavements and intersections ▪ Livestock housing |
|--|--|---|



White River Hydro, White River, Canada



Vancouver Convention Centre, Vancouver, Canada



City Bus Barn, Calgary, Canada

HARD-CEM VS SURFACE-APPLIED HARDENERS

Hard-Cem provides superior value and performance that surpasses traditional surface-applied hardeners.

It offers best-in-class abrasion and erosion resistance, while removing risks associated with installation. Installation limitations such as the numerous steps, waiting for weather, working with mix designs containing Supplementary Cementitious Materials or air-entrained concrete and getting consistent coverage/dosage is a thing of the past. Hard-Cem avoids job-site wide exposure to harmful dust because it is added directly to the concrete mix. It goes where traditional dry-shake hardeners cannot: shotcrete, vertical cast-in-place, precast concrete and vertical concrete.

Since 2004, Hard-Cem has increased the durability on more than 5.6 million m² (60 million ft²) of concrete.



IMPROVES HARDENING PERFORMANCE

Hard-Cem offers consistent and reliable performance increasing surface wear life, exceeding that offered by traditional surface-applied methods.

- Consistent dosage guarantees expected performance and removes quality control concerns
- Saves concrete finishers a number of steps, and results in improved finishing and flatter floors
- Provides full-depth concrete hardening as opposed to just a surface layer
- Removes health hazards related to installation dust exposure



SHORTENS CONSTRUCTION SCHEDULES

Hard-Cem is added to concrete and unlike surface-applied products, requires no additional installation other than typical concrete finishing.

- Speeds up installation and does not require special labor or extra steps to install
- Removes weather-related constraints that affect scheduling
- Can install more concrete



MORE APPLICATIONS

Unlike surface-applied hardeners, Hard-Cem is not limited to horizontal surfaces, non-air entrained concrete or concrete containing fly ash. It can be used in any concrete mix design including shotcrete and precast. It can be applied anywhere abrasion and erosion is a concern.

- Only hardener that can be used with air-entrained concrete
- Can be used in horizontal, vertical or inclined concrete
- Fully compatible with Supplementary Cementitious Materials (SCMs) such as fly ash
- No negative side effects on plastic or hardened concrete



SAVES MONEY

Hard-Cem extends the life of concrete and reduces repair and maintenance costs more than surface-applied hardeners.

- Better cost to performance value than surface-applied hardening products
- Saves time allowing for a faster construction schedule

KRYSTOL BROADCAST™

Krystol Broadcast is a dry-shake crystalline waterproofing treatment that transforms horizontal concrete applications into a permanently waterproof barrier.

Krystol Broadcast is troweled in during the final finishing to become an integral part of the concrete that replaces the need for conventional membrane waterproofing systems. Krystol Broadcast features a unique dye to ensure uniform distribution and produces a smooth finish suitable for non-air entrained slabs.

How It Works

Krystol Broadcast contains Krystol technology. When applied to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.

Product Benefits

- Permanent and reliable hydrostatic waterproofing solution
- Integral to the concrete; Krystol Broadcast does not wear away or deteriorate
- Unique dye ensures uniform distribution
- Self-seals micro-cracks for the life of the concrete
- Increases longevity of reinforced concrete

Packaging

25 kg resealable pails



**Images are for marketing purposes only. Actual packaging may differ.*

Krystol Broadcast produces a smooth finish and is used to integrally waterproof and add durability to concrete slabs that will be power-troweled during finishing:

- Slabs on-grade, below-grade or elevated
- Parking structures
- Marine structures
- Reservoirs
- Water treatment plants
- Pits
- Warehouse and commercial floors
- Basements



Tung Ho Steel Plant, Taiwan

Tung Ho Steel Plant, Taiwan

Tung Ho Steel Enterprise is a major steel manufacturing company and they know that steel and water do not mix. When they were constructing their new plant, they chose various Kryton products to target specific problem areas. To prevent water ingress, they used Krystol T1 & T2 and Krystol Internal Membrane. As well, Krystol Broadcast was applied on the positive side of the driveway which covered over 500 square meters (597 square yards). With Kryton's help, the plant was able to quickly and successfully open its doors. With a complete waterproofing system in place, the Tung Ho Steel plant will be permanently protected from water ingress.

KRYSTOL BARI-COTE™

Krystol Bari-Cote is a high-strength crystalline concrete waterproofing top coat used to resurface and repair concrete or masonry. Krystol Bari-Cote is commonly used as a waterproofing parge coat for spalled or honeycombed concrete, or as a waterproof plaster on masonry walls, where a higher compressive strength surface is required.

How It Works

Krystol Bari-Cote contains Krystol technology. When applied to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.

Product Benefits

- Superior bonding
- High compressive strength
- Permanent waterproofing repair
- Safe for contact with potable water
- Easy and reliable to use

Packaging

25 kg resealable pails



**Images are for marketing purposes only. Actual packaging may differ.*

Krystol Bari-Cote is used to resurface and repair concrete or masonry, making it waterproof for the life of the structure.



Mittal City Mall, Bhatinda, Punjab



Whampoa MTR Station, Hong Kong SAR, China



Vancouver Pavilion, Shanghai, China

KRYSTOL® LEAK REPAIR SYSTEM

The Krystol Leak Repair System is a permanent crystalline waterproofing solution used for repairing leaking cracks, holes and joints found in concrete. It reliably stops high water flow, even under high-hydrostatic pressure, and outperforms injection systems. Repairing leaks is a simple process that involves preparing a chase by chiseling into the concrete, stopping flowing water with Krystol Plug, and then filling the chase flush to the surface with Krystol Repair Grout.

After completing the leak repair, the Krystol T1 & T2 Waterproofing System will protect the entire structure against the continued ingress of water and further concrete deterioration, as well as reduce the likelihood of further leaks developing in the structure.

How It Works

The Krystol Leak Repair System and Krystol T1 & T2 Waterproofing System contain Krystol technology. When applied to concrete, Krystol chemically reacts with moisture and un-hydrated cement particles to form insoluble needle-shaped crystals. These crystals fill capillary pores and micro-cracks in the concrete which block the pathways for water and waterborne contaminants. Any moisture introduced over the lifespan of the concrete will initiate crystallization, ensuring permanent waterproofing protection.

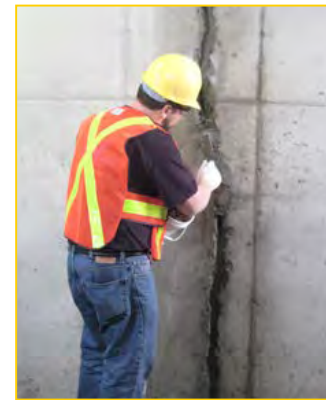
Product Benefits

- Reduces call-backs
- Effective repair from the positive or negative side
- More reliable than injection systems
- Permanent leak repair solution
- Simple and easy installation

Packaging

Krystol Plug is available in resealable 5 and 25 kg packaging

Krystol Waterstop Grout and Krystol T1 and T2 are available in resealable 25 kg pails



Use Krystol Leak Repair System to stop water and repair leaking concrete including:

- Construction Joints
- Pipes and metal fixtures in concrete
- Spalled or honeycombed concrete
- Leaking cracks in concrete



Vottigeda Reservoir, Andhra Pradesh



The Pearl-Qatar, Doha, Qatar

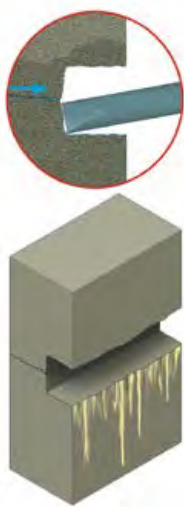


Madushan Dam, Yunnan Province, China

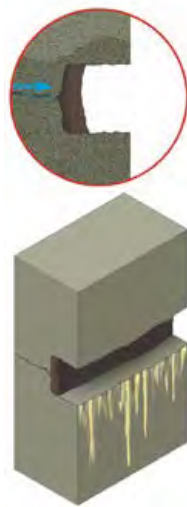
CONCRETE REPAIR WITH THE KRYSTOL LEAK REPAIR SYSTEM

At best, concrete cracks are just an unattractive nuisance. At worst, they cause leaks that can damage the interior of the building, corrode steel reinforcements and ultimately shorten the life of the concrete structure.

Kryton's Krystol Concrete Waterproofing System is the best way to repair leaking cracks and create durable, waterproof structures.



Step 1:
Prepare the crack or joint.



Step 2:
Stop flowing water with Krystol Plug.



Step 3:
Install Krystol Waterstop Grout.



Step 4:
Apply Krystol T1 to the surface.



Even with high water pressure Kryton products were able to stop the rapid flow of water. We could continue our work. It's a wonder to us our sump got plugged.



- H.S Sahni, Project Manager, MCM Bhatinda, Punjab

KRYTON HAS YOUR SOLUTION

Kryton products are proven in the harshest environments from buildings to dams to tunnels, our products work from the outside in and inside out, to seal cracks and improve the durability of concrete structures.

	ADMIXTURES & ADDITIVES			SURFACE-APPLIED WATERPROOFING		CONSTRUCTION JOINTS & DETAILS	CONCRETE REPAIR	
	Krytol Internal Membrane™	Hard-Cem®	Krytol Mortar Admixture™	Krytol T1® & T2® Waterproofing System	Krytol Broadcast™	Krytol® Waterstop System	Krytol® Leak Repair System	Krytol Bari-Cote™
Aquariums	■			■	■	■	■	■
Brick & block manufacturing	■	■						
Brick, block & stone masonry exteriors			■	■				■
Bridge decks & support structures	■	■		■	■	■	■	■
Canals	■	■		■	■	■	■	■
Culverts	■	■		■			■	■
Dams	■	■		■	■	■	■	■
Downhole cement	■	■						
Elevator pits	■			■	■	■	■	■
Foundations & basements	■			■	■	■	■	■
Fountains & water features	■		■	■	■	■	■	■
Green roofs	■			■	■	■	■	■
Highway pavements & intersections		■						
Hydroelectric buildings								
Livestock housing		■						
Manufacturing & distribution warehouses		■						
Marine structures	■	■		■	■	■	■	■
Parking structures, ramps & aprons		■						
Precast pipe & segments	■	■		■		■	■	■
Processing facilities		■						
Runways	■	■						
Service & repair bays		■						
Shotcrete	■	■						
Skateboard parks		■						
Sluiceways, spillways & drainage conduits	■	■		■	■	■	■	■
Stilling basins	■	■		■	■	■	■	■
Storage sheds & tractor garages		■						
Stucco & mortar			■					
Swimming pools	■			■	■	■	■	■
Tunnels & shafts	■	■		■	■	■	■	■
Underground parking garages	■			■	■	■	■	■
Utility & maintenance buildings		■						
Wastewater treatment plants	■	■		■	■	■	■	■
Water reservoirs & tanks	■			■	■	■	■	■



WE'VE GOT YOU COVERED.

Build Confidently with Kryton.

Kryton is the inventor of the crystalline waterproofing admixture and has been waterproofing concrete structures with its proprietary Krystol® technology since 1973. Over the decades Kryton - International has won awards for innovation, manufacturing, best place to work and entrepreneurial awards. In 2017, Kryton acquired Cementec Industries and is now distributing Hard-Cem®, an integral (not surface-applied) concrete hardener for increased abrasive and erosive wear resistance of ready-mix concrete, precast concrete and shotcrete. Kryton is now the only manufacturer of Silica Fume products in Western Canada.

All Kryton products are covered by our standard warranty guaranteeing every product is free from manufacturing defects.

Industry Expertise



The Bureau of Indian Standards (BIS) Approved Krystol Internal Membrane (KIM) & Krystol Mortar Admixture (KMA).



The Central Public Works Department of India (CPWD) Approval of Krystol waterproofing products in government structures



Engineers India Limited

S.K. Kapoor for (EIL). has been impressed by the level of service and commitment from specification stage, to the flow up after the project is complete.



International Organization for Standardization

The only ISO certified crystalline company in India – transparent and trustworthy business practice systems

Kryton Buildmat has its presence across the country and takes pride in being a pioneer in producing BIS certified global quality standard crystalline waterproofing admixtures, thus meeting the preferred 'Make In India' standards. To find a representative log on to www.kryton.in

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SMART CONCRETE®

ROOF-GARDI

Roof-Gardi is a thermosetting plastic elastomer, synthetic based waterproof membrane. Because of its excellent flexibility and thixotropic nature it is ideal for use on vertical as well as horizontal surfaces. An economical, easy to apply and pollution free water proof coating, it works best on terraces, terrace gardens podiums etc. This coating is provided in base white and can be pigmented to desired colour.

How does it work

In partnership with crystalline, this membrane gives a waterproof exterior with excellent bonding and gives the structure a double layer of protection. As a single technology, Roof-Gardi adds a 1mm thick highly elastic and durable membrane to the exterior of the structure and creates water-resistant exterior which can easily take the shape of the structure.

Features and benefits

- Increases life & durability of the structure
- Provides seamless and joint free seal throughout the surface that is impervious to water
- Lowers labour cost due to easy, simple and quick application
- Excellent bonding to most building materials
- UV resistant and can be used to protect sheet membranes
- Provides protective membrane for polyurethane foam insulation
- Provides anti-root resistance properties

Packaging

20 kg resealable pail



Roof-Gardi is suitable for use in:

- Plaza and Car park deck
- External plastered walls
- Slabs, terraces, balconies, sun shades, parapet walls etc.
- Flashing, Roof Edgings, Gulleys,
- Increased protection when used as base or intermediate coat in Brick Bat Coba or IPS flooring



Amangani Housing Project, Rewari, India