



THE NEXT GENERATION IN CONCRETE PROTECTION



CONCRETE-CARE

HIGH-PERFORMANCE
CRYSTALLINE
WATERPROOFING
ADMIXTURE
FOR DURABLE, SELF-
HEALING CONCRETE



ULTIMATE CARE FOR CONCRETE

WHAT IS CONCRETE-CARE?



Concrete-Care is a new generation of crystalline waterproofing admixture for seamless integration into fresh concrete during batching. Once mixed and activated by moisture, it forms insoluble crystals within the concrete matrix that permanently self-heal microcracks, pores, and capillaries, reducing concrete permeability and protecting against water infiltration and structural degradation – even under high hydrostatic pressure.

SUPPORTING LASTING, LOW-MAINTENANCE INFRASTRUCTURE

Concrete-Care delivers waterproof, durable concrete that not only prevents water ingress but also has the ability to self-repair and seal cracks that may develop over the lifespan of the structure. This ensures long-lasting, low-maintenance infrastructure, enhancing the durability of concrete in challenging environments.



ECO-FRIENDLY, VERSATILE CONCRETE SOLUTION

Non-toxic and climate-friendly, Concrete-Care is fully compatible with commonly used workability admixtures (such as superplasticisers and retarders).

It can be customised for specific cement types, including self-healing cements, and works with various mix designs, like high-performance and ultra-high-performance concrete. This compatibility guarantees flexibility and resilience for advanced construction projects.



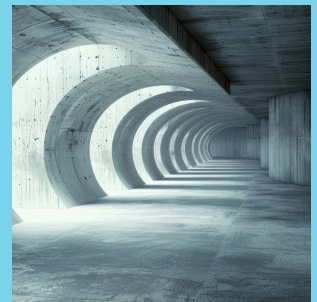
WHY DURABILITY MATTERS

REDEFINING CONCRETE RESILIENCE FOR FUTURE-PROOF INFRASTRUCTURE

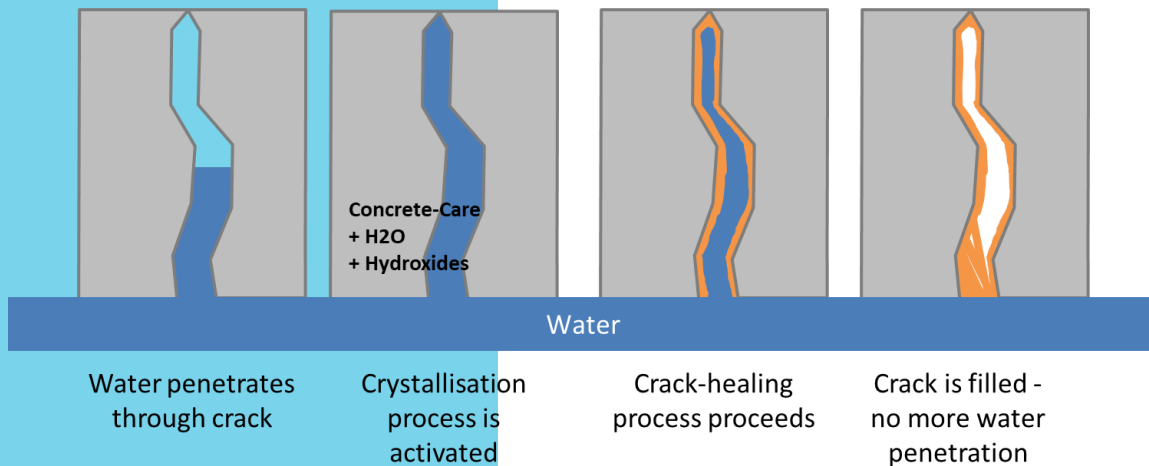
Concrete is a vital material in construction, valued for its strength, durability, and cost-effectiveness in buildings, bridges, roads, and other infrastructure. Modern design codes demand materials that are both strong and durable, capable of withstanding challenges such as cracking, corrosion, sulfate attack, and frost damage.

However, as a quasi-brittle material, concrete is prone to cracking under tension. Exposure to moisture, aggressive chemicals, and environmental factors accelerates its degradation, which can compromise its serviceability and lead to costly repairs.

Concrete-Care provides comprehensive concrete protection by sealing cracks, developing a denser microstructural matrix, and preventing the penetration of water and aggressive ions. This reduces maintenance costs and extends the lifespan of critical infrastructure.



MECHANISM OF PROTECTION



Concrete-Care is a future-focused concrete waterproofing and repair technology that becomes an integral part of the concrete itself. Composed of Portland cement and unique chemical formulations as self-healing stimulants, it reacts with water to form long, narrow crystals that fill pores, capillaries, and hairline cracks, offering self-healing protection against water penetration while the fresh concrete's properties remains unaffected.

A

Addition to Concrete Mix

Concrete-Care is added to the concrete mix during batching, becoming permanently integrated into the concrete structure.

C

Crystallisation Process

In the presence of moisture, crystallisation is triggered, where crystalline compounds in the admixture react with cement hydration byproducts (such as hydroxides) to form insoluble crystals.

S

Sealing Pores and Cracks

These crystals grow and expand to form a network that seals capillaries, pores, and hairline cracks, making concrete impermeable to water.

W

Waterproofing

The crystal formation creates an internal waterproof barrier, which boosts concrete's durability and resistance to corrosion, chemical attack and water infiltration, particularly in harsh environments or areas with constant moisture.

O

Ongoing Self-Healing

After curing, the crystalline compounds remain dormant until moisture or cracks reappear, reactivating the crystals to restore impermeability. This ongoing self-healing process continues as long as water is present, providing long-term built-in protection against water and chemical damage.

KEY BENEFITS

- Accelerates crack healing, including cracks larger than 0.5 mm
- Shields against corrosive elements and other aggressive chemicals
- Offers robust resistance to water penetration, even under high pressure and capillary absorption
- Effective in both positive and negative water pressure conditions, including osmotic pressure
- Permanently active, reactivates upon contact with moisture

SUPERIOR DURABILITY AND PROTECTION



- Creates a strong, dense mix that supports structural loads and withstands harsh conditions
- Increases the durability and service life of concrete significantly

COST EFFICIENCY AND VERSATILITY



- Added during batching and hence unaffected by climatic conditions
- Facilitates greater flexibility in project planning and execution

- Customisable for various cement types, including self-healing, HPC, and UHPC mixes
- Highly economical, requiring minimal dosage for maximum impact
- Minimises ongoing maintenance and repair costs
- Easy to handle and add to the concrete mix

- Non-toxic formulation, free from VOCs
- Allows the concrete to 'breathe', maintaining optimal moisture balance

SUSTAINABILITY AND SAFETY



APPLICATION AREAS

Concrete-Care is designed for use in a wide range of concrete structures exposed to constant or intermittent contact with water. It enhances the durability and waterproofing of structural, precast, and cement-based applications, including mortars and plasters. Offering long-lasting, versatile protection, Concrete-Care ensures superior waterproofing performance across both large-scale infrastructure and residential projects, even in challenging environmental conditions.

Industrial Applications:

- Tunneling
- Underground Stations
- Harbors & Canals
- Bridges
- Water Tanks
- Concrete Pipes
- Sewage & Water Treatment Plants
- Dams & Reservoirs
- Retaining Walls & Sea Defenses

Commercial Applications:

- Shopping Centers
- Libraries
- Computer Rooms
- Lift Shafts
- Underground Parking Garages

Residential Applications:

- Building Basements & Foundations
- Concrete Plinths
- Swimming Pools & Water Parks



WHY CHOOSE CONCRETE-CARE?



TOTAL CONCRETE DEFENSE

Increases permeability resistance and overall density, enhancing compressive strength to safeguard against water and aggressive chemical infiltration.

COMPATIBILITY

Works seamlessly with various concrete admixtures and cementitious mixes, integrating easily at the batching stage.

SUSTAINABILITY

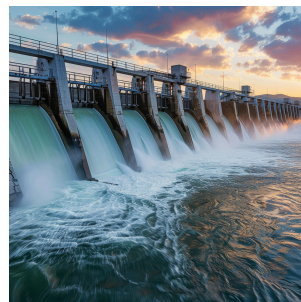
Eco-conscious design promotes durable structures with reduced environmental impact.

INNOVATION

A technologically advanced solution for self-healing, integral concrete waterproofing protection.

COST-EFFECTIVENESS

Reduces maintenance costs significantly over the lifespan of the structure.



LONG-TERM VALUE

A durable, high-performance solution that minimises the risk of future repairs, delivering lasting reliability.

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