

## TECHNICAL DATA SHEET

### DESCRIPTION

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CWS Admix® is a permanent, crystalline capillary waterproofing admixture. When added to concrete or mortar, insoluble crystals are formed and developed in the water bearing capillaries of the mix, effectively blocking the passage of water and ensuring permanent water tightness for the life of the structure.

### BENEFITS OF CWS Admix®

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#### ► WATERPROOF CONCRETE. FOR LIFE

- Waterproofs for the life of the structure
- Becomes an integral part of the concrete
- Does not tear, puncture or delaminate as membranes can
- Highly resistant to corrosive chemicals
- Maintenance free. No future re-application

#### ► EASE OF USE

- Simple dosage (0.8 kg/m<sup>3</sup>) avoids mistakes caused by adjusting dosage for varying cement content.
- Cannot be damaged on site by other trades
- Simple to use: CWS Approved Applicators coordinate with batch plant

#### ► ENVIRONMENTALLY FRIENDLY

- Earns LEED points
- No VOC's
- Non-toxic. Suitable for potable water

#### ► SUPERIOR TECHNOLOGY

- Protects against water, chloride and sulfate ingress; increases resistance to chemical attack
- Seals present and future cracks up to 0.4mm (1/64")
- Withstands hydrostatic pressure
- Effective against both positive and negative water pressure
- Suitable for ponding water
- Increases compressive strength of concrete.

#### ► ECONOMICAL

- Lowers waterproofing costs by up to 40%
- Added at batch plant, speeding construction and saving \$\$\$
- Design flexibility increases footprint of building
- Permits early backfilling that speeds construction
- Increases investment return by maximising building footprint.

### TYPICAL APPLICATIONS

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- Basements
- Below ground parking structures
- Elevator pits and foundations of high-rise buildings
- Sewage and water treatment works
- Canals, reservoirs, swimming pools
- Tunnels
- Core filled blockwork
- Foundation walls
- Slabs
- Footings
- Concrete pipes
- Pre-cast
- Properly designed rooftops and podiums
- Water tanks and towers

## HOW CWS Admix® WORKS

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Moisture and free lime within the mix combine with the active chemicals in CWS Admix® to create a continuous barrier of millions of insoluble crystals in the capillaries of the concrete. This blocks the passage of water through the pores and capillaries of the concrete, but permits the transmission of air and water vapor, thus allowing the structure to breathe.

The rate of crystalline development varies with the variations in the mix design and curing regime of the concrete. Although full waterproofing properties are normally achieved 7-10 days from placement, CWS Admix® achieves even further performance improvements over subsequent weeks.

After the initial crystallization process has successfully waterproofed the structure, the active chemicals within CWS Admix® remain dormant in the concrete. Any future contact with water will reactivate the crystals to provide lifetime waterproofing of the concrete. Through a process of osmosis, the crystals actually “grow” towards water, making CWS Admix® equally effective against both negative and positive water.

## CONCRETE PROTECTION

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CWS Admix® is not only perfect for waterproofing, it is also ideal for concrete protection on applications such as marine structures, sewage plants etc. By sealing the cracks in the concrete, CWS Admix® will prevent the ingress of chloride and harmful chemicals, which attack the reinforcement and cause degradation of the concrete.

## SUPER-FAST APPLICATION

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Because CWS Admix® is added to the concrete during batching, it speeds construction schedules by not having to wait for the placement of waterproofing membranes. Additionally, there is no requirement to defer backfilling to wait for a membrane to be applied to external walls.

## DOSING

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CWS Admix® may be added to the concrete either at the batching plant or added to the mixer at the job site.

It is preferable that Admix® is added to the dry mix to ensure even distribution prior to the addition of water.

If CWS Admix® is added after the addition of water, mixing must continue for a further 10 minutes prior to placement of the mix.

CWS' Approved Applicators supervise all dosing requirements on behalf of clients.

## DOSAGE

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0.8 kg per cubic metre of concrete (0.8kg/m<sup>3</sup>), approximately 22 oz per yard<sup>3</sup>.

## A SYSTEM APPROACH

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CWS Admix® forms part of a complete WATERPROOFING SYSTEM. Delivering a leak free result depends on correct procedures for the entire project, not just waterproofing a concrete slab.

Where project requirements, site conditions, concrete quality or other factors necessitate a system approach, CWS will recommend appropriate products to seal volatile or structural cracking, joints, excessive concrete segregation etc.

## HYDROSTATIC PRESSURE

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CWS Admix® is suitable for use in areas of high hydrostatic pressure and meets EN Standard EN 12390-8.

Refer to Concrete Waterproofing Systems for details.

## CONSIDERATIONS

- Concrete: Use only with properly vibrated structural concrete of 20MPa and above.
- Design Detailing: CWS Admix® will seal static cracks up to 0.4mm. It is not suitable for waterproofing structural / working / dynamic cracks, or where segregations and voids are likely, such as design cracks, expansion joints and penetrations. CWS Admix® should be used in conjunction with an appropriate hydrophilic waterstop or other approved technology. Consult your local distributor for details.
- Workability: CWS Admix® enhances the workability and plastic properties. As with all crystalline admixtures, it may cause an extension of set times, especially when used in conjunction with water reducing admixtures. Impact upon these properties will vary with mix design, climatic conditions etc. Consideration should be given to the removal of additives that retard.
- Applicable Standards: As concrete admixture: EN 934-2 Table 9 (Water Resisting Admixture), EN 12390-8 and ASTM C1556-03 & ASTM C1202-2019 (Chloride Diffusion).

## TRIAL MIX

CWS always recommends the use of a trial mix to establish optimum mix design for the specific project.

## PACKAGING

CWS Admix® is supplied in 180kg drums (approx.397lbs).

## STORAGE /SHELF LIFE

Store as for cement, in dry, cool conditions. CWS Admix® has an unlimited shelf life, if stored according to manufacturer's instructions in unopened containers.

## HEALTH AND SAFETY

Refer to Safety Data Sheet for full details.

## CWS Admix® TESTING SHEET\*

PROPERTIES	STANDARD	OTHER	RESULT
Permeability	EN 12390-8 (DIN 1048)	EN12390-8 DIN 1048	>95% reduction
		NBR 9779 NBR 9778	>70% reduction
		GB 18445 GB 50082	>75% reduction
		NBR 12170/2017	approved
Concrete Hardening State Characteristics	ASTM C 494-S	NBR NM 67 NBR NM 47 NBR 5739	meets or exceeds requirements
Compressive Strength		GB 8076	+15%
Shrinkage Reduction 28days		GB 8076	15%
Concrete Fresh State Characteristics	ASTM C 494-S	NBR NM 67 NBR NM 47 GB 8076	meets or exceeds requirements
- Slump retention		NBR NM 67	>+15min
- Water reduction		GB 8076	3.0% on average
- Air entrained		NBR NM 47 GB 8076	unaltered
NonToxicity Environmental	0.0% VOCs		granted
Quality Control manufacture		ISO 9001	granted
		ISO 14001	granted

\* results may vary according to design mix

All above results are typical test report data and will vary according to testing methods, site conditions, concrete batching and/or curing procedures and temperature, as well as natural variations in raw materials used. Please anticipate statistical differences in test results. Testing variations may cause deviations between onsite testing and published results.



## WARRANTY

Concrete Waterproofing Systems Ltd warrants that the products manufactured by it conform to the formulation standards contained in all components in their proper proportion and are free from material defects. If any of the products are found to be defective the subsequent liability to Concrete Waterproofing Systems Ltd shall be limited only to the replacement of the product proven to be defective and shall not be liable for any other claim or for incidental or any consequential damages that may arise directly or indirectly with the said defective product. The user shall determine the suitability of the product for its intended use and the user assumes all liability in connection therein and Concrete Waterproofing Systems Ltd shall not be liable save for terms of this warranty.

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