

## DESCRIPTION

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CWS InSeal is a concrete waterproofing material, based on the family of sodium silicates. It is applied by spraying onto cured concrete. It waterproofs and protects the concrete from corrosion and chloride/sulphate penetration, by forming a waterproof insoluble gel layer in the concrete matrix, reacting with calcium and water. CWS InSeal will seal static cracks in the concrete and is for use predominantly in indoor areas of low thermal stress.

## WHY USE CWS InSeal?

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- CWS InSeal waterproofs concrete, predominantly in areas of low thermal stress
- Protects rebar from corrosion through arresting chloride and sulphate ingress
- Seals static cracks in concrete
- Increases concrete hardness to around 6 of Mohs Scale
- Improves the bond of concrete to cementitious materials
- Non-toxic. Suitable for use with potable water
- Environmentally safe, non toxic, no VOCs
- Suitable for ponding water
- Impervious to scratching, or puncturing. No seaming or bonding issues, as with membranes
- Does not require a protective screed
- Simple, single coat application
- No re-application needed in years to come
- Cost effective solution
- Super-fast application for shorter project time, saving labor and cost significantly

## TYPICAL APPLICATIONS

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CWS InSeal is extremely simple and practical to apply, therefore it is particularly suitable for internal areas such as:

- Bathrooms
- Kitchens
- Internal wet areas
- Lavatories
- Laundry rooms
- WC

## APPLICATION

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### EQUIPMENT

- Apply CWS InSeal with a backpack sprayer (low pressure sprayer), or a motorised pump, depending on the size of the surface to be treated.

### SUPER FAST APPLICATION

- One person with a backpack sprayer can apply 1000m<sup>2</sup> per day and with a motorised pump can apply about 6000m<sup>2</sup> per day. Compare this to a membrane where one person can typically apply no more than 100m<sup>2</sup> per day.
- CWS InSeal is suitable for use on both vertical and horizontal surfaces.

### COVERAGE

- The dosage is around 1lt/5m<sup>2</sup>, depending on the MPa and surface finish of the concrete. In cases of high MPa concretes, where the surface is finished to a smooth result, proper application may only be 1lt/6m<sup>2</sup> whilst, low MPa concretes with rougher finish and open pores, may use about 1lt/4m<sup>2</sup>.

### APPLICATION GUIDELINES

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#### APPLICATION METHOD

- CWS InSeal is suitable for use on properly vibrated structural concrete with a minimum of 20 MPa.
- Apply at temperatures above +5°C. If prevailing temperatures exceed +40°C, please contact Concrete Waterproofing Systems for specific instructions on proper application.
- Make sure you remove any honeycombing prior to CWS InSeal application, by first chipping out imperfections, applying CWS InSeal and filling with mortar.
- Apply on dry, clean, cured concrete.
- Remove materials which may retard or inhibit penetration, such as oils, paints, curing compounds etc
- Apply CWS InSeal to the point where the concrete does not accept further product. In case of present cracks, apply additional product at approximately 1 litre to 3 lineal metres, prior to treating the whole surface. For large - or difficult - cracks apply additional product and pond as necessary.
- When the surface is touch dry (generally 2-5h, depending on prevailing climatic conditions), water abundantly. CWS InSeal is strongly hydrophilic and, provided the product has penetrated well into the concrete matrix, you do not have to worry about over-watering it.
- 24 hours after the first watering, water again very generously.
- 48 hours after the first watering, water again very generously.
- After application, you may verify the product's performance by performing ponding.
- **IMPORTANT:** It is very important that the surface treated with CWS InSeal is watered within 6 hours after the initial application. If not, the product will not perform according to specification and will need re-application.

#### APPLICATION TO VERTICAL SURFACES

- Apply as per instructions above. However, instead of applying one coat at 1 litre per 5m<sup>2</sup>, you have to apply two coats at the rate of 1 litre per 10m<sup>2</sup>. Apply the first coat at 1 litre per 10m<sup>2</sup> and then, **before the product has dried**, apply the second coat, also at 1 litre per 10m<sup>2</sup>. This prevents excess product running down the wall and the end result is the desired coverage at 1 litre per 5m<sup>2</sup>.

### CONSIDERATIONS

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- Any materials that may prevent penetration of CWS InSeal into the concrete, such as oils, paints and some curing agents should be removed prior to application, either by grinding or water-blasting, or both if need be.
- CWS InSeal is not suitable for sealing structural/working/volatile cracks, or those caused by mechanical damage.
- Most Concrete Waterproofing Systems' Approved Applicators offer a waterproofing system and, in case of cracks present that CWS InSeal is unable to seal, they treat them with an ancillary product. Consult your local distributor for details.
- CWS InSeal is not normally recommended for areas of concrete exposed to thermal stress, nor for negative side waterproofing. Where waterproofing from the negative side is required, use CWS Admix™ instead.
- Concrete mix design: Avoid mix designs containing Type F fly ash, or more than 8% silica fume (micro-silica). Portland blend Type GP, or slag blend, concretes are recommended.
- Do not spray CWS InSeal onto glass, aluminium, wood or painted surfaces or etching may occur. Should contact occur, immediately rinsing thoroughly with water may minimise the etching.
- Design Detailing: CWS InSeal is not suitable for sealing where segregations and voids are likely, such as design cracks, expansion joints and penetrations. CWS InSeal should be used in conjunction with an appropriate hydrophilic Waterstop, or other approved technology. Consult your local distributor for details.
- Pour structural slabs to fall where possible. No screed is required, saving time and money compared to membranes.

## TECHNICAL DATA

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|---------------------|---------------------------------|
| COLOR               | Clear to slightly opaque liquid |
| SPECIFIC GRAVITY    | Range 1.2 - 1.3                 |
| VOCs                | Zero                            |
| BOILING POINT       | 101°C                           |
| pH                  | 11.3                            |
| TOXICITY            | Non-Toxic                       |
| NON-VOLATILE SOLIDS | 25 - 27%                        |
| FLAMMABILITY        | Not applicable                  |

## PACKAGING

Available in 20 litre containers and 200 litre drums.

## SHELF LIFE, STORAGE

CWS InSeal has no known shelf life, provided it is kept out of direct sunlight and in a sealed container. Store between 1°C and 50°C. Do not freeze. **Stir prior to use.**

## SAFETY

Avoid contact with the skin and eyes. If contact is made, especially with the eyes, flush with lots of water. Take adequate precautions, such as wearing protective gloves and use breathing apparatus, if applying in enclosed environments. Refer to Safety Data Sheet.



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## 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.