

Water Guard Crysta Admix 103 is a high quality, integral and high concentrated waterproofing admixture for concrete and mortars. By reaction with the cement paste it forms nanocrystals. In the cement matrix **Water Guard Crysta Admix 103** is reducing the capillary and pore size. The formed crystal structure is not soluble. **Water Guard Crysta Admix 103** forms in combination with concrete an integral waterproofing system for all concrete construction.

APPLICATION AREAS

Water Guard Crysta Admix 103 is used as a concentrate for all kinds of concrete integral waterproofing and as corrosion protection in concrete. Typical application areas are water retaining walls, water tanks, tunnels, dams, piles, sewers, foundations, basements, cooling towers etc. Wherever a watertight concrete construction is required, **Water Guard Crysta Admix 103** can be used. Also suitable as admixture in spray applied concrete.

ADVANTAGES

- ✓ Permanently active in concrete.
- ✓ Seals microcracks and hairline cracks, up to 0.4 mm.
- ✓ Self-healing properties.
- ✓ Permanently waterproofed concrete.
- ✓ Protection of reinforced steel.
- ✓ Easy dosing.
- ✓ Concrete corrosion protection.
- ✓ Withstands high water pressure (up to 13 bars).
- ✓ Make concrete hydrophobic.
- ✓ Integral waterproofing.
- ✓ Nontoxic.
- ✓ Compatible with most types of concrete admixtures.

TYPICAL PROPERTIES AT 25°C

Base	Special Cements / Additives
Color	Grey
Consistency	Powder
Bulk Density	Approx. 1.11 KG / Ltr
pH Value	>11.5
Water Permeability	Positive Side Water pressure = 13 Bar Negative Side Water Pressure = 13 Bar (BE EN 12390-8)
Chloride content	<0.05%
Processing Temperature	8°C up to 40°C
Consumption	Separate Table for dosage and consumption given in this Technical Data sheet.

*Typical results under laboratory conditions.

DOSAGE

The Recommended dosage is 0.8% to 1.7% by Weight of cementitious material. Minimum per Cubic meter of concrete

REFERENCE DOSAGE VALUES

Cement content / Cubic meter	Amount of water in concrete Formulation			
	40%	45%	50%	55%
280 KG / cubic meter	2.8 KG	3.15 KG	3.5 KG	3.85 KG
310 KG / cubic meter	3.1 KG	3.49 KG	3.88 KG	4.26 KG
340 KG / cubic meter	3.4 KG	3.83 KG	4.25 KG	4.68 KG
370 KG / cubic meter	3.7 KG	4.16 KG	4.63 KG	5.09 KG

*These results are typical of our internal findings, actual dosage and results on site may vary.

The dosing values depend on the requirement of concrete and the mortar quality. It is also dependent on the quality of cement used. **Water Guard Crysta Admix 103** can be used in concrete with high Water cement ratios of up to 0.55. we recommend conduction trials and finalizing mix designs prior to the placement of concrete and act on it accordingly.

DOSING IN BATCHING PLANTS (READY MIX FACTORIES)

Water Guard Crysta Coat 103 must be added to the aggregates and must be mixed at least 30 seconds before adding cement and water. The mixing must be continued for at least 50 seconds until the concrete mix has reached working properties.

DOSING IN TRANSPORT MIXER / TRUCKS OR ON-SITE MIXER

Incase **Water Guard Crysta Mix 103** is added in the ready-mix truck or on onsite mixer it must be added as a suspension in water, not in powder form. The mixing ratio in this case will be 1:1 (Powder: Water). Mix the material in a bucket and add this slurry completely into the concrete mixing drum of the transport truck.

Average mixing time is 1 minute per cubic meter and for a minimum of 5 minutes. It is worth nothing that the addition of the slurry does should not increase the water cement ratio above the projected value. The water of the slurry must be included in the water cement ratio calculation at the batching plant.

The working time with **Water Guard Crysta Admix 103** mixed with concrete depends on the reactivity of the cement used and can either be prolonged or shortened.

DOSAGE IN MORTARS

Water Guard Crysta Admix 103 must be added to the aggregated and mixed with approx. 45% of the mixing water. Mix at least 2 minutes before adding the remaining water and cement.

SPECIAL NOTES

- ✓ **Water Guard Crysta Admix 103** should be tested in trial mixes to determine the optimal dosage and any necessary changes to existing additive dosage.
- ✓ Do not use without checking workability.
- ✓ Avoid lump formation.
- ✓ With **Water Guard Crysta Admix 103** modified concrete may tend to slightly efflorescence depending on the composition
- ✓ The material is noncorrosive and has no effect on reinforced steel.
- ✓ Never add **Water Guard Crysta Admix 103** into the mixed fresh (wet) concrete or mortar mixes as this will increase the risk of lump formation.
- ✓ The aggregates must have a continuous sieve line.
- ✓ A minimum cement content (42.1 Grade) or CEM I of 320 KG / cubic meter is required.
- ✓ The addition of coal fly ash is limited to 30 KG / Cubic meter.
- ✓ The addition of brown coal fly ash is forbidden.

PACKAGING

Available in 2KG and 20 KG Standard packaging.

SHELF LIFE

12 Months when stored under cool and dry warehouse conditions.

HEALTH AND SAFETY

Water Guard Crysta Admix 103 is noncorrosive and considered safe for transportation. It is recommended to wear masks and protective equipment prior to the use of **Water Guard Crysta Coat 103**. In case of ingestion immediately call the doctor and seek medical care. Do not reuse old containers and bags and dispose them off as per local rules and regulations. Please refer to the Material MSDS for further health and safety information.