

# DSF 315 CRYSTALLINE ADMIX

## CRYSTALLINE WATERPROOFING ADMIXTURE

**T2** ACCORDING TO  
EN 934-2

### DESCRIPTION

**DSF 315 CRYSTALLINE ADMIX** is an integral crystalline admixture powder specifically formulated to interact with concrete capillary pore structures to provide a waterproofing system that is a permanent part of the concrete matrix. **DSF 315 CRYSTALLINE ADMIX** can be used in above- and below-grade applications. Active chemicals combine with the free lime and

moisture present in the capillary tracts and pores, to form insoluble crystalline complexes. These crystals block the capillaries and minor shrinkage cracks in the concrete to prevent any further water ingress (even under pressure). However, the concrete will still allow the passage of water vapour through the structure (i.e. the concrete will still be able to "breathe").

### APPLICATION FILEDS

**DSF 315 CRYSTALLINE ADMIX** can be used in all the concrete elements such as: waste treatment facilities, foundations and basements, marine structures, precast

concrete, tunnels and subways, dams and water reservoirs, manholes, underground vaults, parking structures, swimming pools, water containment structures

### PROPERTIES

- Eliminates or reduces water penetration.
- Interior or exterior waterproofing against high hydrostatic pressure.
- No adverse effect on compressive strength or setting time with Portland cement.
- Easy to use powdered material.
- Highly improves chemical resistance.
- Very economical compared to other methods.
- Vapour diffusion in concrete is not blocked.
- Negligible effect on working time, increasing flexibility.

### GUIDELINES FOR USE

**DSF 315 CRYSTALLINE ADMIX** can be used in drum mixed and central batched concrete applications. It should be added to the initial batching sequence preferably as the aggregate is being added to the mixing vessel. Concrete should be mixed a minimum of 8–10

minutes, at normal mixing speed, after all concrete constituents have been batched to ensure thorough dispersion of all materials. **DSF 315 CRYSTALLINE ADMIX** should not be added to the concrete mixture after the cementitious ingredients have been introduced.

### DOSAGE

**DSF 315 CRYSTALLINE ADMIX** is typically dosed at 1 to 2% by weight of cementitious material (BWC) depending on application. Please consult your local Thrakon representative for further dosage recommendations.

### PACKAGING - STORAGE

20 kg bags. When stored in a dry place in unopened, undamaged original packaging, shelf life is 12 months.

### GENERAL TIPS

- **DSF 315 CRYSTALLINE ADMIX** should be added to the aggregate as it is being batched or to the initial batching sequence.
- Do not add **DSF 315 CRYSTALLINE ADMIX** at the end of the batching sequence. Adding **DSF 315 CRYSTALLINE ADMIX** to the end of the batching sequence may result in extended setting characteristics or premature stiffening of the concrete.
- **DSF 315 CRYSTALLINE ADMIX** may require a slight increase in air entrainment dosage.
- In all cases, consult the Safety Data Sheet before use.
- Preliminary testing is encouraged to ensure concrete performance of all project concrete ingredients.
- Setting times may be slightly extended depending on cement chemistry. However, under normal conditions, **DSF 315 CRYSTALLINE ADMIX** 10 will provide a normal set concrete. Concrete containing **DSF 315 CRYSTALLINE ADMIX** may develop higher ultimate strengths than plain concrete. Trial mixes should be carried out under project conditions to confirm concrete performance.



## TEST DATA:

### Permeability, CRD C48-92

At the completion of the test, the specimens (15.2 cm × 15.2 cm) did not exhibit any water leakage. All specimens were tested for 14 days under 200 psi (462

feet of head pressure [13.8 bar]). A reduction of more than 70% compared to control samples.

### Water Penetration, DIN 1048

Specimens (15.2 × 15.2 cm) exhibited an average water penetration of 22 mm when tested for 72 hours under 72 psi (166 feet of head pressure [5.0 bar]), 40% reduction compared to control sample.

### Pressurized water penetration, EN 12390-8

Concrete cubes with 1% dosage were exposed to 5 bar hydrostatic pressure and exhibit no water penetration.

### Compressive Strength, psi (MPa) ASTM C 39

7 days ..... 3,560 (24.5)  
28 days ..... 4,930 (34.0)  
An increase of up to 8% compared to control sample.

### Freeze/Thaw Resistance, ASTM C 666

300 cycles ..... 93.8 % Relative Durability Factor

### Flexural Strength, psi (MPa) ASTM C 78

7 days ..... 737 (5.1)  
28 days ..... 778 (5.4)

### Rapid Chloride Permeability ASTM C 1202

An improvement of 10% compared to control sample.

### Chemical Admixtures, ASTM C 494 Type S, Specific Performance

Reported are the chemical and/or physical properties of cement and aggregates used and the results obtained in tests of concrete and aggregates used. **DSF 315 CRYSTALLINE ADMIX** meets the requirements for Type S.

### Potable water compliance, NSF 61 (USA)

No harmful effects in potable water contact.

*The technical information and guidelines in this brochure related to the application and end-use of THRAKON products are based on the Company's current expertise and experience on the products and are given in good faith provided they are properly stored, used and applied in accordance with the guidelines given by THRAKON. Given that we are unable to directly inspect the conditions that prevail at the worksite as well as the application of the product, the Company shall not provide any guarantee regarding the suitability of its products for any particular purpose and disclaims any legal responsibility that is based on written information in this brochure or on written or oral or otherwise provided recommendations and guidelines. By applying the product on a small surface, the users are advised to test the product's suitability for the intended application and purpose. THRAKON reserves the right to amend the properties of its products without prior notice. All orders are accepted only after acceptance of the above and under the Company's respective Trade Policy terms. This version of the technical data sheet automatically cancels any previous version.*

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## TYPE ACCORDING TO THE EUROPEAN STANDARD EN 934-2:T2

TECHNICAL CHARACTERISTICS	UNITS	STANDARD	VALUE
Pressurized water penetration		EN 12390-8 (1% dosage)	passed
Water penetration	(%)	DIN 1048, 5 bar (72psi) head pressure	40 reduction
Water permeability	(%)	CRD C48-92, 13.8 bar (200psi) head pressure	>70 reduction
Capillary absorption	(%)	ASTM C-1585	>40 reduction
Compressive strength	(%)	ASTM C-39	equal to and up to 8 increase
Resistance to chloride penetration	(%)	ASTM C1202	10 improvement
Length change	(%)	ASTM C-157	up to 20 reduction
Sulphate resistance	(%)	ASTM C-1012 (6 months)	33 improvement
Admixtures for concrete		ASTM C- 494 (type S, performance)	passed
Admixtures for concrete		EN 934-2 (water reducing/ plasticizing)	passed

**Note:** The measurements were taken in laboratory environment under a temperature of +23°C, Relative Humidity 50 % and without ventilation. They may vary depending on the conditions prevailing at the worksite, such as temperature, humidity, ventilation and absorbability of the substrate.