AM 10

Crystalline waterproofing admixture

- *integral waterproofing*
- *permanent system*
- *improving concrete properties*
- *dry powder – easy to use*
- *also tested against high water pressure*

PRODUCT DESCRIPTION
VANDEX AM 10 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. VANDEX AM 10 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").

AREAS OF APPLICATION
- 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 hydro-static pressure
- no adverse effect on compressive strength or setting time with Portland cement
- easy to use powdered material
- negligible effect on working time, increasing flexibility
- highly improves chemical resistance
- very economical compared to other methods
- vapour diffusion in concrete is not blocked

GUIDELINES FOR USE
VANDEX AM 10 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. VANDEX AM 10 should not be added to the concrete mixture after the cementitious ingredients have been introduced.

DOSAGE
VANDEX AM 10 is typically dosed at 1 to 2% by weight of cementitious material (BWC) depending on application. Please consult your local Vandex representative for further dosage recommendations.

GENERAL REMARKS
- VANDEX AM 10 should be added to the aggregate as it is being batched or to the initial batching sequence.
- Do not add VANDEX AM 10 at the end of the batching sequence. Adding VANDEX AM 10 to the end of the batching sequence may result in extended setting characteristics or premature stiffening of the concrete.
- VANDEX AM 10 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, VANDEX AM 10 will provide a normal set concrete. Concrete containing VANDEX AM 10 may develop higher ultimate strengths than plain concrete. Trial mixes should be carried out under project conditions to confirm concrete performance.

PACKAGING
10 kg pails; 20 kg bags. Others on request.

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

HEALTH AND SAFETY
Please refer to Safety Data Sheet on www.vandex.com.

TEST DATA
Permeability Testing, 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. VANDEX AM 10 meets the requirements for Type S.

Potable water compliance, NSF 61(USA)
No harmful effects in potable water contact.

TECHNICAL DATA			
Test type	**Method**	**Test parameters**	**Performance relative to control**
Pressurized water penetration	EN 12390-8	1% dosage	passed
Water penetration	DIN 1048	5 bar (72 psi) head pressure	40% reduction
Water permeability	CRD C48-92	13.8 bar (200 psi) 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
Slump	EN 12350-2		62 mm at 2% dosage
Chloride ion content	EN 480-10		≤ 0.1 M %
Alkali content	EN 480-12		≤ 10.5 M %
Corrosion behaviour	EN 480-14		no corrosion observed
Air content	EN 12350-7		test mix ≤ 2 % by volume above control mix

Testing was performed under laboratory conditions using laboratory materials.

The information contained herein is based on our long-term experience and the best of our knowledge. We can, however, make no guarantee since for a successful outcome, all circumstances in an individual case must be taken into consideration. Indications of quantities required are only averages which in certain cases might be greater.

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