

K-1

ADDITIVE FOR WATERPROOFING CONCRETE



DESCRIPTION

K-1 is a powder additive for concrete for a total waterproofing and a physical-chemical protection of concrete, through the use of Crystalline technology. K-1 is put in the concrete itself, in the batching plant or directly on site. The reaction between k1, the non idrate particles of concrete and the water in the concrete itself, creates a chemical reaction that gives life to many insoluble micro crystals that fill the capillary holes and the crackings of concrete. In this way, concrete added with K-1 becomes resistant to water penetration and to any contaminations. Thanks to its active components K-1 reactivates permanently the process of crystallization in presence of water or humidity, making concrete eternal. The capacity to repair crackings (till 500 micron) is known as "Crack Self-Healing". K-1 waterproofs the concrete and consequently there will be no need of other waterproofing systems, it increases durability, mechanical properties and compressive strength. The great innovation is in the packaging itself. You don't have to calculate the 2% of the cement content but you just put one bag of 1 kg of additive for 1 m3 of concrete. The water-soluble bag will dissolve into the water spreading the additive.

FIELDS OF APPLICATION

- Underground parking
- Foundation works
- Tunnels
- Submerged works
- Dams
- Waste water tanks
- Swimming pools
- Ground walls
- Bridges
- Floors in concrete

PRODUCT DATAS

Base	-
Catalysis ratio	One component
Mix ratio	-
Composition	-
Appereance	Granular powder
Specific weight	1,00 kg/lt
Dry residual	100,0%
Dilution	-
Pot Life	-

CONSUMPTION

1,0 kg/m3 (1,0 KG for m3 of concrete)



Date 15/10/2025



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COLORS

K-1 is available in:

- White (it does not change any colour aspect of concrete)

PACKAGING

K-1 is available in:

- Available in one pail of 20,0 kg (made of 20 bags of 1,0 kg. each)

Technical datas

Compressive strength increase test after 28 days	≥ 20,0%
Penetration of water (Strength class C25 / 30)	< 15,0 mm
Penetration of water (Strength class C30 / 37)	< 10,0 mm
Self-repair of cracking (Crack self healing)	≤ 0,6 mm
Resistance to carbonation	50,0% increase
Water resistance containing carbonates	Excellent
Resistance to water containing chlorides	Excellent
Resistance to water containing sulphates	Excellent
Resistance to water containing nitrates	Excellent

APPLICATION

COMPATIBILITY WITH CEMENT

K-1 can be used with all types of cement:

- Portland (CEMI, CEM II)
- High furnace cements (CEM III)
- Pozzolanic (CEM IV)

COMPATIBILITY WITH ADDITIVES

K-1 is compatible with the majority of additives sold but it's very important to check the type of superplasticizers used in the mix design. The presence of polycarboxylates (PCE) or lignosulfonates increases the setting time of concrete, without changing the strength. For any information please contact Technical office of BTEch.

WATER REDUCTION

It is reduced of 10/15%.

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INSTRUCTION FOR DOSAGE

K-1 is added to the mix design of concrete (1,0 kg/m³).

- Mix in mixing plant. Add the bags of K-1 directly on the belt of aggregates, distributing them in homogeneous way.
- Mix in building site (advised if between mixing plant and building site there are more than 45 minutes). Add the bags of K-1 directly in the barrel, one each 30/60 seconds. Be sure that barrel works at the maximum speed for 10-15 minutes minimum before casting, to guarantee a good mixing of the product with concrete.

WHITE TANKS BTECH

For a “white tank” configuration k-1 is essential, because it gives a total waterproofing and protection to the concrete, but to get a right configuration it is necessary to define all the accessories elements for building details (such as for example joints). For a personal project please contact Technical Office of BTECH.

STORAGE

The product must be kept closed in original packaging, sealed and stored in a fresh and dry place for maximum 12 months at a temperature +5/+25 C. Please refer to SDS and label of the packaging too.

WARNINGS

- Don't use K-1 for concrete that use less than 300, 00 kg of cement/m³.
- Temperature of added concrete must not be less than 4 C
- Bags have to be touched with gloves (humidity of hands skin can dissolve the plastic)
- Late in setting time can be possible
- Do not put the bags in one time (it is possible that the product can not be distributed in homogeneous way).

HEALTH AND SAFETY INFORMATION

For information and advice regarding safe handling, storage and disposal of chemical products, the user must refer to the latest version of the Safety Data Sheet, containing physical, toxicological and other safety-related data. Do not release the product or empty containers into the environment.

Product for PROFESSIONAL USE ONLY.

LEGAL NOTICE

The information and recommendations given above, although they correspond to our best experience, must in any case be considered purely indicative and must be confirmed by exhaustive practical applications. Therefore, before using the product, anyone who intends to make use of it must determine whether it is or is not suitable for the intended application and, in any case, assumes all responsibility that may arise from its use. Always refer to the latest updated version of the technical data sheet, available on the website btechitalia.eu.

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