



Systems for
Waterproofing,
dehumidification,
wetproofing



Certified Quality System since **FEBRUARY 1993**

From Project to Jobsite

CRYS-teco[®] ADMIXTURE

WATERPROOFING ADMIXTURE FOR CONCRETE WITH REACTIVE CRYSTALLIZATION

CE approved – Certificate n. 1305 - CPD - 0017
EN 934-2 : 2009

Description CRYSteco[®] ADMIXTURE has been developed to achieve effective waterproofing of concrete by reactive crystallization within the mass of concrete and in shrinkage cracks. CRYSteco[®] ADMIXTURE should always be used together with the additive superplasticizer Tecnos[®] azur: the system **CRYSteco[®] ADMIXTURE + Tecnos[®] azur** complies with **EN 12390-8** for inherently waterproof concrete: **water penetration at 5 bar pressure x 3 days < 20 mm**. The principle of reaction consists in the crystallization of its reactive components during hydration of the cement with the formation of insoluble crystals which, once deposited within the capillary or microcracks, limit or eliminate water penetration.

CRYSteco[®] ADMIXTURE is part of the **CRYSteco[®] ADMIXTURE/PJP SYSTEM** in combination with the cracking elements, autosealing **PLUS JOINT PLUS**, engineering for the waterproofing of underground structures with crystallizing concrete and intrinsically impermeable to water penetration.

The Project Promotion and Assistance Office is available for assistance for the design and implementation of the **CRYSteco[®] ADMIXTURE/PJP SYSTEM**.

Available also on request **CRYSteco[®] ADMIXTURE hydrophobic** that allows, in addition to the reactive crystallization, also hydrophobization of capillaries. Useful for particular artifacts or exhibits exposed to extremely aggressive conditions.

Advantages Resists to extreme hydrostatic pressure from either positive or negative surface of the concrete slab.
Becomes an integral part of the substrate and increases the resistance to aggressive chemicals
Can seal hairline cracks up to 0.5 mm
Allows concrete to breathe
Less costly to apply and more durable as permanent active waterproofing agent compared to other systems such as membranes.
Does not negatively influence the characteristics or mechanical properties of the concrete.

Fields of use To enhance waterproofing of concrete structures such as reservoirs, sewage and water treatment plants, secondary containment structures, tunnels, subways and underground vaults, foundations, parking structures, swimming pools, pre-cast components.



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Method of application The Mix Design of the Concrete must be pre – qualified and be according to the Technical Standards EN 206-1. The adding of **TECNOS® azur CB E/R** allows to contain the ratio $W/C \leq 0,50$.

CRYS-teco® ADMIXTURE is a dry powder that is added directly to the wet mix concrete during batching. It may be added directly to the ready mix truck prior to site arrival or even at site. The minimum dosage rate is 0.8 kg per 100 kg of cement. The concentration can vary depending on the results requested, and the qualification of the concrete used. For detailed information please consult the Technical Department.

Mixing :

TECNOS® azur CB E/R (dosage $0,8 \div 1,2$ Kg/100 Kg cement) must be added first together with the mixing water.

CRYS-teco® ADMIXTURE must be added to the concrete during the mixing period. The sequence of addition can vary according to the type of mixing.

- *Ready mix plant* : Add **CRYS-teco® ADMIXTURE** in powder form to the plant mixer or ready mix truck, add partially the mixing water and the aggregates. Mix the materials for 2-3 minutes and then add other components to fill the mixer or truck.

- *Job site mixing* : Add the **CRYS-teco® ADMIXTURE** and the water to the concrete mill, and part of the bigger aggregates to have a preliminary mixing for 2-3 min. Then add the remaining components and mix enough time to assure complete mixing of the **CRYS-teco® ADMIXTURE** to the concrete or mortar.

*Note : It is important to obtain a homogeneous mixture of the **CRYS-teco® ADMIXTURE** with the concrete or mortar. Therefore do not add dry **CRYS-teco® ADMIXTURE** to a fresh concrete as this may cause clumping and bad dispersion of the admix in the concrete or mortar.*

Packaging 20 Kg bags.

Storage Store in dry location, opened bags or pails will deteriorate if subjected to moisture.

Characteristic technical data The setting time of a concrete or mortar is normally not affected by the chemical and physical composition of the **CRYS-teco® ADMIXTURE**.

According to the kind of cement, to the concentration and to the mix design, the setting time could be delayed, but usually the final strength will improve and the shrinkage behaving too.

Our Technical department can assist in the fine-tuning of concrete mix-designs, specified in the project, according to European Standard in order to guarantee maximum waterproofing and durability.

NOTE: The **CRYS-teco® ADMIXTURE** should be used at a temperature above + 5°C.

Safety indications **CRYS-teco® ADMIXTURE** is a cementitious based system and as such is alkaline. It may cause skin and eye irritation. Use appropriate and suitable protective clothing and eye protection when mixing and or using **CRYS-teco® ADMIXTURE**.

Please refer to MSDS for health and safety information.

The above information is based on our best experiences and lab results and on results of the application of the product in various fields. Tecnochem Italiana is not responsible for negative performances due to not proper use of the product or for defects due to elements not connected with the quality of the product included wrong storage. Technical characteristic in this technical data sheet are up-to-dated periodically .Revision date of this technical data sheet is indicated below

Edition: 07/2011
Revision date : 04/2013

Nr. rev : 2

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