



ELEMENTS[®]
QUÍMICA APLICADA

e⁵ PCE SUPER A-CLAYS

**HYPERFLUIDIZING
TOLERANT TO CLAYS
ADDITIVE**

DESCRIPTION

e⁵ PCE SUPER A-CLAYS is an admixture for concrete mixing. It is designed as a superplasticizer and high range water reducer. It's manufactured using high tech polymers to obtain an elevated plasticizing capacity, due to its high cement dispersing power. It's specifically designed to interact with cement particles and to break up the cements flocculating effect. In this manner it improves the concrete mix workability, even when the aggregates are contaminated with clay.

Is a high tech multifunctional product, high range water reducer, superplasticizer and clay inhibitor, manufactured only by **Element5**. It is made with raw materials that were carefully designed, selected and formulated to achieve this multifunctionality purpose. It is prepared with dispersing polymers, accelerators and rheology modifiers.

With its special formula, it allows working concrete mixes with a low water content. This results in mechanical strength increases of concrete, even at very early ages.

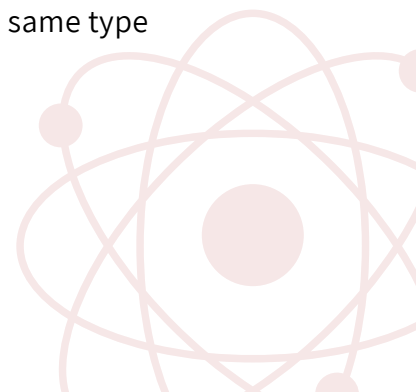
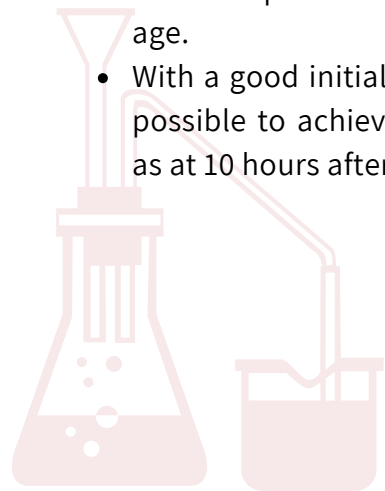
These characteristics allow us to assure that the product has unique properties in the market. There are aggregates in the market that have a high clay content. These generate performance problems in concrete mixes, with or without admixtures. This weakens its properties. The use of this product is recommended to avoid these problems.

e⁵ PCE SUPER A-CLAYS allows high water reductions, with values as high as 40 %, and it generates high early age strengths. It widely complies with the requirements for a Type F and F2 NMX-C-255-ONNCCE and for a Type I ASTM 1017 admixture. Setting times can be adjusted as a function of environmental conditions and the type of materials used.

BENEFITS

The use of **e⁵ PCE SUPER A-CLAYS** in concrete allows:

- A high dispersing power of cement particles is achieved
- It inhibits the negative effects of clays found in aggregates.
- It develops mechanical strength at early age.
- With a good initial curing of specimens, it is possible to achieve good strengths as early as at 10 hours after placement.
- It increases compressive and tensile strength
- It's used in the manufacture of prefabricated elements.
- Reduces concrete permeability
- It reduces the per m³ manufacturing cost
- When aggregates contain clays, you can save as much as half the dosage in comparison with other admixtures of the same type



TECHNICAL INFORMATION

- Specific gravity: 1.10
- Physical appearance: Amber colored turbid liquid

PRESENTATION

- 18 L bucket
- 200 L drum
- 1000 L Tote
- Bulk with mixing equipment

Useful life: 12 months in its original container

PRINCIPAL APPLICATIONS

e⁵ PCE SUPER A-CLAYS can be used for the production of the following concretes:

- High performance concrete
- Shotcrete, in combination with our accelerators with and without alkalis of the **e⁵ SHOT AF L** line
- Self consolidating concrete
- High mechanical strength concrete
- Concretes for prefab elements
- Concretes that require early age strength development

DIRECTIONS FOR USE

Load all the materials:

Following the established order, add the aggregates and the cement with 80 % of the mix water. Allow these materials to mix during 2 minutes. Then add the established volume of admixture along with the remaining 20 % of the mix water.

This will allow the calcium sulfate to form ettringite with the cement's tricalcium aluminate. This will improve the admixture's performance.

For concretes with a very low water / binding material ratio, lower than 0.32, after placing all the materials in the mixer it is necessary to allow a minimum mixing time of seven minutes.

For industrial production and looking to avoid an excessive effort of the concrete mixer, when the water / binding material ratio is lower than 0.32, half the established dosage of **e⁵ PCE SUPER A-CLAYS** can be added at the beginning, together with 80 % of the mix water. The other 50 % of admixture must be added with the remaining 20 % of the mix water at the end of the loading process. This procedure can decrease the formation of lumps. However, this will depend, to a large degree, on the physical state of the mixing blades.

Dosages can vary between 4 and 20 mL / kg of cement, and will depend on the concrete mix design and the degree of contamination (clays) in the aggregates.

An overdose, at the established conditions, can result in segregation.

For best results, it is recommended to implement good practices for the manufacture of special concrete, such as: preparation of aggregate batches, proper determination of the moisture content at different times of casting to make the necessary adjustments in the mixing water.

e⁵ PCE SUPER A-CLAYS can also be used at the job site to increase the consistency of the concrete mixes. The required dosages will be established based on prior testing.

In situations where it is necessary to increase the retention consistency, due to casting concrete in warm climates, lengthy transportation of fresh concrete, or due to the construction process, the use of our stabilizer **e⁵LS** o **e⁵AI** can be considered during the design stage.

This product should be stirred until a homogeneous mixture is obtained before use.

Consult your **Element5 Integral Solutions Advisor** for the preparation of durable concretes along with economic benefits.

For any questions of the use of the product, please contact the **Element5 Technical Support** Department.

CAUTIONS

- Do not allow freezing of the product
- Never add the admixture directly on the aggregates or with the cement, without its prior initial hydration. These actions will decrease the admixture's efficiency
- In the event of important variations in materials (change of aggregates, cement, etc.), it is necessary to make the required adjustments on the established dosages.
- It is not compatible with PNS (polynaphthalene sulfonate) admixtures
- Always keep the product closed in its original container, away from agents that could contaminate it. Do not damage the containers containing the product, as this may cause spillage. Consult the Safety Data Sheet (MSDS) before handling

Element5 Química Aplicada S.A. de C.V.

guaranties that the product meets the established quality and that it is exempt of fabrication problems.

When the product is outside it's established life, and it has been handled by the user, **Element5 Química Aplicada S.A. de C.V.** does not extend any type of additional warranty, as we have not control the present variables in the application or handling of the product.

The present document only contains general recommendations.

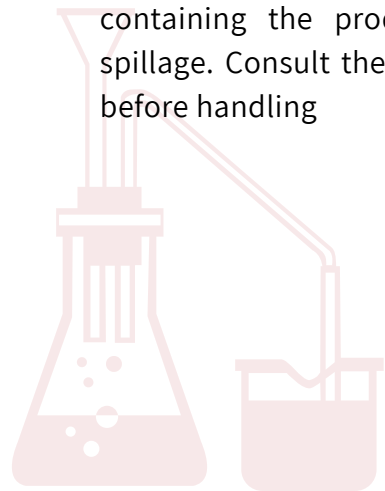
The technical interpretation that derives in specifications of our product is the user's responsibility.

That that is not written in this document and warranty is not contemplated.

If it's necessary to know in detail any data in reference to product or recommendations contact our **Element5 technical support**. Visit our website where our privacy statement is available for you.

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