



Rev 1
08/24



AETERNUM SUB

Reactive formulation with high viscosifying and anti-leaching efficacy for underwater mortars and concretes with high durability (reactive powder concrete, rpc)



DESCRIPTION

AETERNUM SUB is a powder compound adsorbed on active nanomicrosilicates that combines the high pozzolanic activity of the latter with an extraordinary viscosity in the absence of segregation, a remarkable resistance to chemical and atmospheric aggressions and above all an extraordinary impermeability of the cement matrix. AETERNUM SUB is capable of modifying the viscosity of grouts, mortars and concretes with medium dosage of binder for underwater applications at medium to low pressures.

FEATURES

AETERNUM SUB is made up of spherical particles a few hundredths of a micron in size, so that its specific surface is very high: more than 220,000 cm²/g (Blaine). This characteristic gives it a high dispersion and reactivity on cement granules and a high capacity to capture and fix calcium hydrate [Ca(OH)₂] and transform it first into a hydrated silicate and then into stable and irreversible calcium silicate.

It should be noted that in all mixtures containing cement, in order to obtain good workability, it is necessary to use a quantity of water that is always higher than that necessary for the hydration of the cement, this leads to the formation of capillaries and cavities in the hardened cement paste, which are more numerous the greater the quantity of water used.

Despite its very high specific surface, AETERNUM SUB, having a phase transfer inside, guarantees viscous anti-leaching concretes, easy and good workability, without shrinkage and with superior and durable final performance.

AETERNUM SUB captures and reacts with free lime, filling the voids in the cement paste, which makes the conglomerate more compact, more impermeable and more resistant and consequently more durable over time and with better appearance.

AETERNUM SUB is a plasticizing viscosifier that has the property of making concrete and grout cohesive and impermeable to water in its fresh state. The cohesive action ends with the first hardening of the cementitious part without modifying the characteristics of the concrete once hardened.

By virtue of its skilfully combined components, it facilitates casting and improves the performance of the final product, offering greater resistance to aggressive agents and an improvement in durability.

APPLICATIONS

AETERNUM SUB finds its main applications for the installation of grouts or concretes for works, such as:

- walls of riverbeds,
- construction of piers,
- poles
- piping and
- all works where pumping is difficult due to the presence of water.

SHEET



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PECULIARITY

AETERNUM SUB:

- it guarantees the cement paste a high viscosifying-anti-leaching power;
- gives cement paste greater workability;
- facilitates pumping;
- it guarantees the cement paste greater impermeability;
- It guarantees greater durability to the cement paste.

SPECIFICATIONS

Physical Status	dust
Color	grey
Particle size distribution	0 - 30 µm
Density in pile	500 - 700 g/dm ³
Solubility in water	Partially soluble

DOSAGGIO AND HOW TO USE

For the production of premixed grouts, AETERNUM SUB is normally added to the other components during the mixing phase.

For the construction of concrete, AETERNUM SUB is normally added to aggregates and cement, taking care that it is mixed well with them before adding mixing water and qualified superplasticizer according to the strength class of the concrete to be packaged.

AETERNUM SUB is compatible with all the superplasticizers in the TEKNA CHEM range.

The dosage of AETERNUM SUB is a function of the dosage of cement used to package the concrete according to the following table.

Cement dosage (kg/m ³)	Dosage (%)
380-430	2,0
330-380	3,0
230-330	4,0

However, dosages other than those recommended may be used after prior orientation tests.

PACKS

9 kg bags

STORAGE

AETERNUM SUB, if stored in a dry place and in the original bags perfectly closed, is valid for 12 months.

The moisture that may be adsorbed by the product does not affect its effectiveness, but it makes its dosage difficult and imprecise, as well as a homogeneous distribution in the finished mixture. It is therefore advisable to close the bags carefully after each withdrawal.

WARNINGS

AETERNUM SUB is harmless in contact with the epidermis. It can be easily removed with soap and water from any surface. By inhalation it can cause a slight irritation of the upper respiratory tract so the use of a dust mask is recommended.

In case of accidental loss, it must be collected in a dry state and disposed of in an authorized landfill.



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EN 934-2
AETERNUM SUB
High Efficacy Water Reducer /
Superplasticizer Concrete Admixture T
3.1 / 3.2

Maximum chloride content 0.1%
Maximum alkali content 0.1%

No hazardous substances

