



Rev 0
05/21



AETERNUM PLAST

High efficacy reactive formulation for concretes and mortars with high durability specific for extruded concretes and reactive powder concrete (RPC) consistency



DESCRIPTION

AETERNUM PLAST is a powder compound consisting of appropriate new generation modified polymers adsorbed on active nanomicrosilicates that combines, to the high pozzolanic activity of the latter, an extraordinary plasticity, a remarkable resistance both to mechanical compression and to chemical and atmospheric aggressions, as well as a remarkable impermeability of the cement matrix. It improves the face-view of the surface, eliminating whitish efflorescence.

FEATURES

AETERNUM PLAST consists of spherical particles a few hundredths of a micron in size, so that its specific surface is very high: greater than 220,000 cm²/g (Blaine). Characteristic that gives it a high dispersion and reactivity on cement granules and a high ability 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 must be said that in all mixtures containing cement, to obtain good workability, it is necessary to use a quantity of water always higher than that necessary for the hydration of the cement, this involves in the hardened cement paste the formation of capillaries and cavities the more numerous the greater the amount of water used. Despite its very high specific surface AETERNUM PLAST, having inside also a phase transfer, guarantees, without any use of additional plasticizers, concretes of easy and good smoothness, without shrinkage and with superior and durable final performance. Given the chemical conformation of the AETERNUM PLAST (which accelerates the hydration of the cement), it is recommended for the summer season to make some initial qualifications. AETERNUM PLAST added to the cement mixture, captures and reacts with free lime, filling the voids present in the cement paste, this makes the conglomerate more compact, more waterproof and more resistant and consequently more durable over time and with better appearance. If well designed a concrete with AETERNUM PLAST it turns out to have an excellent impermeability. AETERNUM PLAST works by dispersing cement particles and fine parts of aggregates, reduces the amount of water needed to wet their surface and improves the response to vibration.

For some of its components with catalytic action, a better hydration of cement particles is obtained with a consequent increase in resistance at the same a/c ratio.

HOW TO USE

AETERNUM PLAST finds its main applications in all quality concretes and mortars, where homogeneous concretes are required, with excellent visible finishes, especially impermeable to external aggressive agents, with compensated shrinkage, high resistance to bending and compression.

AETERNUM PLAST is used in the preparation of:

- in concretes with a wet earth consistency (slump 0), extruded or vibro-compressed with high durability;
- mortars from plaster and masonry with high durability.

SHEET



TEKNA CHEM S.p.A.

Factory: Renate (MB) - Via Sirtori, z.i. 20838 - Phone +39 0362.91.83.11

Web: www.teknachemgroup.com - E-mail: info@teknachemgroup.com - Fax: +39 0362.91.93.96



However, on every occasion in which the mortar or concrete is required to perform superior performance, such as:

- mechanical resistance
- chemical resistance
- resistance to wear and cavitation
- high waterproofness
- stability and cohesion
- compensated withdrawal
- great face-view
- overall durability
- more workability, with the same a/c ratio, therefore great savings in installation;
- reduction of the a/c ratio, with the same workability;
- better response to vibration operations;
- increased resistance to frost and thaw cycles.

AETERNUM PLAST is also particularly recommended for concretes in which the particle size distribution has an evident lack of fine.

PHYSICAL PROPERTIES

	Dust physical state
Particle size distribution	Silvery color 0-30 μm
Density in pile	400-600 g/dm^3
Solubility in	insoluble water
pH	8.5 \pm 1
Specific surface	20-30 m^2/g

DOSAGE

The dosage of AETERNUM PLAST is on average from 3 – 4 % on the weight of the cement depending on the mixture to be added and the desired characteristics.

However, dosages other than those recommended after preventive orientation tests can be used, with our technical service.

Since the product has an a/c ratio reducer inside, it is advisable to carefully control the amount of water used as an overdose of the latter can cause excessive fluidity, not suitable for concretes with a wet earth consistency.

They always recommend preliminary tests.

CONCRETE SEASONING

The reactions in the pozzolanic environment are quite long and take place in a humid environment; for this reason, a correct seasoning of the mortar or concrete is required in order to avoid too fast drying.

In this regard, it is advisable to protect the jets, during the first hardening phase, with polyethylene sheets and then apply a TEKNAPUR anti-evaporating film on the exposed surfaces, which will avoid too rapid evaporation of the jets, allowing a correct pozzolanic reaction to them.

PACKS

9 kg bags on pallets

STORAGE

AETERNUM PLAST, if stored in a dry place and in the original perfectly closed bags, is valid for 12 months. The moisture eventually adsorbed by the product does not affect its effectiveness,



AETERNUM PLAST



but makes its dosage difficult and inaccurate in addition to a homogeneous distribution in the finished mixture. It is therefore advisable to close the bags carefully after each withdrawal.

WARNINGS

AETERNUM PLAST is harmless on contact with the epidermis.

It is 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 the dust mask is recommended.

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

LEGAL

The information contained in this technical sheet, although representing the most advanced stage of knowledge, does not exempt the user from performing accurate preliminary tests in their conditions of use and operation. We therefore decline any responsibility for the improper use of the product.



1305

TEKNA CHEM SRL – via Sirtori z.i.

20838 Renate (MB) – ITALY

16

1305 – CPD – 1146

EN 934-2

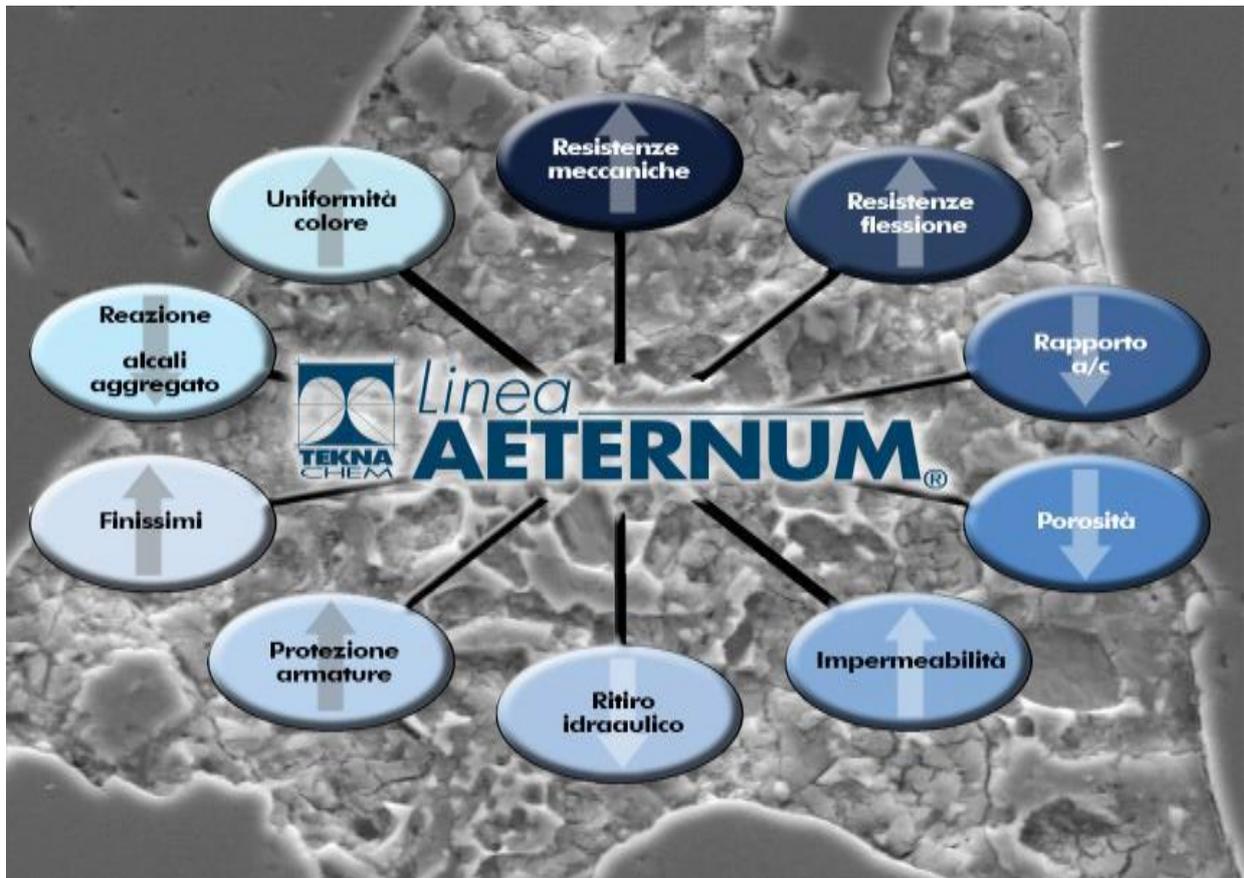
AETERNUM PLAST

High water reducer additive
efficacy / superfluidifying T 3.1 / 3.2

Max chloride content..... 0.1%

Max content of alkalis..... 0.1%

Absent hazardous substances



SHEET



TEKNA CHEM S.p.A.

Factory: Renate (MB) - Via Sirtori, z.i. 20838 - Phone +39 0362.91.83.11

Web: www.teknachemgroup.com - E-mail: info@teknachemgroup.com - Fax: +39 0362.91.93.96

