



Rev 1
01/25



AETERNUM PLAST

High-efficiency reactive formulation for high-durability concretes and mortars specific for extruded concretes, wet earth screeds and reactive powder concrete (RPC)



DESCRIPTION

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

FEATURES

AETERNUM PLAST is made up of spherical particles a few hundredths of a micron in size, so that its specific surface area 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 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 should be noted that in all mixtures containing cement, in order 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 leads to the formation of capillaries and cavities in the hardened cement paste that is more numerous the greater the amount of water used. Despite its very high specific surface, AETERNUM PLAST, having also a phase transferor inside, guarantees, without any use of additional plasticizers, concretes of easy and good flowability, without shrinkage and with superior and durable final performance. Given the chemical conformation of AETERNUM PLAST (which accelerates the hydration of the cement), it is advisable to do some initial qualification for the summer season. AETERNUM PLAST added to the cement mixture, captures and reacts with the free lime, filling the voids present in the cement paste, which makes the conglomerate more compact, more waterproof and more resistant and consequently more durable over time and with a better appearance. If well designed, a concrete with AETERNUM PLAST turns out to have excellent impermeability. AETERNUM PLAST works by dispersing cement particles and the 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 the cement particles is obtained with a consequent increase in resistance at the same w/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 aggressive external agents, compensated shrinkage, with high resistance to bending and compression.

AETERNUM PLAST is used in the preparation of:

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

SHEET



TEKNA CHEM S.p.A.

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

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



However, on any occasion in which superior performance is required of mortar or concrete, such as:

- Mechanical resistance
- chemical resistance
- resistance to wear and cavitation
- high waterproofing
- stability and cohesion
- compensated shrinkage
- excellent façade
- Overall durability
- more workability, with the same w/c ratio, therefore great savings in installation;
- reduction of the A/C ratio, with the same workability;
- better response to vibration operations;
- greater resistance to freeze-thaw cycles.

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

PHYSICAL PROPERTIES

Physical state	dust
Color	silvery
Particle size distribution	0-30 µm
Density in pile	400-600 g/dm ³
Water solubility	insoluble
ph	8.5 ± 1
Specific surface area	20-30 m ² /day

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 may be used after prior orientation tests, with our technical service.

Since the product has a reducer of the w/c ratio 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 moist earth consistency.

They always recommend preliminary tests.

CONCRETE CURING

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

In this regard, it is advisable to protect the castings, during the first hardening phase, with polyethylene sheets and then apply a TEKNAPUR anti-evaporation film to the exposed surfaces, which will prevent 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. Any moisture adsorbed by the product does not affect its effectiveness, but makes



AETERNUM PLAST



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 collection.

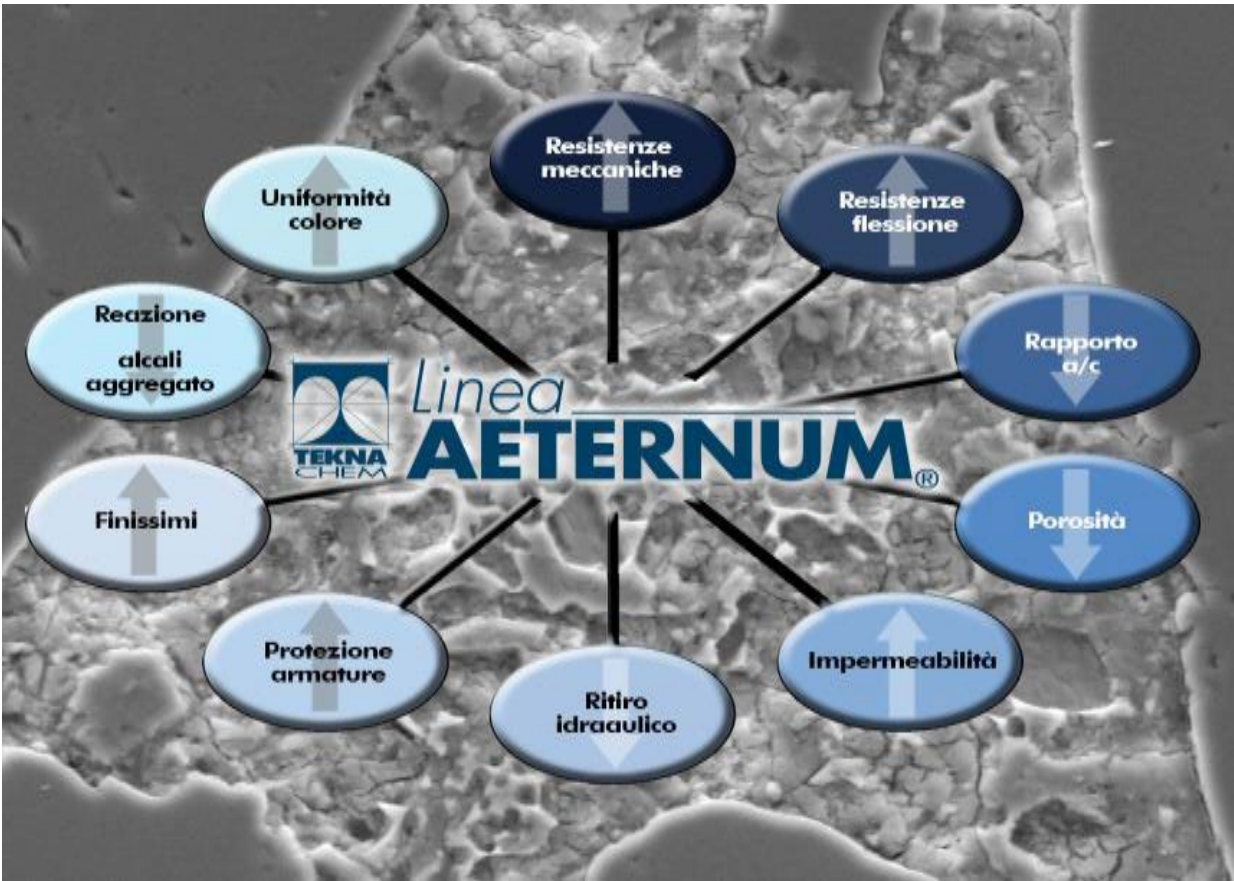
WARNINGS

AETERNUM PLAST is harmless by contact with the epidermis. It can be easily removed with soap and water from any surface. Inhalation can cause slight irritation of the upper respiratory tract so the use of a dust mask is recommended. In the event of accidental leakage, it must be collected in a dry state and disposed of in an authorized landfill.

LEGAL

The information contained in this technical data sheet, although representing the most advanced stage of knowledge, does not exempt the user from carrying out accurate preliminary tests in his own conditions of use and operation. Therefore, no liability is accepted for improper use of the product.

CE
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 / superplasticizer T 3.1 / 3.2
Max chloride content..... 0.1%
Max alkali content..... 0.1%
No hazardous substances



SHEET



TEKNA CHEM S.p.A.
Factory: Renate (MB) - Via Sirtori, z.i. 20838 - Tel. +39 0362.91.83.11
Web: www.teknachemgroup.com - E-mail: info@teknachemgroup.com - Fax: +39 0362.91.93.96

