MICROPLUS

Compound additive, polyvalent in powder, to special finalized concretes

DESCRIPTION

Microplus is a special "additive" , compound, multi-functions (UNI EN 206-1:2006, 3.1.23, TYPE II: pozzolana additives) able to produce deep transformations in cement paste, in the structure and use of concrete. It is the basic product of Betonsafe line, Microplus is made up selected and thickened micro-silicate, caolinic reactive micro-filler, stabilizing agents, alkaline-resistant glass fibres, meta-silicate calcium microfibers. The addition of Microplus gives to concrete a special mix of glass alkaline resistant fibres and meta-silicate calcium microfibers. In addition the reactive filler of Microplus determine a high effect of cohesive thickening of mix and a great increasing of concrete binder, with the aim to give to the fibres the maximum functionality. For this reason the concrete with Microplus can be considered a composite material , reinforced in fibre with elevated efficiency. The addition of Ecomics 180 Fibre, a particular mix of propylene fibrillates fibres, increases the anti-split protection, reducing drastically the water absorption.

PECULIAR ASPECTS AND RHEOLOGICAL EFFECTS

The specific surface of the main component of Microplus , in order to 20-22 m/gram, valued with UNI EN 196-5 (in concrete, for instance, is about 0,5 m^2/gram) determines the very elevated ,hydraulic and pozzolana efficiency of Microplus. The reactive filler of Microplus in addition to the fibres and microfibers, fill the gaps between the concrete granules and aggregates, with a colloidal system which gives to concrete great adhesive cohesive and anti-washing properties. The result is that concretes with Microplus are without segregation and bleeding.

CHEMICAL - PHISICAL EFFECTS

In a ordinary portland concrete the 20% of hydration products is made of free lime or calcium hydroxide $Ca(OH)_2$, which represents the most soluble and unstable element of the concrete, without effective and mechanical resistances. The pozzolana mortar, obtained with addiction of Microplus, is the most effective means able to cancel or reduce drastically the negative influence of the free lime, giving stable conglomerates ,insoluble, at elevated durability. The further effects of elimination or reduction of free lime produced by the action of Microplus, can be summarized with:

- drastic reduction of porosity
- significant increase of mechanical resistances
- increase of density and chemical stability
- extraordinary increase of inherent impermeability

HOW IT IS USED

MICROPLUS must be simply addicted to a correct made up concrete , following the current provisions in particular with UNI EN - 1:2006 " Concrete, specification, performance, production and conformity", in function of a specific way of use, atmosphere of exposition and the values of consistence deriving from the way of installation. The addition of Microplus determines sensible increases in mix cohesion. So the basic concrete must be planned and/or ordered to the plant , with a degree superior consistence class as expected originally. The correct mix and the homogeneous distribution of Microplus , with the components of concrete, are fundamental presuppositions. It must be given a particular attention to prolonged mix, until the safe elimination of lumps. Microplus can also be added as in the batching plant, gradually distributing on the conveyor belt of aggregates, as in the truck mixer in the erecting yard. In the second case the following empiric rule can be taken in consideration: 1' of mix at the highest speed of rotation of mixing drum, for every cube meter of concrete. The concrete with Microplus can be considered a high quality concrete, but it requires the usual cunnings of a good practice in making up, mixing, transport, laying and seasoning, The last one must be particularly accurate and prolonged. The concrete with Microplus can't be easily transported and lain by a pump, but in the most cases, the addition of Microplus makes easily transportable with pump even the most difficult concretes.

USE FIELDS

The classical use field of Microplus is certainly represented by the making up of concretes at elevated impermeability, anti-washing, at elevated containing of micro-clefts, suitable for the building of impermeable and durable structures: tanks, basins, pavements, tunnels, arcades, dams, foundation works, stalls, containing walls, silted up parking etc. The extraordinary characteristics and peculiarity of Microplus allow to define special finalized concrete categories too, suitable for solving complex problems in building trade as civil as industrial, identified in function of changes to introduce to the recipe of making up, originally defined for the specific structure, for the making up of 1 m^3 of concrete, except to indicated in UNI EN 206-2006, regarding the specific qualities of conglomerate.

PACKAGE

Sack 25 kg - Pallet 1250 kg

SPECIAL FINALIZED CONCRETES LEGENDA


Impermeable concrete for silted up structures in presence or not of water-bearing stratum


Impermeable underwater concretes, anti-washing, with the possibility to throw in water


Concretes resistant to abrasion and cavitation, for pavements and areas at elevated mechanical stress and wear


Refractory concretes at elevated thermal resistance for works and structures in critical industrial areas


Concretes, mortars and "betoncini" projected mechanically: guniti, shotcrete, spritz-breton


Concretes at elevated and very elevated mechanical resistance, in short time too (>100 N /mm^2)


Concretes at increased chemical resistance for structures and works in urban, industrial, marine and mountain atmosphere


Light structural concretes with expanded clay: light concretes with polystyrene with more elevated services

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