



Product information

PowerPozz[®] white

Metakaolin - pozzolanic hardening admixture for hydraulic building materials

Description

PowerPozz[®] white is produced by calcination of purified kaolin and is a white, mostly amorphous aluminium silicate reacting with Portlandite (calcium hydroxide) to build cementitious CSH-phases.

PowerPozz[®] conforms to ASTM C-618 (Specifications for Natural and Calcined Pozzolans)

Chemical composition (M.-%, approx.)

SiO ₂	54-56
Al ₂ O ₃	40-42
Fe ₂ O ₃	< 1,4
K ₂ O	< 0,4

Physical characteristics (approx.)

<i>Appearance:</i>		
Colour	white	
Whiteness (Dr. Lange)	ca. 77	
Specific density	2,6 g/cm ³	
Bulk density	0,3 – 0,4 g/cm ³	
Specific surface (Blaine)	ca. 26 000 cm ² /g	
Specific surface (BET)	ca. 20 m ² /g	
Particle size distribution	D ₁₀	~2 µm
	D ₅₀	~ 5 µm
	D ₉₀	~ 25 µm

Function

Portland cement develops 25 % calcium hydroxide (free lime) in its hydration. This alkaline by-product is very soluble and is primarily attacked and dissolved in the presence of acids or sulphates.

PowerPozz[®] special feature is its capacity to bind large amount of free lime in the form of stable CSH-phases. Reactivity and amount of this reaction may be controlled through chemical and construction adequate methods.

In relation to its reactivity PowerPozz[®] can be qualified as „rapid“.



Application

PowerPozz[®] is a pozzolanic mineral additive that may improve many performances of hydraulic cementitious mortars, concrete and analogous products.

PowerPozz[®] is easily mixed in. It gives a soft plastic consistence with good workability in the final product. Through its particle size distribution, no big increase in water demand is given.

PowerPozz[®] has shown its advantages in applications where strength, density and resistance are requested. Because of the finesse, high specific surface and reactivity it is well suited to replace silica fume.

In the following applications PowerPozz[®] has been shown to be very useful:

Plasticity	shotcrete, repair mortars, coatings
Stability	self-compacting mortar and concrete, self-levelling compounds
Strength	high performance concrete (HPC) or mortars (HPM)
Lime binding	tile adhesive, coating of water pipes, precast
Resistance	coatings of waste water or sea water constructions
Pigmentation	better dispersion in precast or visible concrete
Efflorescence	roofing tiles, facade precast
Durability	reduced alkali silicate reaction

Dosage

5 to 15 % replacement of cement by weight.

Stability

Unlimited in dry conditions.

Storage

In protected and dry rooms.

Packaging

In bags of 20 kg or in big bags of 500 kg.

The above information and recommendations are based upon our experience and are offered merely for advice. They do not absolve the consumer from making his own tests. Responsibility for damage arising from the use of our products cannot be derived from the recommendations given. The observance of any intellectual property rights of third parties is the responsibility of the consumer in each case.

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