



## Product information

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### Metaver<sup>®</sup> M

**Metakaolin -  
pozzolanic hardening admixture for hydraulic building materials**

#### Description

Metaver<sup>®</sup> M is produced by calcination of concentrated kaolin and is a slightly beige, mostly amorphous aluminium silicate reacting with Portlandite (calcium hydroxide) to build cementitious CSH-phases.

#### Chemical composition (M.-%, approx.)

SiO <sub>2</sub>	50 - 56
Al <sub>2</sub> O <sub>3</sub>	40 - 43
Fe <sub>2</sub> O <sub>3</sub>	< 1,5
K <sub>2</sub> O	< 2,0

#### Physical characteristics (approx.)

<i>Appearance:</i>		
Colour		cream
Brightness R <sub>457</sub>		> 70
Specific density		2,6 g/cm <sup>3</sup>
Bulk density		350 - 600 kg/m <sup>3</sup>
Particle size distribution	d <sub>50</sub>	< 5 µm
	d <sub>90</sub>	< 12 µm

#### Function

Portland cement develops ca. 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.

Metaver<sup>®</sup> M 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 Metaver<sup>®</sup> M can be qualified as „rapid“.



## Application

Metaver<sup>®</sup> M is a pozzolanic mineral additive that may improve many performances of hydraulic cementitious mortars, concrete and analogous products.

Metaver<sup>®</sup> M 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.

Metaver<sup>®</sup> M has shown its advantages in applications where strength, density and resistance are requested.

Metaver<sup>®</sup> M is approved for usage in concrete according to NF 18-513.

In the following applications Metaver<sup>®</sup> M has been shown to be very useful:

Plasticity	shotcrete, repair mortars, coatings
Stability	self-compacting concrete and mortars, self-levelling compounds
Strength	renders based on lime and cement
Lime binding	tile adhesive, coating of water pipes and reservoirs
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 20kg, or big bags of 500kg and 1000kg.

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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