

Mapefluid PZ504

Super-plasticiser with pozzolanic action for concrete with extended workability

DESCRIPTION

Mapefluid PZ504 is a powdered admixture with pozzolanic action combined with a super-plasticising effect used for making special, ultra-high quality concrete with extended workability, even in hot climates.

WHERE TO USE

Mapefluid PZ504 may be used to great effect in the following cases:

- to make high quality concrete with the ability to resist the most severe conditions when in service (new constructions and restoration work on deteriorated structures);
- to make concrete with special rheological properties that guarantee high thixotropy (cohesive when at rest and plastic when in motion) during application.

Some application examples

Mapefluid PZ504 may be used in various cases:

- new constructions: viaducts, bridges, floors, garages, roads, motorways and airports exposed to de-icing salts in winter;
- major repairs to marine constructions and motorways that have decayed due to aggression

from sulphates and chlorides (dry docks, motorway road slabs, etc.);

- underwater poured concrete with extremely high cohesion combined with extremely high plasticity to prevent leaching of fresh concrete;
- ultra-high quality shotcrete for coating tunnel walls.

TECHNICAL CHARACTERISTICS

Mapefluid PZ504 is a dark coloured powder consisting principally of spherical, submicronic particles of amorphous silica. Their extremely small size (mainly less than 0.1 μm) allows the granules of **Mapefluid PZ504** to fill the gaps between the larger cement granules (0.1-100 μm). The result is a considerably denser, more compact cementitious matrix for concrete that is cohesive and plastic when fresh, it is also impermeable and durable when hardened.

HOW TO USE

Add **Mapefluid PZ504** into the cement mixer together with the other components of the concrete (cement, aggregates and water) at a rate of 20 to 40 kg/m^3 , depending on the type of concrete required. To achieve the maximum performance from the product, we recommend mixing the concrete for at least 5 minutes, to ensure the granules of **Mapefluid PZ504** are as well dispersed throughout the mix.

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Consistency:	powder
Colour:	dark grey
Bulk density (g/cm³):	0.6-0.8
Classification according to EN 934-2:	high-efficiency, super-plasticising, water-reducing setting retardant, according to tables 11.1 and 11.2
Main action:	delays setting of concrete, extends workability and/or reduces the amount of mixing water required
Secondary action:	resistant to water
Classification according to ASTM C494:	type G
Chlorides:	absent

If the amount of **Mapefluid PZ504** and cement/water ratio does not achieve the plasticity required, the workability of the concrete may be further improved by adding super-plasticisers from the **Mapefluid** range without adding more water.

RECOMMENDATIONS

- Do not use **Mapefluid PZ504** for concrete with a relatively low consistency class (S1 and S2). The granules of micro silica may not be dispersed efficiently and the concrete may not be homogeneous;
- Do not use **Mapefluid PZ504** in concrete that has not been mixed sufficiently: at least 1 minute for vertical mixers and at least 5 minutes for site mixers or mixer trucks.

COMPATIBILITY WITH OTHER PRODUCTS

- Aerating agents from the **Mapeair AE** range to make concrete resistant to freeze/thaw cycles.

- **Expancrete** and **Mapecure SRA 25** expansive and shrinkage-reduction admixtures to make compensated-shrinkage concrete or concrete with no shrinkage.

- Form-release agents from the **DMA** and **Mapeform Eco** ranges used to strip form-work from concrete.

- Curing agents from the **Mapecure** range used to protect concrete structures without form-work against quick evaporation of the mixing water.

DOSAGE

The amount of **Mapefluid PZ504** added to concrete varies from 20 to 40 kg/m³, depending on the performance level required.

Different amounts to those recommended above must be tested beforehand on concrete and, in all cases, only after consulting MAPEI Technical Services Departments.

PACKAGING

Mapefluid PZ504 is available in 11 kg bags.

STORAGE

Store **Mapefluid PZ504** in closed containers away from bad weather and damp.

The product complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH) - All. XVII, item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

Mapefluid PZ504 contains cement which, in contact with perspiration or other bodily fluids, produces an irritating alkaline reaction and, in those subjects sensitive to such products, an allergic rash. May damage the eyes.

We recommend using protective gloves and goggles, and to take the usual precautions for handling chemical products. If the product comes into contact with the eyes or skin, wash immediately with plenty of clean water and seek medical attention.

For further and complete information about the safe use of our product please refer to the latest version of our Material Safety Data Sheet.

PRODUCT FOR PROFESSIONAL USE.

WARNING

Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.com

**All relevant references
for the product are available
upon request and from
www.mapei.com**

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