

MAPEFLUID PZ500

Super-plasticiser with pozzolanic action for concrete



DESCRIPTION

Mapefluid PZ500 is a powdered admixture with pozzolanic action combined with a super-plasticising effect used for making special, very high quality concrete.

WHERE TO USE

Mapefluid PZ500 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 PZ500 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 aggressive 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 PZ500 is a dark coloured powder consisting of spherical, submicronic particles of amorphous silica.

Their extremely small size (mainly less than 0.1 μm) allows the granules of

Mapefluid PZ500 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, and impermeable and durable when hardened.

HOW TO USE

Add **Mapefluid PZ500** 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 so that the granules of **Mapefluid PZ500** are as well dispersed throughout the mix as possible.

If the amount of **Mapefluid PZ500** and cement/water ratio employed do 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 PZ500** 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 PZ500** 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

- Chloride-free, hardening-accelerator admixtures from the **Mapefast** range to achieve high mechanical strength after short curing cycles, even in cold climates.
- Aerating agents from the **Mapeair AE** range to make concrete resistant to freeze/thaw cycles.
- **Expconcrete** and **Mapecure SRA 25** expansive and shrinkage-reduction admixtures to make compensated-shrinkage concrete or concrete with no shrinkage.
- Form-release compounds 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 PZ500** added to concrete varies from 20 to 40 kg/m³, depending on the performance level required.

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

PACKAGING

Mapefluid PZ500 is available in 11 kg bags.

STORAGE

Store **Mapefluid PZ500** 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 PZ500 is an irritant containing cement that when in contact with sweat or other body fluids causes irritant alkaline reactions and allergic reactions to those predisposed. It can cause damage to eyes. It is recommended to use protective gloves and goggles and to take the usual precautions for handling chemicals.

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.

TECHNICAL DATA (typical values)	
PRODUCT IDENTITY	
Consistency:	powder
Colour:	dark grey
Bulk density (kg/l):	0.6-0.8
Classification according to EN 934-2:	high-efficiency, super-plasticising and water-reducing agent according to tables 3.1 and 3.2. Water resisting admixture according to table 9
Main action:	increases workability and/or reduces the amount of mixing water required
Secondary action:	resistant to water

Classification according to ASTM C494:	type F
Chlorides:	absent

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



Detail of casting of foundation bed with superfluid concrete admixed with Mapefluid PZ500

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