

Mapeplast LA

**Liquid admixture
for light-weight
mortars and concretes**



DESCRIPTION

Mapeplast LA is a liquid admixture with foaming action for entraining high volumes of air in cementitious mixtures, especially recommended for producing easily pumpable light-weight mortars and concretes.

WHERE TO USE

Because of its foaming action and its ability to form evenly spaced micro-bubbles of air in the cement matrix, **Mapeplast LA** produces light-weight, easily pumpable mortars and concretes with high stability and cohesion. The reduced density of the cement matrix caused by the presence of air bubbles formed by **Mapeplast LA** prevents light-weight aggregates from floating to the surface.

Mapeplast LA is especially recommended for:

- preparing mortars and concretes with natural and artificial light-weight aggregates (pumice, expansive clay, polystyrene) with high insulating capacity;
- preparing high stability super-plastic aerated mortars and concretes with a low modulus of elasticity and tensile strength for filling ground cuts after laying pipes.

Some application examples

Because of its ability to entrain air in the form of

spherical micro-bubbles, **Mapeplast LA** produces light-weight mortars and concretes with remarkable flow properties (high fluidity) and high stability (absence of segregation), especially recommended for:

- light-weight mortars for filling spaces in hollow wall masonry;
- mortars and concretes for filling ground cuts after laying pipes for water and gas lines, sewers, electric and telephone cables, etc.

mortars for backfill grouting of precast segments in tunnels excavated by boring machines.

TECHNICAL CHARACTERISTICS

Mapeplast LA is a water solution of special organic polymers with strong foaming action developed by MAPEI for producing light-weight concretes and mortars with high stability and easy pumpability.

Mapeplast LA is especially effective for producing aerated mortars and concretes for filling ground cuts after laying pipes and also for backfill grouting of spaces between precast segments and the ground in tunnels excavated by boring machines.

The air entrainment action of **Mapeplast LA** produces cementitious mixtures with remarkable rheological properties during pouring (mortars and

Mapeplast LA



Pouring Mapeplast LA in to the mixer



Unloading the foamed concrete from the mixer



Levelling the foamed concrete

concretes that flow like liquids and need no manual or mechanical compaction) and absolute dimensional stability when cured (no settling occurs once the cut is filled).

Foamed concretes made with **Mapeplast LA**:

- fill in cuts perfectly and also provide a perfect seal for pipe joins. The excellent results obtained in filling cuts with foamed concretes and mortars admixed with **Mapeplast LA** prevent the bleeding of water that usually occurs when loose earth or conventional concrete is used for fill;
- prevent the fill material from settling under the load of traffic passing over it. Foamed concretes and mortars produced with **Mapeplast LA** admixture adhere perfectly to the wall of the cut and are as solid as the surrounding ground. Using **Mapeplast LA** prevents the settling that occurs when cuts are filled with gravel or conventional cementitious mixtures, along with the resulting cracks in the bituminous road surface;
- can be easily removed during maintenance or substitution of pipes and cables. Because foamed concretes made with **Mapeplast LA** have only moderate resistance to tensile and shearing stress, the hardened material can be easily removed with even just a shovel.

Whether used for preparing insulating mortars or foamed concretes for filling in cuts, the foaming action of **Mapeplast LA** can be reduced by adjusting the amount used (0.8 to 1.2 litres per m³ of mix). The collateral retardant effect of **Mapeplast LA** increases with the amount used. However, using more than 1.2 l/m³ of mix is not recommended, as this would excessively retard setting time.

The composition of foamed mortars and concretes can vary greatly depending on specific requirements and applications. The technical data table printed here lists only the composition of a typical foamed concrete mix used for filling, and its rheological and mechanical properties.

Compatibility with other products
Mapeplast LA admixture is compatible with other products for producing special concrete, such as:

- all plasticisers and superplasticisers of the **Dynamon**, **Mapeplast**, **Mapemix**, **Mapecfluid** and **Mapetard** product lines for increasing the mechanical properties of concrete; **Antifreeze S** and **Antifreeze Liquid** for reducing setting and curing time;

- fly ash for producing concrete with artificial pozzolan;

- **DMA 1000**, **DMA 2000** or **DMA 3000 Form Release Agent** for releasing concrete from formwork;

- **Mapecure E** or **Mapecure S** curing agents for preventing rapid evaporation of water from concrete cast without formwork (floors).

CONSUMPTION

Dosage by weight

From 0.9 to 1.4 kg for every m³ of mix.

Dosage by volume

From 0.8 to 1.2 litres for every m³ of mix.

When used in mortars for backfill grouting of precast segments in tunnels excavated by boring machines, the dosage is between 0.5 and 2% in volume by weight of cement.

PACKAGING

Mapeplast LA is available in 200 litre drums or in 25 and 10 kg buckets, and in 1000 litre tanks.

Also available in bulk on request.

STORAGE

Store in closed containers, protect from frost and exposure to direct sunlight-weight.

FOR PROFESSIONALS.

WARNING

N.B. Although the technical details and recommendations contained in this report 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 applications; 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.

**All relevant references
of the product are available
upon request**

TECHNICAL DATA (typical values)**PRODUCT IDENTIFICATION**

Consistency:	liquid
Colour:	brown
Specific weight (g/cm³):	1.14 ± 0.02
Dry solid content (%):	32
Principle action:	foaming agent
Collateral action:	retards early hydration when used in high doses
Chlorides:	no
Storage:	12 months in original sealed packaging. Protect from frost
Hazard classification according to EC 99/45:	none. For further information refer to the safety data sheet
Customs class:	3824 40 00

EXAMPLE OF FOAMED CONCRETE MIX

Cement CEM II/A-L32.5 (kg/m³):	120
Water (kg/m³):	180
Mapeplast LA (kg/m³):	1.2
Aggregates (D_{max} = 12 mm) (kg/m³):	1500
Specific weight (kg/m³):	1800
Compressive strength (N/mm²) after: – 3 days: – 7 days: – 28 days:	1 2 3
Tensile strength (Brazilian test) (N/mm²) after: – 3 days: – 7 days: – 28 days:	0.1 0.2 0.5

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