

# Mapeair L

## Air entraining agent

### AREA OF USE

**Mapeair L** is a surface-active agent which promotes the formation of small air bubbles and is used to improve the frost resistance of concrete and mortar.

**Mapeair L** also has a slight water reducing effect and reduces the risk of segregation. The product is normally used in combination with Rescon Mapei's plasticizing and superplasticizing admixtures.

### TECHNICAL CHARACTERISTICS

Concrete always contains a certain amount of air (1-3%). In order to meet the usual requirements of 4-6% air in fresh concrete, **Mapeair L** is added, which produces smaller and more evenly distributed air bubbles, which leads to improved freeze-thaw resistance. Air introduced during mixing is transformed into small evenly distributed pores in the presence of **Mapeair L**. The measured pore volume and spacing factor in hardened concrete is given in the technical data. These entrained air bubbles also improve the workability and reduce the amount of water required. Increased air content leads generally to a decrease in compressive strength. A general guide is that 1% of air reduces the compressive strength by 5%. This is partly compensated for by the reduced need for water and by adding plasticizing and/or superplasticizing admixtures. **Mapeair L** will also improve stability during transportation by reducing the risk of segregation for concrete containing a low volume of fine particles and actively preventing bleeding (transportation of water to the surface of fresh concrete).

### WORKING INSTRUCTIONS

**Mapeair L** is delivered ready for use and can be added directly into the mixer. To obtain an even distribution of air from batch to batch, it is important that **Mapeair L** is added at the same stage

of the mixing procedure each time.

The dosage required to give the desired air content varies with aggregates, cement type and quantity present. Other additives may also have an influence.

It is important that the addition of

**Mapeair L** is determined by trial mixing and that the air content in the fresh concrete is checked regularly.

### DOSAGE

0.05 – 0.5 litres of **Mapeair L** pr. m<sup>3</sup> of concrete.

As the quantity of **Mapeair L** used is usually small, dilution with water is an advantage.

Use 1 part **Mapeair L** to 9 or 19 parts water for a more reliable dosage.

The product dissolves easily in water. Stir before use to ensure a homogenous mixture.

### ATTENTION

Variations in other components in the concrete can greatly influence the formation of air bubbles in concrete. In some cases duration of transport and transportation equipment used can produce variations in air content.

If the mixing time has been too short the total measured air content may increase from production to delivery, whereas in most cases a reduction of air content is observed. Normally this reduction is the result of the release of larger, undesirable air bubbles. The producer must therefore base his calculations on experience with the particular constituents used.

### PACKAGING

**Mapeair L** is delivered in 25 litre cans, 200 litre drums, and 1000 litre containers.

The product must be stored frost-free and may be stored for at least 1 year in unopened original packaging.

### SAFETY INSTRUCTIONS

For health, safety and environmental information, see separate HSE data sheet at [www.resconmapei.com](http://www.resconmapei.com)

### WARNING

*Although the technical details and recommendations contained in this product 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 deliveries from Rescon Mapei AS are made in accordance with the sale and delivery conditions applicable at the time, and these conditions are taken to be accepted on placement of an order.*

**N.B! FOR PROFESSIONALS**

**CE**

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<b>TECHNICAL DATA</b>	<b>Mapeair L is approved as an air-entraining agent in accordance with NS-EN 934-2 by Vattenfall Utveckling. Certification number: 98512</b>
<b>Product specifications</b>	
Type:	Liquid
Colour:	Transparent red
Viscosity:	Low viscosity < 10mPa · S
Solid content, (%):	3.5 ± 0.3
Density, (g/cm <sup>3</sup> ):	1,00 ± 0,02
pH:	7 ± 1
Chloride content, (%):	≤ 0.01
Alkali content (Na <sub>2</sub> O-equivalent), (%):	≤ 0.4
<b>Characteristics of concrete containing Mapeair L:</b>	
Volume of air in concrete mixture (0.07% weight of cement):	4.8% (reference: 1.7%)
Spacing factor, measured in hardened concrete, (mm):	0.18 (requirement < 0.200)
Frost resistance, (kg/m <sup>2</sup> )	0.05 (requirement <0.5 kg/m <sup>2</sup> )

Freeze –thaw cycles measured at Vattenfall Utveckling in accordance with SS 13 72 44 (spalling measured in kg/m<sup>2</sup>)

Concrete	No. of cycles	7	14	28	42	56
Reference concrete	Ave.value, 4 samples	0.26	1.70	3.35	3.88	*
<b>Mapeair L</b>	Ave.value, 4 samples	0.03	0.03	0.05	0.05	0.05

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