

# MAPEAIR 50

Air entraining admixture



## WHERE TO USE

**Mapeair® 50** is an air entraining admixture to improve the frost resistance of concrete and mortar.

**Mapeair® 50** improves workability and reduces the risk of separation.

The product is usually used in combination with Mapei's plasticising or superplasticising admixtures.

## PROPERTIES

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® 50** is added, which produces smaller and more evenly distributed air bubbles, which in turn leads to improved freeze-thaw resistance.

Air introduced during mixing is formed into small evenly distributed pores in the presence of **Mapeair® 50**.

These entrained air bubbles also improve workability and reduce the amount of water required. Increased air content generally leads to a decrease in compressive strength. A general rule is that 1 % of air reduces the compressive strength by 5 %. This is partly compensated for by the reduced water demand and by adding plasticising and/or superplasticising admixtures.

**Mapeair® 50** improves stability during transportation by reducing the risk of separation for concretes containing a smaller amount of fines, and by actively counteracting bleeding (transportation of water to the surface of the fresh concrete).

## DIRECTIONS FOR USE

**Mapeair® 50** is supplied ready to 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® 50** is added at the same stage of the mixing procedure each time.

The dosage required to give the desired air content varies with aggregate, cement type and quantity. Other additives may also have an influence. It is important that the addition of **Mapeair® 50** is determined by test mixing and that the air content in the fresh concrete is checked regularly.

## DOSAGE

0.05 - 0.3 % **Mapeair® 50** by weight of cement of m<sup>3</sup> concrete.

As the quantity of used **Mapeair® 50** is normally small, dilution with water is an advantage.

Use 1 part **Mapeair® 50** 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® 50 is available in 25 liter cans, 200 liter drums, 1000 liter IBC tanks and in tank.

## STORAGE

The product must be stored at temperatures between +8°C and +35°C, and will retain its properties for at least one year if stored unopened in its original packaging. If the product is exposed to direct sunlight, colour variation may occur, but this will not affect the technical properties of the product.

## SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

Instructions for the safe use of our products can be found on the latest version of the SDS available from our website [www.mapei.no](http://www.mapei.no)

PRODUCT FOR PROFESSIONAL USE.

## TECHNICAL DATA (typical values)

### PRODUCT IDENTITY

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Type:                                          | liquid                        |
| Colour:                                        | light brownish                |
| Viscosity:                                     | low viscosity < 20 mPa·S      |
| Solid content:                                 | 19 ± 1 %                      |
| Density:                                       | 1.02 ± 0.02 g/cm <sup>3</sup> |
| pH:                                            | 10 ± 1                        |
| Chloride content:                              | < 0.05 %                      |
| Alkali content (Na <sub>2</sub> O-equivalent): | < 2.0 %                       |

### CHARACTERISTICS OF CONCRETE CONTAINING MAPEAIR® 50:

|                                                 |                                                                |
|-------------------------------------------------|----------------------------------------------------------------|
| Volume of air in concrete mixture EN 12350-7:   | 6 % at dosage 0.05 % weight of cement (reference 2.2 %)        |
| Spacing factor in hardened concrete, EN 480-11: | 0.152 mm (requirement < 0.200)                                 |
| Specific surface, EN 480-11:                    | 25.2 mm <sup>2</sup> /mm <sup>3</sup> (requirement > 25)       |
| Frost resistance (scaling) – EN 12390-9:        | 0.05 kg/m <sup>2</sup> (best classification < 0.1 : excellent) |

## 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 web site [www.mapei.no](http://www.mapei.no)

## LEGAL NOTICE

*The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at [www.mapei.no](http://www.mapei.no)*

ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.

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