

# CONFIX

Mortar for repairs and casting



## APPLICATION AREA

**Confix** is a dry mortar specifically designed for repairs, reinforcement and maintenance of concrete in thickness 10 - 50 mm in areas where strength and density are crucial.

### Some application examples

- Bonded screeds and repair with a monolithic bond.
- Repair of concrete floors.
- Casting of slopes to drains and drainage.
- Casting of coverings.
- General repair of concrete structures.

## TECHNICAL CHARACTERISTICS

**Confix** is a pumpable, cement based, dry mortar with a mix ratio of approx. 1:4 of cement / well graded aggregates up to 4.0 mm and with additives that give good casting results and workability.

**Confix**, which is only to be added water, is designed for maximum density, firmness and low shrinkage. If the mortar is to be sprayed, it's preferable to use the wet method.

**Confix** meets the requirement defined by EN 1504-9 "Products and Systems for the protection and repair of concrete structures: Definitions, requirements, quality control and evaluation of conformity. General principles for the use of products and systems", and the minimum requirements described in EN 1504-3, "Structural and non-structural repair" for structural mortars of class R4.

## RECOMMENDATIONS

- For thicker repairs apply **Confix** in several layers, at horizontal areas or areas with horizontal support **Confix** can be applied in a single layer.
- Do not add extra water after the mixture has started to set.
- Do not use **Confix** if the bag is damaged or previously opened.

# INSTRUCTIONS FOR USE

## TECHNICAL INFORMATION FOR THE APPLICATION

<b>Composition of the mix:</b>	100 kg of <b>Confix</b> approx. 13 kg of water
<b>Application thickness:</b>	10 - 50 mm
<b>Application temperature range:</b>	surrounding and substrate temperature from +5°C to +35°C
<b>Pot life of mix:</b>	approx. 2 hours (at +20°C)
<b>Environment of use (climatic and geographical conditions):</b>	The product can be used in the environmental conditions pursuant to the following exposure classes (EN 206 - Table F.1): X0, XC4, XS1, XD2, XF3, XA1

### Preparation of the substrate

The substrate must be thoroughly cleaned, loose concrete and surface contamination must be removed. Chipping, chiselling or sand blasting might be necessary. Chip surface repair edges 10 - 20 mm vertically into the concrete, thereby avoiding feathered edges. Wet the concrete thereafter, preferably the day before, so that it can dry up again. Standing surface water must not occur.

### Mixing

Mix **Confix** with max. 3.5 liters of clean water per bag of 25 kg. Mix to a homogeneous and lump-free mortar is obtained. Smaller quantities can be mixed with a drill and whisk. Larger volumes are mixed with a mortar mixer or agitator mixer. Mixing time; a minimum of 3 minutes. The consistency is regulated by adding water, but be aware that using a higher volume of water than recommended, approx. 3.25 litres per sack of 25 kg, can result in greater shrinkage, reduced firmness and a poor result.

If the thickness to be laid exceeds 50 mm, we recommend to add approx. 30 % gravel 8 - 12. The mortar must be applied no later than 2 hours after mixing has taken place. Never add more water after the bonding process has started.

Instructions for the preparation of the mortar to create samples for Lab testing are contained in the TECHNICAL DATA table.

## APPLICATION

The mortar is spread with ordinary mason tools, with a pump or suitable spraying equipment - and compacted well. Use at temperatures between +5°C and +35°C.

### Monolithic bonding

To achieve good bonding and transferred adhesion to the substrate, **Confix** can be pasted to the substrate with **Mapepoxy L**. The method is performed wet-on-wet. **Mapepoxy L** is applied to the hardened concrete (substrate) with a brush or with a rubber trowel on smooth surfaces. On larger areas and areas with reinforcement, a hopper gun can also be used. Make sure that **Mapepoxy L** is applied within the adhesive's usage time (depending on temperature). Fresh **Confix** must be applied within the adhesive's open time. If open time is exceeded, cover the adhesive with sand and apply a new layer of adhesive. Bonding of fresh **Confix** to hardened concrete with **Mapepoxy L** can be done at any temperatures when it is appropriate to cast **Confix** without adding antifreeze additives. A more reliable result is obtained if the surface is dry, but some moisture in concrete surface can be tolerated (see separate technical data sheet for **Mapepoxy L**).

### Finishing

**Finishing** is best done to exposed surfaces with the application of the curing compound **Mapecure 1, Cur-Imp** or **Mapecure WG** immediately after casting, and then wetting from the next day and 3 - 4 days afterward. Covering with plastic sheeting is also effective and is preferred when the surface has to be treated.

## CLEANING

Fresh mortar can be removed from tools and equipment with water. Cured material can be removed mechanically.

## CONSUMPTION

Approx. 2 kg per litre of the final, mixed product.

## PACKAGING

**Confix** is supplied in 25 kg sacks, 700 kg and 1200 kg bags.

## STORAGE

**Confix** remains stable for at least 12 months if stored in a dry place.

## 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 IDENTIFICATION DATA

Class according to EN 1504-3:	R4
Type according to EN 1504-1:	CC
Consistency:	powder
Colour:	grey
Maximum size of aggregate:	4 mm
Chloride ion content – minimum requirement $\leq 0.05\%$ - according to EN 1015-17:	$\leq 0.05\%$

### TECHNICAL INFORMATION FOR PRODUCT PREPARATION

Composition of the mix:	100 parts in weight of <b>Confix</b> with 13 % of water
Preparation of the mix:	according to EN 196-1
Curing condition:	CC (according to Annex A – EN 12190)

### CHARACTERISTICS OF THE FRESH MIX (at +20°C and 50% R.H.)

Color of mix:	grey
Consistency of mix:	thixotropic
Density of mix:	2300 kg/m <sup>3</sup>

## FINAL PERFORMANCE

According to curing defined in the test methods

Performance characteristic	Test method	Requirements according to EN 1504-3 R4	Product performance
<b>Compressive strength:</b> - 1 day - 7 days - 28 days	EN 12190	- - ≥ 45 (after 28 days)	> 30 MPa > 50 MPa > 60 MPa
<b>Flexural strength:</b> - 1 day - 7 days - 28 days	EN 196-1	not required	> 5 MPa > 7 MPa > 8 MPa
<b>Modulus of elasticity in compression:</b>	EN 13412	≥ 20 GPa	32 GPa
<b>Adhesion to concrete by pull-off:</b>	EN 1542	≥ 2.0 MPa	> 2.0 MPa
<b>Capillary absorption:</b>	EN 13057	≤ 0.5 kg/m <sup>2</sup> ·h <sup>0.5</sup>	0.09 kg/m <sup>2</sup> ·h <sup>0.5</sup>
<b>Thermal compatibility - freeze-thaw cycles using de-icing salts (50 cycles):</b>	EN 13687-1	≥ 2.0 MPa	> 2.0 MPa
<b>Resistance to accelerated carbonation:</b>	EN 13295	carbonation depth ≤ than reference concrete	test passed
<b>Reaction to fire:</b>	EN 13501-1	Euroclass	A1

NOTES: Preparation of samples: compaction according to EN 196-1.

## 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)

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