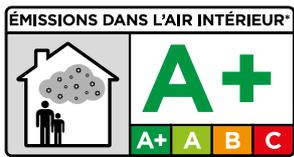




# BENFERCURE FLUIDO

Dripping setting and normal hardening mortar for reparation of degraded concrete structures and for protection against corrosion of reinforcing steel

- Expanding, for fixing and anchoring of metal elements
- Dripping cement based mortars classified R4
- To reparation horizontal thanks to dripping process, or vertical into formwork
- To repair industrial floors
- Water impermeable, it prevents reinforcing steels corrosion
- Impedes the passage of CO<sub>2</sub>
- Resistant to frost and de-icing salts
- For thickness from 1 to 10 cm
- Expanding, for fixing and anchoring of metal elements
- Very low VOC emission
- Permeable to vapour
- To be recycled as inert
- Contains regional inerts
- **CE**



## TECHNICAL FEATURES:

BENFERCURE FLUIDO dripping mortar for reparation of degraded concrete structures and for protection against corrosion of reinforcing steel, conforming to:

- EN 1504-3 CLASS R4, repair and structural recovery of concrete
- EN 1504-7 protection against reinforcing steels corrosion
- EN 1504-6 fixing steel structures

Pot life :about 45 minutes

Compression strength at	24 hours	≥ 30 N/mm <sup>2</sup> ,
	7 days	≥ 45 N/mm <sup>2</sup>
	28 days	≥ 65 N/mm <sup>2</sup>

## CONTRACT ITEM SPECIFICATIONS:

Passivation, structural recovery of concrete elements, concrete structures and deteriorated floors, for fixing and anchoring of metal elements through application of manual dripping or by machine; in wooden structure of dripping one-component cementitious mortar, specific for concrete structures with guaranteed duration, such as BENFERCURE FLUIDO by Benfer marked CE and conforming to performance requirements by norm **EN 1504-7** for the protection against corrosion of reinforcing steel in concrete, and by norm **EN 1504-3, class R4**, for repair and structural recovery of concrete and by norm **EN 1504-2** for protection of surfaces, and **EN 1504-6** for anchoring of metal elements.



TECHNICAL ASSISTANCE



INSURANCE GUARANTEE



TECHNICAL MEETINGS



PROFESSIONAL USE

### **AREAS OF APPLICATION:**

BENFERCURE FLUIDO is a dripping mortar for passivation and reparation of concrete elements, concrete structures and deteriorated floors. Its expanding qualities allow the fixing and anchoring of metal elements such as metal slabs and tie-rods. For its fluidity it is ideal to be used inside construction structures, made for both for vertical and horizontal restoration.

### **METHOD OF USE:**

#### **SUBSTRATE PREPARATION:**

brushed with care until every sign of mortar, debris and corrosion is completely eliminated.

Cementitious surfaces must be solid with a good key and be load-bearing, free from cement laitance, loose particles as well as adhesion inhibiting substances (oil, grease, rubber marks, paint residues or other contamination). Surface preparation is necessary such as e.g. grit blasting, shot blasting, scrubbing or planning to get a good mechanical coupling to the system, and then high pressure jet washing.

The substrate is to be thoroughly pre-wetted but during application the relevant substrate may however only be matt damp. Average surface tensile strength: min. 1.5 N/mm<sup>2</sup>.

In case of renovation of large areas, a steel reinforcement fixed mechanically to the structure is mandatory.

The preparation of substrate with blasting and high pressure jet washing is essential.

For the repair of industrial floors or in any case of horizontal concrete surfaces, we always recommend to seal all the cracks with an epoxy resin REOREP or REOPRIM, mixed with REOFIBRE.

### **PREPARAZIONE DEL PRODOTTO:**

Miscelare 25 Kg di BENFERCURE FLUIDO con il 15% - 17% di acqua, equivalente a 3,75-4,25 litri di acqua.

Versare l'acqua in un contenitore per la miscelazione.

Aggiungere BENFERCURE FLUIDO mescolando costantemente con un mescolatore appropriato a basso numero di giri (circa 300 giri al minuto).

Mescolare a fondo per 2-3 minuti fino all'ottenimento di una malta fluida senza grumi.

Usare un mescolatore professionale per preparare grandi quantità.

Mescolare solo la quantità di materiale che può essere usata entro il pot life (40 minuti a 23°C).

### **PRODUCT PREPARATION:**

BENFERCURE FLUIDO can be applied manually or with machine, dripping it or pumping on the substrate inside the proper structures, well-sealed and previously treated with unarming product with a minimum thickness of 10 mm and maximum of 100 mm.

Fresh mortar must be de-aerated with proper methods, favouring the levelling process at the same time.

At the end of the application protect BENFERCURE FLUIDO, during the grip, from a rapid loss of water caused by high temperature, direct sunlight and by air flows. Keep a cooperative layer made with BENFERCURE FLUIDO along with the other concrete elements including the pre-existing reinforcing iron rods (previously blasted or brushed accurately) and/or by adding an additional reinforcing steel structure, to be fixed mechanically to the structure with a proper process of plugging.

### **FULL SERVICE:**

The pot life of dough is: approximately 40 minutes at +23°C

### **Hardening and protection:**

Protect the surface during, at least, 24 hours after the application of BENFERCURE FLUIDO, against the fast loss of water by using an appropriate expedient (for example covering up with a polyethylene sheet), and against rapid drying caused by direct sunlight, by air flows and/or high temperatures.

The product resistance to compression is  $\geq 30$  N/mm and flexural strength is 6 N/mm<sup>2</sup>, right after 7 days only. The final hardening will be complete after 28 days.

### **ADVICE:**

- During restoration of concrete floors we recommend to apply proper fractionation joints every 20-25 m<sup>2</sup> and respect always the existing structural or/and expansion joints.
- Protect areas not to be treated from the effects of BENFERCURE FLUIDO.
- Cover with suitable sheeting to protect against rain.
- Building substrates and ambient temperatures over +23°C delay setting times and below +23°C accelerate setting times.
- Use only mains or drinking water when mixing BENFERCURE FLUIDO
- Do not add additional water or powder to BENFERCURE FLUIDO which has begun to stiffen in an attempt to restore original consistency. This can result in inadequate bonding.
- Applications that are not clearly explained in this technical data sheet may only be carried out after consultation with and written confirmation from our Technical Services .
- BENFERCURE FLUIDO contains cement that forms an alkaline reaction with moisture. Therefore contact with the eyes and skin is to be avoided and mortar splashes are to be immediately and thoroughly washed off with plenty of water. Seek medical attention from an eye specialist when contact with eyes occurs.
- Store BENFERCURE FLUIDO out of the reach of children.

**CLEANING:** The cleaning of the product must be done with a felt or a damp sponge, before the mortar starts setting.

**CONSUMPTION:** approx. 2,00 kg/m<sup>2</sup>/mm of thickness.

**PACKAGING:** : 25 kg bags.

**STORAGE:** In the original unopened packaging, in a cool and dry place.

**SHELF LIFE:** 12 months.

#### PRODUCT TECHNICAL DATA

Basis:	Grey powder
Colour:	Grey
Storage and duration:	12 months in the original unopened packaging;
Danger of harm:	No. They may cause irritation to skin and eyes due to presence of cement
Flammability:	No
Apparent mass volume:	1,35 kg/dm <sup>3</sup>
Maximum grain size:	1,5 mm
Mix ratio:	16%-18% of water. Approx. 4,0-4,5 liters of water per 25 kg bag
Mixing time:	3-5 min (drilling machine min. 300 - 500 r/min)
Mixture consistency:	fluid mortar
Mass volume:	2,10 kg/dm <sup>3</sup>
pH:	12
Application temperature:	From + 5°C to + 35°C
Spreading:	260-280 mm
Pot Life:	45 minutes* at +23°C
Max.min. thickness:	From 10 to 100 mm
Final hardening:	28 days

Compression strength after 24 hours, 7 and 28 days:	30 N/mm <sup>2</sup> , 45 N/mm <sup>2</sup> , 65 N/mm <sup>2</sup>
Flexural strength after 24 hours, 7 and 28 days:	6 N/mm <sup>2</sup> , 8 N/mm <sup>2</sup> , 10 N/mm <sup>2</sup>
Chloride ions content (EN1015-17):	≤ 0,05%
Binding of adhesion (EN1542):	≥ 2,0 MPa
Shrinkage and expansion (EN12617-4):	≥ 2,0 MPa
Capillary absorption (EN13057):	≤ 0,5 kg
Thermal compatibility part 1 (EN13687-1) freeze-thaw:	≥ 2,0 MPa
Thermal compatibility part 2 (EN13687-2) storm:	≥ 2,0 MPa
Thermal compatibility part 4 (EN13687-4) dry cycles:	≥ 2,0 MPa
Resistance to carbonation: depth of carbonation	- < concrete ref. [ MC (0,45) ]
Reaction to fire:	Class A1
Protection form corrosion:	no corrosion
Cutting Adhesion :	> 80% of value of bar
*at 23°C and 50% of relative humidity	

PLEASE NOTE: The information given in this chart is based on our best experience and indicative only. It must in any event be verified by the end user, who assumes all liabilities deriving from utilization of the product.