



## Betonfix AL

ST10-0221

*Anti-shrinkage self-levelling mortar for fastening and precision anchoring*



### DESCRIPTION

**Betonfix AL** is a ready-to-use, self-levelling, anti-shrinkage mortar with high mechanical resistance for both short and long curing. The product has excellent adhesion properties to the substrate, high resistance to sulphates and is free from chlorides and metal particles.

**Betonfix AL** is CE marked as an anchoring of steel reinforcement according to EN 1504-6. It is CE marked as an R4 mortar in compliance with EN 1504-3 and it conforms to UNI 8147 standard.

### ADAVANTAGES

- High strength even at short curing.
- Thicknesses >10 cm by inerts adding.





### USES

**Betonfix AL** for rigid assembly of prefabricated elements in reinforced concrete, for all types of anchoring, precision anchoring of machinery in general, for under-building, support for bridges, basements for structures in steel or machine tools.

### WORKS

- Anchoring of metal structures and machinery (**SA4**)

### APPLICATION

	Pourable		Curing time Normal: 340 ± 30 mins
			Mixing water: 3,75-4,25 lt/ 25Kg variable according to the desired workability

**Betonfix AL** is ready-to-use on the addition of drinking water, in the quantity shown in the table.

The substrate to be treated must be perfectly clean, free from grease, oil and separating agents in general; roughen the concrete surface with a bush-hammer.

Soak the substrate eliminating any pools of water when casting.

Mix it for about 5 minutes with a cement-mixer or, for small quantities, with a mechanical stirring device and an agitator.

Always add 3/4 of the water required first, then pour the product and the remaining water continuously until you get the consistency required.

Too much water will separate the components and affect its mechanical and chemical characteristics.

Once you get a smooth and lumps free mixture, pour the mortar on one side to let air out from the opposite one.

For large slabs use a slipping method by employing metal reinforcements, suspended pumps and funnels, making holes in the slab for the outlet of air.

For layers more than 10 cm thick, mix **Betonfix AL** with approx. 30% of the washed inert siliceous material with minimum granulometry greater than 6 mm and maximum granulometry depending on design requirements.

### CONSUMPTION

19 Kg/m<sup>2</sup>/cm

### PACKAGING

25 kg multilayer polythene bag

## STORAGE

Protect from humidity.

Store the product in a dry, sheltered place.

Stored in these conditions and in unopened containers, the product remains stable for 12 months.

Characteristics	Value
Appereance	Powder
Colour	grey
Apparent specific weight UNI 9446	1,40±0,1 g/cm <sup>3</sup>
Hazard classification 1999/45/CE e 67/548/CEE	Irritant
Maximum inert material size EN 1015-1	2 mm
Apparent volumetric mass of wet mortar EN 1015-6	2250 ± 50 Kg/m <sup>3</sup>
Consistency UNI 7044/72	> 200 %
Pot life EN 1015-9	200 ± 30 mins
Setting time (start) EN 196-3	340 ± 30 mins
Setting time (end) EN 196-3	480 ± 30 mins
Minimum application temperature	+5 °C
pH of mixture	12 ± 0,5
Restrained expansion UNI 8147	0,06 %
Exudation UNI 8988	None
Adhesion to reinforcement rods	> 8 Mpa *

\*Failure value related to the yield strength of the bar, without extraction

Characteristics	Limits EN 1504-6 "Anchoring of reinforcing steel bar"	Value
Resistance to the pull-out of the steel bars. Moving with a loaded of 75 KN [mm] EN 1881	≤ 0,6	Fulfilling Standards
Compression strength [MPa] EN 12190	> from the 80% of the value after 7 days	In 1 day > 30 In 7 days > 60 In 28 days > 80
Flexural strength [MPa] EN 12190	Not demanded	In 1 day > 5 In 7 days > 5,6 In 28 days > 7
Modulus of elasticity at compression [Gpa] UNI 6556	Not demanded	28
Adhesion on reinforced concrete [Mpa] EN 1542	Not demanded	> 2
Reaction to fire EN 13501-1	Euroclass	A1
Chloride ions content	≤ 0,05%	OK

Characteristics	Limits EN 1504-3 for R4 mortars	Value
Compression strength 28 days UNI EN 12190 [MPa]	≥ 45	In 1 day > 30 In 7 days > 60 In 28 days > 80
Modulus of elasticity on compression EN 13412 [GPa]	≥ 20	28
Chloride content EN 1015-17 [%]	≤ 0,05	0

Characteristics	Limits EN 1504-3 for R4 mortars	Value
Concrete adhesion (EN 1542) [MPa]	≥ 2	≥ 2
Reaction to fire EN 13501-1	Euroclass	A1
Waterproofing (capillary absorption coefficient, EN 13057) [Kg/m <sup>2</sup> .h <sup>1/2</sup> ]	≤ 0,5	< 0,5

## WARNING

Product for professional use. Do not remix by adding water to the product when it has already started to set.

Do not add concrete, additives or other Betonfix mortars. Before using, check bags have not been damaged, and do not use the product if there are any lumps. Use the entire contents once the bag has been opened.

Take all necessary precautions to ensure correct curing of the casting. Do not use at temperatures of under +5 °C. Wet with water for the first 48 hours, or cover with plastic sheets or damp jute bags. Do not use anti-evaporation agents in case other coatings are to be performed.

For further information and advice on safe handling, storage and disposal of chemical products, the user must refer to the most recent Safety Data Sheet, containing physical, ecological, toxicological and other data related to safety.

All technical data shown in this Technical Data Sheet are based on laboratory tests. Actual measurement data may vary due to circumstances beyond our control.

The information and requirements indicated in this Technical Data Sheet are based on our current knowledge and experience and are to be considered, in any case, purely indicative. They cannot guarantee the final result of the applied product and they have to be confirmed by exhaustive practical applications; therefore the user must test the suitability of the product for the intended application and its purpose. Users must always refer to the latest version of the local technical data sheet related to the product.

## TECHNICAL SPECIFICATIONS

### SK4 - Anchoring of metal structures and machinery

Anchoring of metal structures and machinery prior: preparation of the substrate (that has to be perfectly clean, no oil and detaching agents, roughned by bush-hammer); wet the surface to saturation; place the machinery, embedding with mortar Betonfix AL by Kimia S.p.A. or similar product.

The self-levelling mortar for anchoring of machinery, stud bolts of metal structures, rigid connection of structural joints will be prepared and applied scrupulously following the instructions on the technical data sheets provided by the manufacturer and must have the following characteristics:

- Compressive strength in 1 d: > 30 Mpa; a 7 gg: > 60 Mpa; in 28 dd: > 80 MPa;

- Flexural strength in 1 d >5 MPa; in 7 dd: > 5,6 Mpa; in 28 dd: >7 Mpa;
- Elastic secant modulus on compression in 28 dd UNI 6556 : 28000 ± 1000 Mpa.

The product will be CE marked as a reinforcement rod anchoring according to the the EN 1504-6

Mortar will be CE marked as an R4 mortar according to the UNI EN 1504-3.