






BETON FLUID BETON FLUID RAPID

SPECIAL ANTI-SHRINKAGE SUPERFLUID BINDERS

CHARACTERISTICS	ENVIRONMENTAL	METHOD OF USE	PRECAUTIONS
	 ECO GREEN	 MIX MECHANICALLY	 STORAGE: IN A DRY PLACE

PROBLEM

RESTORING CONCRETE AND REPAIRING CONCRETE PAVING



Create patches on concrete or industrial road or airport surfaces in a short time with a quick setting and easy to use mortar. Manhole cover fixing.

SOLUTION

BETON FLUID and **BETON FLUID RAPID** are special binders that, when mixed with water, provide an anti-shrinkage injection mortar. **BETON FLUID**, when mixed with suitable grain-size curve and water, is used to package grout and/or unsegregated shrinking-compensating liquid concrete with very high mechanical resistance and excellent pumpability.

APPLICATION FIELDS

BETON FLUID, when mixed with water only or diluted with a filler with a granulometry lower than 0.1 mm, allows the creation of anti-shrinkage injection mortar to consolidate concrete, masonry and stone structures. It provides restorations with thickness ratios exceeding 10 cm.

ADVANTAGES

- Absence of shrinkage to prevent crack problems.
- Time and money savings compared to traditional solutions, thanks to quick setting and improved workability.
- High workability time

For thicknesses up to 10 cm, dose **BETON FLUID** at 350-500 kg per m³ with a filler with suitable grain-size curve from 0.1 to 4 mm.

For thicknesses up to 10 cm, dose **BETON FLUID** at 300-400 kg per m³ with a filler with suitable grain-size curve from 0.1 to 20 mm (0.5 m³ sand 0.1-4 mm + 0.5 m³ gravel 4-20 mm).

BETON FLUID is used to repair the structure of concrete elements such as:

- concrete slabs and decks;
- coatings of hydraulic structures subject to abrasion;
- special items and draining asphalt.

BETON FLUID RAPID is used to block water flows, consolidate concrete structures, create impermeable basins as well as for the recovery of rocks, land and structures.

When mixed with water only or diluted with a filler with a variable granulometry depending on the uses, it can be used to create injection mortar to consolidate concrete, masonry and stone structures and draining asphalt.

METHOD OF USE

• SURFACE PREPARATION

Remove all the detaching loose parts until reaching good concrete, eliminate any trace of oil, grease and dirt in general.

Roughen the smooth surfaces with mechanical means and wash with pressurised water. Any reinforcing rods must be cleaned until the metal is white and protected with STRATO FER - Index.

If the section of the rods is insufficient after cleaning, replaced them. Any water penetration must be blocked to avoid the washout of the mortar while setting.



• MIX PREPARATION

BETON FLUID must be mixed with clean water while maintaining a water/cement ratio lower than 0.45 by using suitable mixers until a homogeneous and fluid mix with no lumps is obtained. Do not prolong the mixing time beyond 3 minutes, do not use high speed mixers and do not mix by hand.



BETON FLUID RAPID must be mixed with clean water while maintaining a water/cement ratio lower than 0.40. The mix must be carried out by adding powder to the filler already wet with water (1).

• APPLICATION

The **BETON FLUID** mix is applied by pouring into suitable shuttering. While pouring, assist the sliding with iron rods and ensure that the mortar has filled all the cavities (2). Do not remove the shuttering for at least 24-48 hours according to the temperatures. Use an anticurring agent in case of high temperatures or exposure to direct sunshine.

The **BETON FLUID RAPID** mix is applied by pressure injection with suitable equipment. The mix may be applied by pouring into suitable shuttering. It is not necessary to vibrate the (See following)

TECHNICAL CHARACTERISTICS

	Standard	BETON FLUID		BETON FLUID RAPID		
Appearance		Powder		Powder		
Colour		Grey		Grey		
Apparent density	EN 1015-6	1.00 ± 0.05 kg/L		1.00 ± 0.05 kg/L		
Storage in original packaging in a dry place		12 months		12 months		
Mix characteristics and workability	Standard					
Density of mix		1.80 ± 0.10 kg/L		1.80 ± 0.10 kg/L		
pH mix		approx 12		approx 12		
Spreading the mix	EN 13395-1	260 mm		260 mm		
Workable mix duration (*)		approx 40 minutes		approx 20 minutes		
Setting start time (*)		–		approx 30÷45 minutes		
Setting end time (*)		–		approx 90÷120 minutes		
Application temperature		+5°C ÷ +35°C		+5°C ÷ +35°C		
Application		manual or spray		manual or spray		
Performance characteristics	Standard	Product performance		Product performance		
Chloride ion content	EN 1015-17	≤0.05%		≤0.05%		
Resistance to carbonation	EN 13295	Specification passed		Specification passed		
Fire reaction Euroclass	EN 13501-1	A1		A1		
Approximate ratios for the packing of concrete with Rck ~ 50 MPa		Minimun request	Fluid consistency	Super fluid consistency	Fluid consistency	Super fluid consistency
Binder - BETON FLUID/BETON FLUID RAPID	EN 12190		400 kg	400 kg	400 kg	400 kg
Sand	EN 196-1		900 kg	900 kg	900 kg	900 kg
gravel	EN 1015-17		900 kg	900 kg	900 kg	900 kg
Water	EN 1542		160 kg	180 kg	160 kg	180 kg
Resistance to compression - after 28 days	EN 12190	≥45 N/mm²	65 N/mm²		65 N/mm²	
Resistance to compression - after 7 days			55 N/mm²		55 N/mm²	
Resistance to compression - after 1 day			20 N/mm²		20 N/mm²	
Resistance to bending - after 28 days	EN 196-1		8.0 N/mm²		8.0 N/mm²	
Resistance to bending - after 7 days			7.0 N/mm²		7.0 N/mm²	
Resistance to bending - after 1 day			4.0 N/mm²		4.0 N/mm²	

Test conditions: temperature 23±2°C, 50±5% R.H. and air velocity in test area <0.2 m/s. These data may change depending on specific site conditions: temperature, ventilation, moisture and substrate absorbency. (*) The times indicated will be longer or shorter as the temperature drops or rises.

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(See previous)

mortar. In case of very low temperatures, add BETONSAN - Index, anti-freeze powder to the BETON FLUID or BETON FLUID RAPID mix.

• COVERAGE

Coverage is approx 0,4-1,4 kg/dm³.

• PRECAUTIONS

- Do not use with temperatures lower than +5°C or exceeding + 35°C.
- Use cold water in the summer and at around 20°C in the winter.
- Do not add foreign materials such as cement, chalk, lime, etc.
- Do not add water when the mix starts to set.
- Do not wet the surfaces of the construction.
- Store in a dry place, protected from the summer heat and the winter cold.
- For further information or special uses, consult our technical office.

PACKAGING

20-kg-Sack

• FOR ANY FURTHER INFORMATION OR ADVICE ON PARTICULAR APPLICATIONS, CONTACT OUR TECHNICAL OFFICE • IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS •

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