

WHERE TO USE

Preparation of high-strength shrinkage-compensated consolidation slurries, mortars and pumpable concrete.

Some application examples

- Filling cavities and cracks within internally porous concrete, rocks stone and brickwork by pouring or injection.
- Preparing shrinkage-compensated concrete for under pinning.
- Preparing shrinkage-compensated non-segregating concrete for filling rigid joints.

TECHNICAL CHARACTERISTICS

Stabilcem is a powdered cement based binder with special additives to replace cement, to manufacture high quality slurries, mortars and concrete.

Stabilcem is ideal for preparing:

- non-segregating fluid mortars and concrete with a low water-cement ratio.
- concrete that develops high compressive strength at early ages.
- shrinkage-compensated concrete and mortars, provided they are carefully cured under moist conditions for the first 2-3 days.
- slurries that will not separate or shrink.

Stabilcem does not contain metal aggregates.

RECOMMENDATIONS

- Do not use Stabilcem for precision anchors (use Mapefill).
- Do not use Stabilcem if packaging is damaged.

APPLICATION PROCEDURE Preparing the substrate

The substrate must be completely clean and solid. Sections that are unsound or detached, together with dust, cement laitance, and traces of form-release oil must be removed by scrubbing and/or washing with high pressure water-jetting.

Before casting, the substrate must be saturated with water

It is essential that the cavities be thoroughly washed out with water. Beginning from the uppermost injectors and working down, ensure all dirt and loose particles are washed out from lower holes.

This cleaning process must be repeated until all of the internal surfaces are completely clean.

Preparing the mix

Injection slurries:

Pour into a mechanical mixer 6 to 6.4 litres of waters and add a 20 kg bag of **Stabilcem**.

Mix for a few minutes until a fluid slurry without lumps is obtained.

• Mortar and concrete:

In a concrete mixer add enough water, **Stabilcem** and aggregates to obtain the desired consistency. Mix until a homegeneous mixture is obtained.

Applying the mix

• Injection slurries:

Check that the wall is structurally stable to resist the injection pressure (if not, a static up-grade of the masonry is required). Inject the slurry at a pressure of 1-2 atmospheres through the injectors installed, starting from the lowest hole and working up until the cavities are filled.



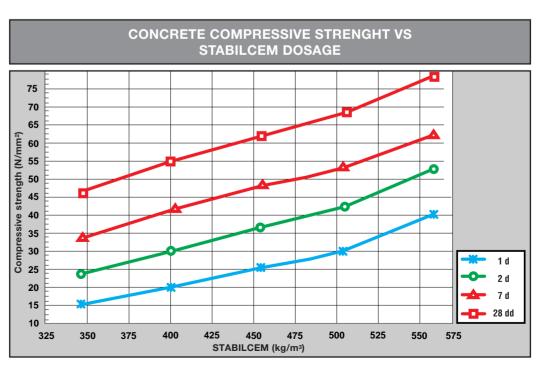
TABLE 1 - Indicative proportions for the composition of mixes with Stabilcem

Max. diameter of aggregate (mm)	5	5	15	15	25	25	30	30
Consistency	plastic	fluid	plastic	fluid	plastic	fluid	plastic	fluid
Stabilcem (kg/m³)	500	500	400	400	350	350	300	300
Sand (kg/m³)	1596	1557	1032	1008	831	813	862	845
Fine gravel (kg/m³)	-	-	687	672	635	632	670	657
Gravel (kg/m³)	-	-	-	-	369	361	383	374
Water (kg/m³)	205	220	190	205	170	185	160	175

Performance of concrete prepared with Stabilcem in various dosages (350-550 kg/m³)

BINDER		H₂O	w/	M.V.	Slump	COMPRESSIVE STRENGTH at +20°C (N/mm²)			
Туре	Dosage (kg/m³)	(kg/m³)	Stabilcem	(kg/m³)	(cm)	1 d	2 d	7 d	28 d
Stabilcem	550	213	0.38	2424	21.5	39.9	51.6	61.2	78.7
Stabilcem	500	213	0.42	2417	20.5	30.1	42.2	53.3	68.4
Stabilcem	450	213	0.47	2409	22.5	25.7	36.8	48.3	61.6
Stabilcem	400	211	0.53	2385	21.5	20.6	30.1	42.0	54.5
Stabilcem	350	209	0.60	2357	21.5	15.3	24.0	34.2	45,7

Max. diameter of aggregate: 8 mm



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TECHNICAL DATA (typical values)					
PRODUCT IDENTIFICATION					
Consistency:	powder				
Colour:	grey				
Specific gravity (kg/l):	0.97				
Dry solid content (%):	100				
Storage:	12 months in original, unopened packing, in a dry place				
Hazard classification according to EC 99/45:	irritant. The product's cement content can irritate eyes and skin, consult the material safety sheet				
Customs class:	3824 50 90				
APPLICATION DATA					
Mix ratio: - for injection slurries: - for mortars and concrete:	100 parts Stabilcem by weight with 30÷32 parts water see Table 1				
Setting time for slurry prepared with 32% water:	< 5 hours begins to set < 7 hours end of setting				
FINAL PERFORMANCES					
Mechanical characteristics of mortar prepared with Stabilcem (EN 196/1) Composition of the mix:	water 225 g Stabilcem 450 g standardised sand 1350 g				
Flow-table (UNI 7044/72) (%):	160-180				
Specific gravity (kg/l):	2.23				
Separation (bleeding):	none				
Compressive strength (N/mm²) at:	1 day > 18 7 days > 42 28 days > 62				
Flexural strength (N/mm²) at:	1 day > 5 7 days > 7 28 days > 9				
Mechanical characteristics of slurry prepared with Stabilcem Mix ratio:	Stabilcem 2000 g water 620 g				
Flow-cone (EN 445):	20-30 sec				
Specific gravity (kg/l):	2-2.1				
Compressive strength (N/mm²) at:	1 day > 30 7 days > 65 28 days > 80				
Flexural strength (N/mm²) at:	1 day > 5 7 days > 6 28 days > 8				
Expansion in plastic phase according to UNI 8996/89 (%):	≥ 0.3				



• Mortar and concrete:

According to the type of work and the consistency chosen, placing on a substrate saturated with water can be carried out either traditionally (by pouring or with a trowel etc.), or using a concrete pump. In order to achieve the best results from the expansive action of **Stabilcem**, the mixture should be placed as quickly as possible. Surfaces that remain exposed after casting must be protected from rapid water evaporation to avoid the formation of superficial microcracks.

Cover surface with damp cloth or spray water during the first days of curing.

Cleaning

Tools used for the preparation and placing of slurries, mortars and concrete made with **Stabilcem**, can be cleaned with water before setting occurs.

After setting has occurred, cleaning can only be done mechanically.

CONSUMPTION

Slurries for injection: 1.6 kg per litre of

cavity to be filled.

Mortars and screeds: 350-550 kg/m³. Concrete: 300-400 kg/m³.

PACKAGING

Stabilcem is available in 20 kg paper bags.

STORAGE

Stored in a dry place in unopened packaging

Stabilcem is stable for at least 12 months.

SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

Contains cement that when in contact with sweat or other body fluids produces an irritant alkaline reaction and allergic reactions to those predisposed. Use gloves and protective goggles. For further information refer to the safety data sheet.

FOR PROFESSIONALS.

WARNING

N.B. Although the technical details and recommendations contained in this product report 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 applications; 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.

All relevant references of the product are available upon request



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