



FIELD OF USE FOR 4th DIVISION PRODUCTS

BETONSAN

**POWDER ANTIFREEZE ADDITIVE
FOR CEMENT MORTAR AND CONCRETE (WITHOUT CHLORIDES)**

PROBLEM

Site cast concrete or plaster mortar often requires the use of antifreeze to favour the setting of the cement when the temperature drops below 0°C, thus avoiding damage caused by frost.

DESCRIPTION

BETONSAN is a powder mineral additive, ready to use, which acts as an antifreeze.

The high concentration of mineral salts contained in BETONSAN, with the same alkalinity as the cement, stops the corrosion of reinforcing rods and metal formworks; it accelerates the hardening action of the cement and increases the resistance.

BETONSAN prevents the water in the mix from freezing, something which could stop the hydraulic reactions of the cement. BETONSAN is chloride free.

FIELDS OF USE

BETONSAN is used in order to make site casting concrete possible in temperatures as low as -10°C. It is particularly suitable for all of those jobs where using a chloride based additive would increase the risk of corrosion.

BETONSAN is used for:

- concrete foundations;
- reinforced concrete;
- cement mortar and plaster.

COVERAGE

1% of the weight of the cement (1 kg per 100 kg of cement). When using the product at temperatures below -5°C, double the dose of BETONSAN.

PRECAUTIONS

The use of BETONSAN does not exclude the meticulous observance of the rules and advice regarding site casting concrete in winter months. (RI-LEM directive for site cast concrete in winter).

- Preferably use cement with a high hydration power (R425, R525).
- Avoid using too little cement (<300 kg/m³).
- Avoid excessively high water/cement ratios.

- Use water at 20°C for the mix.
- Defrost any aggregates before use until they reach a temperature a few degrees above 0°C.
- Work fast.
- Do not cast the concrete on frozen supports.
- Protect the cast concrete with mats, paper bags or plastic sheets.
- If possible, fit the casting into the work plan of the site to coincide with the warmest hours of the day.
- Do not cast if the temperature is expected to drop below -10°C during the following 12 hours.
- Store in a dry place.

SAFETY REGULATIONS

- BETONSAN additive is harmful if inhaled or swallowed.
- Do not throw residues down the drains.
- Do not inhale the BETONSAN powder.
- Avoid contact with the skin.

METHOD OF USE

PREPARATION OF THE MIX

BETONSAN powder should be pre-mixed with the cement and aggregates before adding water to the mix.



Preparing the mix

BETONSAN

TECHNICAL CHARACTERISTICS

Appearance	powder
Colour	off-white
Specific weight (volumetric mass)	1.00 ± 0.01 kg/litre
Solubility in water	partially soluble (50%)
Flammability	not flammable
Shelf life in the original containers	24 months



NON DANGEROUS
WASTE

ADVANTAGES

- Accelerates hardening even at low temperatures.
- The final resistance properties are equal to or higher than those of concrete cast without the additive.
- Protects concrete castings and mortar from low temperatures according to the dose used, down to -10°C.
- Not containing chlorides it guarantees the integrity of reinforcement and metal structures.

PRODUCT



PACKAGING

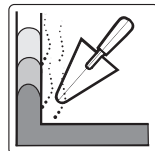
Boxes of 25 x1 kg bags.

index
Construction Systems

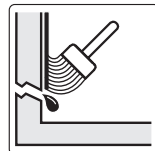
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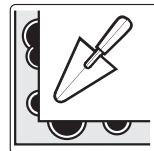
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- IN ORDER TO CORRECTLY USE OUR PRODUCTS, REFER TO INDEX TECHNICAL SPECIFICATIONS



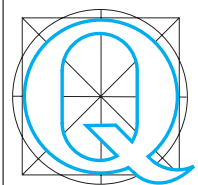
Restoration of damp masonry using damp-proofing renders



Waterproofing with vapour permeable cements



Concrete refurbishment



TOTAL QUALITY
Q.S. ISO 9001

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The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX S.p.A at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Consider