

ULTRABETON *Waterproof*



CONCRETE WATERPROOFING PRE-DOSED HIGH RESISTANCE (Rck 45 N/mm²) FOR STRONGLY AGGRESSIVE ENVIRONMENTS

Composed by: siliceus compound (0/10 mm) reactive pozzolanic, plasticisers and hydrophobising additives, concrete (compliant with the prescriptions of UNI EN 197-1).

PLUS

- ✓ **STRUCTURAL** (Rck 45 N/mm²)
- ✓ **WATERPROOF** (Penetration H₂O = 10 mm)
- ✓ For **STRONGLY AGGRESSIVE ENVIRONMENTS**
- ✓ Excellent **WORKABILITY**

FIELDS OF USE

- Underground structures (walls, floor slabs, basements, underground car parks and so on.).
- Swimming pools.
- Tanks for drinking water.
- Irrigation canals.
- Tanks for sewage treatment plants.
- Tanks for liquid and pollutants (within the limits of Exposure classes).
- Building castings in an environment where:

Exposure class

	UNI EN 206 (abroad)	UNI 11104 (Italy)
Dry – wet cycles (for ex. concrete view in the urban environment)	XC4	XC4
Chlorides (immersed in swimming pools and even partially exposed)	XD3	XD3
Sea spray and waves	XS3	XS3
Freeze/thaw, WITHOUT deicing salts (Frequently wet, exposed to frost)	XF3	XF3
Freeze /thaw WITH de-icing salts (Also frequently wet with sea water, exposed to frost)	XF4	XF4
Chemical attack (tanks for sludge and wastewater)	XA1	XA1*
Chemical attack (aggressive soils)	XA2*	XA2*
Chemical attack (industrial water very aggressive, silos of fodder and feed, tanks animal sewage, industrial fumes and exhaust gas)	XA3*	XA3*

For classes marked with * the product is available only on request. Request a quotation to the Office Research & Development

APPLICATION

- Pour the entire content of the bag (not only a part of it) in a cement mixer or a TURBOMALT mixer. Do not mix more than **3 minutes**. Is possible to mix manually the product, but it has to result uniform.
- **Use the quantity of water listed below.**



HOW TO USE

- Time for spreading within 20 minutes from the mixing.
- Interruption and resume of the casting: not more than 20-25 minutes.
- Suitable pump for concrete (if needed).
- Flooring use: make expansion joints every 16-20 m².

MAIN TECHNICAL

MIXTURE WATER	about 1,1-1,4 liters per bag
DENSITY (hardened)	2.300-2.400 kg/m ³
TYPICAL COMPRESSIVE STRENGTH (28 days)	Rck 45 N/mm² Class 35/45
PENETRATION OF WATER in PRESSURE (5 atm for 72 hours → UNI EN 12390-8)	≤ 10 mm Equivalent to a water column of 50 meters!
WATER CONSUMPTION in IMMERSION (for 72 hours)	≤ 4 %
CLASSES OF EXPOSURE	See table
SOLIDITY CLASS	S4 (fluid)
Maximum diameter of aggregates	10 mm
CONSUMPTION	about 84 sacks/m³ of mixture
(For more information see the "Technical Data" on the Gras Calce site)	
PACKAGE	SACKS of polyethylene of 25 kg

ADDITIONAL TECHNICAL DATA

SETTING TIME	IP = 5 h / FP = 7 h
CONCRETE DOSAGE	390 kg/m ³
RATIO WATER / CONCRETE	0,45

DANGEROUS SUBSTANCES

ASBESTOS (D.M. 14/05/96 Art. 4 All. 4)	absent
CHROMIUM VI HYDROSOLUBLE (D.M. 10/05/04)	< 2 ppm

Technical data are mean values got from analysis done on several samples of products.

WARNINGS

- For exposed casting: use a single production batch to have a uniform chromatic effect.
- Temperature from 5°C to 35°C.
- With a temperature more than 25°C protect the casts: keep the surface wet or cover it with polyethylene sheets.
- Avoid any add to the original compound.
- Professional use only.

STORAGE AND PRESERVATION

- **6 month** inside its intact bag, in cool area also outdoor.
- Do not expose to the sunlight more than 30 day to avoid the damage of the polyethylene bag.
- When the polyethylene bag is removed, protect the bags from the rain.

IMPORTANT NOTE

GRAS CALCE S.p.A. periodically tests the features and performance of its products in the laboratory, according to the regulations in force and their compliance with the values shown in the specific technical files.

Each product is able to assure the intended performance on site only if it is stored beforehand, prepared and used correctly and adequately, complying with all the specified technical instructions and warnings.

Any deviation from the above mentioned indications (water dosage, mixing time, site environmental temperature and humidity, etc.) may significantly alter the product's features and performance. For these reasons it is essential for the Firm and Clerk of Works to carry out preliminary tests on site to validate the product in order to parametrise it to the various requirements and application conditions.

WATER DOSAGE

In order to define the correct addition of water to the product, having to comply with the fluidity indicated on the specific technical sheets, repeatedly test during use the consistency of the mixture obtained (measuring the SLUMP), initially mixing with the minimum water quantity. In any case do not add water over the maximum set forth by our instructions.

The instructions and warnings set out on this sheet arise from our best experience and product performance refers to laboratory tests carried out in standardised conditions. All this information should be considered as purely indicative since the real site and application conditions of the product may lead to significantly different effects and results. Therefore the user must always check, even through preliminary tests, the suitability of the product with the intended use, undertaking all liability for the use they make. GRAS CALCE spa reserves the right to make technical changes without prior notice. Check the GRAS CALCE spa website to ensure the sheet revision is the one currently in force.