

# Expansive Cement

The field of action of expansive cement is practically unlimited: one can use it to break, cut out and dismantle the reinforced rocks, concretes and concrete when the use of explosives is impossible for reasons of safety.

It is use to brake, to cut and to demolish rocks, hardened and Ferro concretes, exerting in the walls of the hole a force up to 8000 t/m<sup>2</sup>, that fracture the material.

*perfuração e desmonte de rocha*

The expansive cement is a highly ecological product because it does not free gases and it does not produce residues harmful.

## WHERE IF IT CAN USE CEMENT EXPANSIVE?

On any rocky formation and hardened workmanship of, of hardened armed or bricks, and for the works that follow:

- Excavation of foundations;
- Levelling of rocks for the road works;
- Digging of ditches for installation of canalizations;
- Underground mining;
- Maritime works;
- Eliminations of boulders;
- Demolition of pillars, beams, walls, berms, and others of hardened cement or armed;
- Demolition of foundations;
- Demolition of break-seas;
- Demolition of workmanships of bricks.

The expansive Cement is technically ideal and allows economies as for:

- Limited demolitions of rocks or cement structures where the buildings cannot be damaged by the vibrations generated for explosives.
- Cutting of blocks of marble, cheaper than the helical cut, in the industry of ornamental rocks.
- Excavation or demolition of rocky formations or cement elements, where the explosive use is demonstrated anti-economic due to the short period of execution of the job, because it does not need license for its purpose.



## APPLICATION EXPANSIVE CEMENT

The expansive cement is a dust that must be mixed water in the ratio of 30% in weight. That is, taking a container each packing of 5 kilos is mixed 1,5 lts of water. The water is added to the dust slowly mixing it until reaching a creamy, fluid folder. Folder in the holes previously prepared is lain down to it.

The horizontal holes must have a slight inclination so that the product drains with easiness. The holes do not have to be covered, and only in rain case, they must be covered with an impermeable material.

It should not exist water inside the holes, in case of great infiltrations, or where imperfections exist that does not allow the wadding, we advised to place plastic sleeve (that we can supply), and after, fill it.

The distance between holes varies in function of the diameter of the same ones and the type of material to demolish or to cut.



### Advantages of the Expansive Cement:

- Everyone can use it in any situation; therefore the expansive cement is safe, quiet, and absolutely not dangerous, does not provoke flying of debris, survey of dust, formation of gases, or any type of vibrations.

To use expansive cement it is not necessary a license as it happens with the explosives. The action of demolition or cut can at any time be interrupted; just by removing the inserted product in the hole with a new perforation of the same hole.

- Particular problems for the conservation with the expansive cement do not exist since that the containers are not violated and that these are conserved in dry small farms. For the expansive cement, it does not exist problems how much erratic the electric or current discharges.

### TYPES of EXPANSIVE CEMENT

- To use with inferior temperatures 5°C
- To use with temperatures between 5°C and 20°C
- To use with temperatures between 20°C and 35°



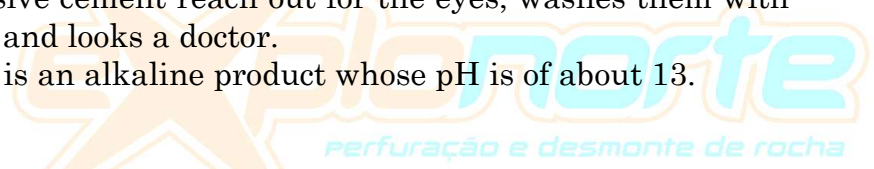
### PRECAUTIONS NORMS FOR USE OF EXPANSIVE

Don't approach the face of the holes during the 2 to the 3 first hours that follow: it is possible (rarely) that it produces a dust expulsion violent if not to respect the use conditions.

Don't introduce expansive cement mixed: in a narrow or having an opening smaller than the deep, receiving containers of glass as bottles, bottles, etc.

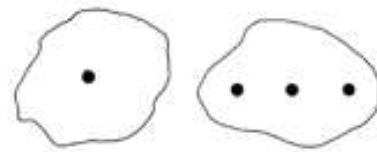
In case that the expansive cement reach out for the eyes, washes them with the water immediately and looks a doctor.

The expansive Cement is an alkaline product whose pH is of about 13.

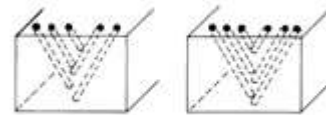


### INFORMAÇÃO PARA APLICAÇÃO DE CIMENTO EXPANSIVO

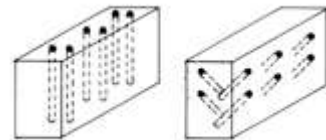
The distance between the center of the holes, for armed concrete must be of 40/80cm, varying in function of the diameter of the holes and 15 the 25 cm for rocks.



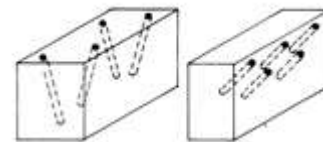
To use expansive cement the best way and to get the desired results we advise to make some tests before uses it, in great amounts.



The holes with great diameters and closer speed up the rupture times.



For the use expansive cement in very absorbent materials, as the cement, we must moist the holes before placing the mortar, certifying itself of that it has not remained water inside of the hole.



The figures present some systems of perforation that we advise to be used for:

- Boulders
- Opening of ditches
- Demolitions
- Starting Cuts
- Cutting of blocs for ornamental industry



The esteem expansive cement consumption dust for 1 ml of hole is:

Diamete r	30	32	34	38	40	45	50
Kg.ml	1.1	1.2	1.5	1.8	2.0	2.6	3.0

