



constructive solutions

Fosroc Chemical Breaker®

Non explosive demolition powder

Uses

Fosroc Chemical Breaker has been designed for demolition of concrete, rock and boulders in environmentally sensitive areas where vibration must be minimised. It is also suitable for controlled splitting of concrete, rock, boulders and quarrying of natural stone that will be accomplished smoothly and efficiently with superior yield in shorter time.

Advantages

- **Safe:** Can be used by personnel without explosive training.
- **Simple :** Requires only mixing with recommended quantity of water to activate.
- **Quiet :** No explosive sounds or vibration.
- **Controlled :** Eliminates hazard of flying rock.
- **Versatile :** Range of grades available to meet all application requirements.

Description

Fosroc Chemical Breaker is a special blend of cements and additives to provide a sustained expansion after setting. This expansion creates the fragmentation.

Three grades are available for use in temperatures.

10 - 20 °C	Type A
20 - 35 °C	Type B
35 - 50 °C	Type H

Technical Support

An experienced technical advisory team is available to give technical service on request.

Properties

Expansion :

Expansion forces more than 30 N/mm² are typically achieved in a period of 18 - 24 hours. This acts against the tensile strength of the material to be fragmented.

Application instructions

Preparation

A pattern of holes should be established, bearing in mind need to create a free face. Typically, the hole spacing will be about 10 times the hole diameter. The spacing chosen will depend upon the degree of fragmentation desired. The holes should preferably be greater than 25mm dia and 500mm length.

Do not use in holes greater than 50mm diameter. For greater hole diameter consult Fosroc.

Application

The recommended water powder ratio is 0.25 to 0.30 for all grades.

Using Table 1 the quantity of powder needed can be calculated based on diameter, length and total number of holes. A measured quantity of water should be placed in a mixing drum. Water should not exceed 3 litres per 10kg of Fosroc Chemical Breaker.

The powder should be added to the water, being continuously stirred with a hand mixer or drill and paddle until a lump free, even consistency is obtained.

The mixed material will become a light gel within a maximum of 15 minutes from mixing. For ease of placing the grout should be poured into the holes before this time has elapsed.

Care must be taken to ensure that the grout level is flush with the mouth of the hole. Cover the mouth of the hole by sacking or sheeting directly after filling, then retire immediately.

After placing, Chemical Breaker should be left undisturbed until full cracking has taken place upto 24 hours after pouring.

It is recommended that the work area is cordoned off with warning signs.

Estimating

Storage

12 months in unopened pack if stored in dry environment. Opened packs should be tightly resealed, kept in dry conditions and used within 1 month of opening.

Packaging

Fosroc Chemical Breaker is supplied in 10 kg sacks.

Fosroc Chemical Breaker®

Precautions

Health & Safety

Fosroc Chemical Breaker is alkaline and gloves should be worn.

It is recommended not to exceed the maximum temperature limits and maximum hole dimensions as specified for each type of the product.

Do not fill the product into the holes which have caves. Goggles or face visors should be worn at all times during the use of the product.

Water should be kept available for rapid washing of any splashes, especially to the eyes. Use fresh water temperature below 25°C for mixing. Mixing quantity should not be more than 20kgs of powder.

Never look directly over or into the holes until the splitting process is complete.

Any eye contamination should be washed with copious quantities of water and medical attention sought immediately.

Do not plug the holes after filling.

After filling and during curing process, designate the work site as prohibited and off limit.

Table 1 : Quantity of Fosroc Chemical Breaker (kg) per meter of hole

Water Powder ratio (%)	Hole diameter in (mm)									
	30	32	34	36	38	40	42	44	46	48
25	1.259	1.432	1.617	1.813	2.020	2.238	2.467	2.708	2.960	3.223
27	1.216	1.383	1.561	1.750	1.950	2.161	2.382	2.615	2.858	3.112
30	1.156	1.315	1.485	1.664	1.855	2.055	2.266	2.486	2.718	2.959

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