



# INSTRUCTION MANUAL FOR USA AND CANADA

**BETONAMIT® – The explosion-free demolition agent**  
For breaking up rock and concrete

Product made by  
KUBATEC BMT AG

[www.betonamit.com](http://www.betonamit.com)



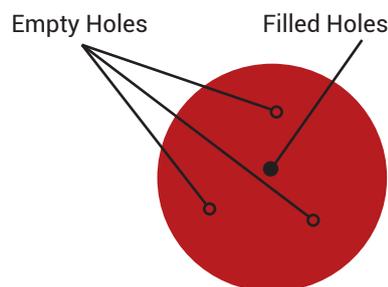
Betonamit has been used safely and with great results by thousands of contractors and homeowners all over the world. Safe use depends on following instructions and wearing safety goggles at all times. Although non-toxic, Betonamit is caustic, and can cause severe eye injury if splashed into eyes while mixing or pouring.

Also, the chemical reaction of Betonamit and water generates heat. If this reaction goes too quickly, the temperature can go above the boiling point of water before all the water has chemically combined with the Betonamit. This can result in a steam-driven explosion which blows the Betonamit from the hole with sudden force.

To avoid blowouts, follow the instructions regarding mix water temperatures and hole sizes, as told later in the manual. Always wear safety goggles, and never use drill holes larger than 1 ½" diameter. Blow dust out of the holes after drilling, and keep Betonamit cool before use.

## Hole depth

1. Maximum hole depth is 10 feet.
2. Minimum hole depth is 4 times hole diameter; for example, 5" with 1 ¼" hole, 6" with 1 ½".
3. Holes less deep than 4 times diameter are likely to blow out.
4. In reinforced concrete, drill 85 to 90% of its depth. In ledge, drill as deep as you want to remove. In boulders, drill 2/3 to 3/4 of the rock's thickness.



## Hole pattern

1. Holes must be drilled so as to allow a free face for the Betonamit to push toward. For example, drilling at 45° angle in a flat surface of ledge will push it upwards, but drilling straight down might not allow anywhere for the pressure to go.
2. To demolish a slab without pushing out the walls which surround it, drill a cone shaped pattern at the center and fill these holes first. The cone will pop upwards and create a free face.
3. Hole pattern depends on tensile strength of what you're breaking, amount of rebar if any, and the size of the pieces you want when you're done. This can often be determined by experiment; a good starting point is to space holes one foot on center in rows one and a half feet on center. In non-reinforced concrete, holes may be spaced as far apart as 24".
4. Hole pattern also depends on how fast you need results. More holes spaced closer together will give faster break times and smaller pieces, but this costs more in labor and Betonamit.
5. Boulders are much easier to break than reinforced concrete or ledge, and drill holes can be spaced further apart, especially if breaking speed is not critical.
6. When removing part of a slab, you will want to prevent cracks from spreading into the rest of the slab. Drill holes 6" on center in a line between the „demolish“ section and the „keep“ section, then fill every third hole. The empty holes form weak points and prevent cracks from spreading into the „keep“ section.
7. Empty holes can also be used to direct cracks – they cost less than filled holes. For example, if you want to break a boulder into thirds, you can use this pattern: This will save money compared to filling all the holes, but will slow down the breaking time.



## These instructions are essential for safe and effective use of Betonamit

### Temperature chart:

Rock or concrete temp	Water temp(°F)	Hole size
25 to 40°F (-4 to +5°C)	80°F (26°C) max	1 ½" dia.
41 to 57°F (+5 to +14°C)	75°F (24°C) max	1 ½" or 1 ⅜" dia.
58 to 72°F (14 to 22°C)	60°F (15°C) max	1 ¼", 1 ⅜", or 1 ½" dia.
73 to 80°F (23 to 26°C)	40°F (4°C) max (Iced)	1 ¼" or 1 ⅜" dia.
81 to 95°F (27 to 35°C)	33°F (0.5°C) max (Iced)	1 ¼" dia.

### Notes:

1. Hole temperature can often be reduced by waiting until late night or early morning.
2. When rock or concrete is above 65°F, keep the Betonamit as cool as possible before use.
3. When rock or concrete is above 85°F, store Betonamit in a cooler with ice or in a refrigerator before use.
4. When rock or concrete is above 73°F, do not mix more than one 5 kilo container at a time.
5. Measure the rock or concrete temperature – **DON'T GUESS!** Tie a string onto the thermometer and lower it into the drill hole.

When rock or concrete is above 73°F, add 5 ounces of extra water per 5 kilo container, 33°F (iced). Over 95°F cool holes with cold water, then blow out before installing Betonamit.

### Mixing Betonamit -Type R (liquid)

1. Read this manual 100% before using Betonamit.
2. **Wear safety goggles** and clear the area of all non-essential personnel.
3. Measure temperature of drill holes.
4. Dump one 5 kilo container of Betonamit into bucket.
5. Add one liter of clean water of proper temperature to plastic mixing bucket. See temperature chart on preceding chapter.
6. Begin mixing immediately with ½" electric drill with mixing attachment.
7. Betonamit will seem dry at first -do not add more water!
8. **Once mixing begins, you have only 5 minutes to finish mixing and fill holes.** Do not stop to take a phone call or fool around. Longer mixing times increase likelihood of blowouts.
9. Fill holes as quickly as possible. Do not use a funnel. Do not plug holes or place heavy objects on holes.
10. Cover holes with a tarp if people will remain in the area -especially in hot weather, when blowouts are more likely to occur.

### Notes:

1. Never fill glass or metal containers with Betonamit, or any container which widens towards the bottom.
2. Never pump Betonamit.
3. Mixing by hand lengthens mix time and is more likely to result in a blowout.
4. When rock or concrete is above 73°F, add 5 ounces of extra water per 5 kilo container (33°F, iced).

## Estimating quantity required

### Type R (liquid) 5kg.

Each 5 kilo container will fill 7 ½ linear feet of 1 ½" hole, 10 linear feet of 1 ¾" hole, or 11 feet of 1 ¼" hole.

**For 1 ½" holes:** # of holes x depth in feet divided by 7.5 = # of 5kg containers needed.

**For 1 ¾" holes:** # of holes x depth in feet divided by 10 = # of 5kg containers needed.

**For 1 ¼" holes:** # of holes x depth in feet divided by 11 = # of 5kg containers needed.

## Mixing Betonamit – Type S (putty) additive

Betonamit Type S is an additive that you add to the Type R mix and it forms a putty instead of a liquid, for use in horizontal holes, uphill and overhead holes, and holes with water seeping in.

1. Read this manual 100% before using Betonamit.
2. Wear safety goggles and clear the area of all non-essential personnel.
3. Measure temperature of drill holes.
4. Dump one 5 kilo container of Betonamit Type R and the Type S additive to the bucket.
5. Add one liter of clean water of the proper temperature to a plastic mixing bucket. (see temperature chart)
6. Begin mixing immediately with a ½" electric drill with mixing attachment.
7. Type S (putty) Betonamit may seem dry at first - **do not add more water!**
8. Mix until material is thoroughly moistened and forms small balls.
9. Wearing rubber gloves or surgical gloves, pick up a handful of Betonamit and knead it like dough.
10. On a clean surface, roll Betonamit into cylindrical sausage shapes slightly smaller than the hole diameter.
11. Place the rolled Betonamit in holes and pack tightly with a dowel or rod slightly smaller than hole diameter.
12. Cover holes with a tarp if people will remain in the area.

### Notes:

1. Mix only one 5 kilo container at a time.
2. Two people are recommended – one to knead and roll, one to pack.
3. Fill holes within five minutes.
4. Type S is useful when holes have water seeping in.
5. Drilling holes at a slight downward angle instead of horizontal allows the use of Type R (liquid) which is easier and faster.
6. When rock or concrete is above 73°F, add 2 ½ ounces of extra water (33°F, iced).

## Notes

1. Betonamit is usually not cost effective in slabs less than 5" thick. A pavement breaker or hydraulic hammer works well, unless noise is a problem.
2. The most cost effective demolition technique for ledge is often a combination of Betonamit (to produce cracks) and a hydraulic hammer. Drill holes can be spaced out further in this case.
3. Using Betonamit Type R (liquid) is much easier than Type S (putty). It is usually better to drill holes downhill and use Type R, than to drill horizontally and use Type S.
4. The best way to demolish underwater rocks or concrete is to build a coffer dam and pump out the area. Betonamit hardens in fifteen to twenty minutes, after that area can be flooded again.
5. Betonamit must be used in holes; pouring it into existing cracks in rock will not work.
6. **Safety goggles must be worn at all times by everyone in the area** . Hard hats and steel toed boots are a good idea on any construction or demolition site. As an added benefit, use of safety gear enhances your professional image in the eyes of the public, and avoids OSHA fines.
7. When using the temperature chart, bear in mind that the actual drill hole temperature may be much higher than the surrounding air temperature if it is in the sun or affected by nearby heat from machinery or from drilling the holes.
8. Cold temperature, hard rock, or holes spaced too far apart can lengthen breaking times. If it did not break overnight – wait a while before assuming failure. Betonamit continues to increase pressure for 3 days.
9. If Betonamit drops below freezing, the reaction will stop, but it will start up again once it thaws.
10. If mixed Betonamit begins to steam in the bucket, add ½ gallon or more of water, stir, and throw it away. You've allowed too much time to pass from beginning to mix.
11. If filled holes start to smoke or steam, that is a sign they may be about to blow out. Immediately clear the area of people. The vapors are only steam, and are not hazardous or toxic in any way.
12. Make sure that everyone working with Betonamit understands the possibility of blowouts and has read this technical manual thoroughly.

Ledge, boulder, and concrete will vary in strength, but there is nothing on Earth too strong for Betonamit to break, as long as there is a free face to break towards. Always wear safety goggles when working with Betonamit.

## What can cause a blowout?

1. Using too large a hole diameter. See temperature chart.
2. Using too warm mix water. See temperature chart.
3. Using too little water, especially when rock or concrete is above 73°F.
4. Lots of dry dust in holes can absorb water from the mixed Betonamit, causing same as #3 above.
5. Too much time passing between beginning to mix and filling holes.
6. Mixing by hand can result in #5 above.
7. Guessing at drill hole temperature instead of measuring it.
8. Guessing at water temperature instead of measuring it.
9. Holes that are too shallow. Depth must be 4 times diameter or more.
10. Allowing the Betonamit powder to become too hot before mixing with water.
11. A „know-it-all“ attitude that causes some people to ignore this manual instead of reading it thoroughly, cover to cover.
12. Holes drilled closer than 10" apart in soft rock or concrete, in hot weather.

Always wear safety goggles when working with Betonamit.

NEVER USE DRILL HOLE DIAMETERS LARGER THAN 1 ½"

Blowouts will usually not occur more than 3 hours after filling holes.

## Consult this checklist before you mix

1. Are you wearing goggles?	<input type="checkbox"/>
2. Is everyone nearby wearing goggles?	<input type="checkbox"/>
3. What is rock / concrete temperature?	<input type="text"/> (°F)
4. What is water temperature?	<input type="text"/> (°F)
5. What is drill hole diameter?	<input type="text"/> (in.)
6. Are numbers 3, 4, and 5 within correct ranges?	<input type="checkbox"/>
7. Have you measured extra water if rock / concrete is above 73°F (23°C)?	<input type="checkbox"/>
8. Is the electric mixer all ready to go and operational?	<input type="checkbox"/>
9. Has the Betonamit been kept cool?	<input type="checkbox"/>
10. Are you going to throw a tarp over the filled holes?	<input type="checkbox"/>
11. Have you read these instructions 100%?	<input type="checkbox"/>

### Conversion Chart:

1 liter = 34 fluid ounces.

5 ounces = 147 cc.

33°F = 0.5°C

40°F = 4.5°C

58°F = 14.5°C

65°F = 18°C

72°F = 22°C

80°F = 26.5°C

85°F = 29.5°C

95°F = 35°C



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ALWAYS!

WEAR SAFETY GOGGLES

WHILE MIXING, FILLING HOLES,  
AND WHILE IN THE VICINITY OF  
FILLED HOLES

### Safety regulations as per the GHS

**Important:** Betonamit may only be used if both the regulations for use and the safety instructions have been read and understood fully. Instructions for use and safety regulations must be strictly observed! Always wear safety goggles when mixing and pouring and also in surrounding area after filling the boreholes.

**Danger:** Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation.

**Precautionary statements:** Avoid breathing dust. IN CASE OF CONTACT WITH EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and this is easy to do – continue rinsing. Immediately call a POISON CENTER or doctor/physician. Keep locked up and out of the reach of children. Always store Betonamit tightly sealed in a cool and dry place. Betonamit must be disposed of at an approved waste disposal facility in accordance with local regulations.

### DANGER!

Contains calcium oxide (CaO)

