Frequently Asked Questions

Which type of Dexpan should I use?

Select the type of Dexpan (I, II or III) based on the temperature of the material to be cracked.

Dexpan I	25 - 40 °C	(77 - 104 °F)
Dexpan II	10 - 25 °C	(50 - 77 °F)
Dexpan III	-5 - 10 °C	(23 - 50 °F)

What is the product yield?

Based on 1.5" diameter holes

11 pound Bag	up to 9 linear feet
44 pound Box	up to 36 linear feet

How much Dexpan do I need?

A rough estimate of product required can be calculated using the formula below (measured in feet):

$$\frac{(\text{Length} \times \text{Width} \times \text{Height})}{9} = \#\ \text{11 lb Buckets}$$

$$\frac{(\text{Length} \times \text{Width} \times \text{Height})}{36} = \#\ \text{44 lb Boxes}$$

What equipment is required?

Drill & carbide bit to create holes
Mixing bucket
Electric hand drill with mixing paddle
1.5 L of clean cool water per bag of Dexpan
Safety goggles
Rubber gloves
Dust-proof mask
Proper clothing
Funnel (optional)

How long does it take to work?

Factors affecting the timing for cracks to appear include:

- material temperature, hardness
- reinforcing present
- number/spacing/depth/diameter of drilled holes
- temperature fluctuations

Small cracks can begin to appear as early as 12 hours, but waiting for 24 to 48 hours will result in more extensive and wider cracks. Expansion / cracking can occur for up to 3 days. When temperature drops or in cooler weather, allow 2 or 3 days for full expansion/cracking.

Why is it important to ensure sufficient empty space around the rock or concrete to be cracked?

For Dexpan to be effective, the material needs an open face or room to expand and break apart.

Breaking rock or concrete enclosed on all sides does not allow room for expansive pressure created by Dexpan to crack and break the material.

Why is planning your drill pattern so important?

A well-designed hole-drilling pattern will:

- improve effectiveness of Dexpan
- save money in quantity of Dexpan consumed
- reduces labour by reducing time spent drilling/filling holes
- reduces labour cost by pre-cracking difficult materials making demolition and removal easier
- allows for more targeted and controlled breaking
- gets the job done right, the first time
- protects any sensitive surrounding structures

Our project doesn't have an open face and is enclosed on all sides, what can we do?

There are a number of alternatives to create the necessary expansion space:

- dig around or remove soil tightly enclosing rock or boulders to be cracked
- drill a series of empty relief or perimeter holes
- in a concrete slab, employ holes drilled at 45° angle (to direct expansion upwards) in the centre of the slab

How should I drill the holes?

Spacing and depth should be adjusted based on:

- project objectives (demo, dimension, pre-crack)
- material density
- presence of reinforcing
- desired size of broken material
- desired cracking time

	Reinforced Concrete	Hard Rock	Soft Rock	Concrete	Boulders
Diameter	1.5"	1.5"	1.5"	1.5"	1.5"
Spacing	8 - 10"	8 - 10"	10"	10 - 12"	10"
Depth	90%	105%	105%	80%	75%

Depending upon the material, project objectives and hole diameter, it is sometimes possible to space holes 12 to 16" apart.

Dexpan FAQ's

What is the purpose of drilling relief holes?

Holes drilled, but left unfilled can:

- create expansion room for material to break apart when the case is enclosed or confined
- direct and control cracking
- reduce amount of Dexpan required
- shorten time for breaking to occur
- control breaking to protect part of a structure
- create corners when quarrying stone

What is the impact of drilling more holes, closer together?

More holes spaced closer together results in:

- faster break times
- smaller more manageable pieces
- adds labour cost (drilling & filling more holes)
- may increase quantity of Dexpan used

How big or small can I drill my holes?

For best results, we highly recommend 1.5" diameter holes. Do not exceed 2" or go less than 1" in diameter.

How will drilling a different diameter hole affect spacing?

Depending on the density of the material and/or reinforcing present:

2" Diameter Holes
You may be able to space holes 12" to 18" apart
1" Diameter Holes (smaller than we recommend)
You may need to drill the holes 6 - 8" apart.

Will Dexpan work for all shallow applications?

No. For Dexpan to be effective, we strongly recommend materials be a MINIMUM of 7" in depth.

When is the best time to pour Dexpan?

The best time to pour Dexpan is when the material temperature is cool and material can gradually warm as the day progresses.

An effective strategy is to drill holes the day before so you can pour first thing early the next morning.

Pouring the Dexpan in the morning, when material is coolest, is HIGHLY recommended in extremely hot temperatures.

What can cause expansive demolition grouts to blowout?

1. Using wrong product for the material temperature.
2. Pouring grout mixture into warm/hot holes. Pouring into freshly drilled holes.
3. Hole diameter is too large.
4. No open face or room for material to expand and break apart.
5. Too much time passing between beginning to mix and pouring into holes.
6. Mixing by hand (instead of using hand drill with mixing paddle) resulting in #5 above.
7. Mixing more than 1 bag of Dexpan at a time resulting in #5 above.
8. Holes that are too shallow or too close together.
9. Using warm water.
10. Dexpan sitting in sunlight or warm conditions before being mixed with water.
11. Not measuring water. Using too little water.
12. Too much dust in holes.
13. Filled holes exposed to hot direct sunshine.
14. Filling holes incorrectly. INCORRECT: filling first row, left to right, then second row, right to left.
15. Adding Dexpan and water to leftover mixture remaining from previously mixed batch.

What are the safety considerations when using Dexpan?

Due to the highly alkaline nature of the product:

- risk of serious eye damage
- may cause skin irritation if left on skin
- inhalation of dust may irritate respiratory system or lungs

When mixing and pouring Dexpan <u>ALWAYS</u>:

- use personal protective equipment:
  safety goggles rubber gloves
  dust-proof mask proper clothing
- Select correct Dexpan product type given material temperature
- Ensure adequate ventilation in confined spaces
- Mix promptly ensuring mixture is poured into holes within 5 - 10 minutes of combining powder & water
- Start with an empty bucket (do not add 2nd bag to any left-over mixture)
- Cover filled holes with a tarp

<u>NEVER</u>:

- look or stand over filled holes
- pour mixture into hot holes
- use warm water for mixing
- leave excess product sitting in bucket
- use glass or enclosed cans to mix/pour Dexpan (could lead to a blow-out with glass or metal fragments)