Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

For Demolition, Reinforced Concrete Cutting, Excavating, Rock Breaking, Stone Quarrying, Mining and More ...

HIGHLIGHTS

• Amazing 18,000 PSI expansive strength when mixed with common water.
• Easy to use, just mix with water, pour into holes, then it expands.
• Cracks reinforced concrete, granite, marble, limestone, flagstone and onyx safely and quietly.
• An alternative to blasting, diamond blade saw, hydraulic breaker and jackhammer, which is safer, more efficient, works without noise, vibration, dust by providing silent expansive cracking.
• No special permit, insurance, training or equipment needed.

CONTENTS:

Introduction 2
Job Photos
  ♦ Demolition & Reinforced Concrete Cutting 3
  ♦ Rock Breaking & Excavating 7
  ♦ Quarrying Granite, Marble, Limestone, Onyx 9
  ♦ Underwater Demolition 11
Usage Instruction 12
Drilling Design 15
Material Safety Information Back
What is Dexpan®?

Dexpan® is a powder with amazing 18,000 PSI expansive strength when mixed with common water. Poured into holes, Dexpan® breaks reinforced concrete & rock safely and quietly, while providing SILENT cracking. Since Dexpan® provides controlled demolition according to drilling patterns, it is very easy to break reinforced concrete and all kinds of stone into desired sizes and shapes, without noise, vibration or dust.

In demolition, concrete cutting & excavating industry, Dexpan® helps you to break reinforced concrete and rock into chunks, so you may easily cut off rebar, haul it away with a crane or truck without damage remaining part.

In mining and quarrying industry, Dexpan® helps to achieve perfect slabs and blocks from limestone, onyx, marble, granite or any other type of stone you are working with. Compares to blasting, Dexpan® avoids waste of valuable stone, high insurance, costly storage and labor. Dexpan® can also be applied along with traditional methods like primer cord, hydraulic breaker, diamond blade saw and jackhammer to help cut cost, work time and increase safety. Plus silent operation, Dexpan® is perfect for residential, school and airport area. Dexpan® helps your work to become more efficient and cost effective.

What can Dexpan help you with?

Demolition and Concrete Cutting
♦ Demolition of mass reinforced concrete, foundations for machinery, piers, pillars, beams, bridges, retaining walls
♦ Partial demolition of various concrete structures ♦ Reinforced concrete cutting

Excavating and Rock Breaking
♦ Excavation of rock ♦ Splitting of boulders
♦ Rock and slab breaking for road expansion ♦ For resident development
♦ Excavation associated with tunneling ♦ Trenching shaft sinking
♦ For various types of construction work

Stone Quarrying and Dimension
♦ Non-Explosive limestone, onyx, marble, granite quarrying ♦ Controlled expansive cracking to avoid waste of Valuable stone

Types of Dexpan® (Depending on temperature)

Dexpan® I 77 to 104 F° (25 to 40 C° )
Dexpan® II 50 to 77 F° (10 to 25 C° )
Dexpan® III 23 to 50 F° (-5 to 10 C° )
Non-Explosive Demolition of Highway Bridge Piers
At Biggs Army Airfield, El Paso, Texas United States 2007

Ferry Concrete Ballast Removal
Concrete Opening Magazine, United States 2006
Noiseless Concrete Breaking in Residential Area
West Virginia, United States 2003

Demolition of Street Light Posts
New Mexico, United States 2008

Visit us at www.Dexpan.com to view more job photos in full size.
Demolition of Reinforced Concrete Foundations
United States 2004

These concrete bases were heavily reinforced with rebar.

This base was 4’ wide x 73” long x 2’ high. Reinforced with rebar. Look at the great results of Dexpan.

This motor base was 3’ x 3’ x 3’, with a few holes and Dexpan. It came apart in short order.

This base is 73” on the long sides and 47” wide and 10” high. It had 3 mats of #6 rebar with dowels every 12” around the perimeter. Take note of the heaving in the center of the base. Approximately 1 1/2 cases of Dexpan were used. The holes were drilled in 12” deep.

This is a side view showing the first of 4 layers of rebar in this base. These are #6 rebar (3/4” diameter). The dowels coming out of the footing are #8 rebar (1” diameter). They are not shown in this photo.

Swimming Pool Demolition
United States 2005

Visit us at www.Dexpan.com
Controlled Demolition of Reinforced Concrete Wall
that close to pumps and pipes
New York, United States 2003

The need for DEXPAN on this job was
in an area where no pneumatic dust or
noise was allowed and it was an area
with pumps, the area was not accessible
for machines.

Visit us at www.Dexpan.com to
view more job photos in full size.
“Today we worked on an area that required non-explosive rock excavation in the area of the north courtyard. We drilled a large area of what appeared to be pinnacle or bed rock. The rock being very steeply sloped and irregular it is hard to be extremely accurate on yards, but the holes (varying from 6 to 10 feet) are easily measured. We drilled the rock on an 18” pattern. We used (39) 11-pound bags (429 lbs.) of Dexpan to fill 183.83 lineal feet of hole today. 1 track-mounted drill w/ operator worked 7 hrs. and 6 men worked approximately 2.5 hrs. to perform the necessary operations. An air compressor was also used to clean rock surface and holes before filling. Jessie Scarborough from S&ME was on site monitoring operations.”

---

Granite Boulder Breaking
United States 2004

*Archer Company USA Inc is the manufacturer of DEXPAN.*
Rock Breaking for Swimming Pool Project  
United States 2004

Rock Trenching and Excavating  
United States 2008

Visit us at www.Dexpan.com to view more job photos in full size.
Non-Explosive Limestone Quarrying
Missouri, United States 2004

Non-Explosive Granite Quarrying
Idaho, United States 2004

Visit us at www.Dexpan.com
Non-Explosive Marble Quarrying
Torreón, Mexico 1995

Dexpan is Perfect for controlled mining and quarrying to avoid waste of valuable stone and to work safer.

Non-Explosive Sandstone Quarrying

Dexpan is Perfect for controlled mining and quarrying to avoid waste of valuable stone and to work safer.

Visit us at www.Dexpan.com
*Underwater Demolition of Bridge Piers*
United States 2007 *Used plastic tubing to keep Dexpan from water.*

*Underwater Rock Breaking*
Cancun, Mexico 2007 *Used plastic tubing to keep Dexpan from water.*

Visit us at [www.Dexpan.com](http://www.Dexpan.com)
3 Easy Steps to SUCCEED: Drill, Mix & Fill

1) Drilling

*Please call for applications with depths less than 6 inch.*

- Drill holes using a hammer drill and appropriate drill bit specific to the rock or concrete type. (Diagram 1)
- Holes should be drilled no further than 1 ft (30 cm) apart. Note: In reinforced concrete recommended no more than 8 in (20 cm) apart.
- Recommended hole diameter is 1.5 in (3.8 cm), not to exceed 2 in (5 cm). Drill holes should be 80-90% of the depth, do not go through.

2) Mixing

- In a flat bottom bucket, combine 0.4 gallon (1.5 liter) of water with one 11 lb. (5 kg.) bag of Dexpan®. (Diagram 2)
- Mix well (a drill and paddle is recommended). If mixing with a stick or other method, make sure Dexpan® is completely dissolved into the water. Mix to a slurry.

3) Filling

- Clean holes before filling. Using an air hose to remove excess dust from drilling.
- Dexpan® slurry should be poured into holes within 10-15 minutes after mixing. Do not fill to the top, only fill the holes about 1/2 to 1 inch (2.5 cm) from the top.
- Pour well mixed Dexpan® slurry into holes. Agitating the Dexpan® in the hole to make sure no air is trapped in holes. Suggestion: Use a rod or stick to poke holes. (Diagram 3)
- A grout pump might be required to fill horizontal holes. Caps might be needed for horizontal holes, but only necessary to hold Dexpan® in the holes.

Coverage: Normally one 44 lb. (20 kg.) box of Dexpan® can fill up to 35 lineal feet (10 m) of 1.5 inches (3.8 cm) diameter holes. You might not have to fill every hole depending on application.

Cracking Or Cutting Time: Properly mixed, the cracks may appear after 2 hours of filling drilled holes, depending on ambient temperature, humidity, rock or concrete hardness. Give it 24 hours for best results.

CAUTIONS:

- Read safety and operation instruction CAREFULLY.
- A pair of safety glasses, rubber gloves and a dust mask is required. Avoid eyes, skin contact. Do not breathe dust.
- DO NOT look directly into filled holes as BLOWOUTS may occur.
- Keep Dexpan® in DRY storage. Seal container after use.
- Select the correct type of Dexpan® for your temperature range.

MSDS (Material Safety Data Sheet) and Limited Warranty are available at www.Dexpan.com

For technical support Please call our Toll-Free 1-866-272-4378 or 575-874-9188 (USA)
Limited Warranty

- For best results, drilling and mixing are critical to Dexpan®. First time users are highly recommended to call our FREE technical support group before use (Tel: 575-874-9188).
- All products of Archer Company USA (DBA Dexpan USA) are warranted to be free from defects in materials or workmanship for one year from the date of purchase.
- Within this period, Archer (Dexpan) will, at its sole option, replace any products that fail in proper and normal use. Such replacement will be made at no charge to the customer, provided that the customer shall be responsible for any transportation cost.
- This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alterations. Always follow safety precautions and usage instruction on our website.
- Written description of problem and supporting job photos are necessary to warrant this claimer.

Disclaimer

- Dexpan® may be used to break concrete including reinforced concrete, rocks including limestone, granite, marble, onyx, and flagstone. Call before you try on other material. (i.e. porous or decomposed rocks.)
- Breakage or cracks vary due to drilling pattern done by customer. Archer (Dexpan) is not responsible for any unexpected results.
- Cracking Time is not guaranteed. Allow at least 24 hours for complete set time. Archer (Dexpan) is not responsible for any job delay lost.

Procedure for Claims under Limited Warranty

- In the event Dexpan® does not work, allow an extra 48 hours. If it fails after 48 hours, contact technical support before you try other means. Do not remove Dexpan® from holes. This may void the warranty if the Dexpan® is removed.
- Take photos showing job was done according to proper procedures. A written description showing purpose of the job, dimensions, drilling patterns, depth of holes, water mixing rate, weather and temperature. Both description and job photos are necessary to obtain warranty service.
- Archer (Dexpan) gives customer an analysis report showing what could be the problem. Onsite technical support may be requested for larger projects.
- Archer (Dexpan) will honor this warranty based on the evidence provided and approval.

Video 1: What is Dexpan?
Video 2: How to use Dexpan?
Usage Tips: (call 866-272-4378 if you have any questions)

- **Well Designed Hole Drilling Pattern** will minimize consumption of Dexpan® by cutting into desired sizes.
- To insure success, Dexpan® needs **FREE SPACE** to expand to.
- For better results, it is important to note both air and material temperature. Material temperature is the temperature inside of the rock or concrete which can be different from the air temperature.
- In summer, the best time to use Dexpan® is in the evening when material temperature is cool.
- In summer, cover holes from direct sunlight to avoid blow-out. Example: using a tarp or damp hay to provide shade.
- If Dexpan® _completely_ dries into powder and did **NOT** crack, pour additional water onto Dexpan® filled holes.

**Hole Drilling Designs:**

**Objects have Free Space for Dexpan to Expand to:**

- Drill Holes vertically for **Regular shapes**
- Drill Holes at an angle for **Irregular shapes**

**Objects DO NOT have Free Space for Dexpan to Expand to:**

- Dig around to provide **Free Space**
- Underground rock **Excavation**

- Hole filled with DEXPAN
- Empty Hole
- **—** Desired cutting line

Visit us at [www.Dexpan.com](http://www.Dexpan.com)
Partial Demolition with Vertical desired cutting line
- Cut into desired size to lower cost.
- Controlled Breaking for Stone Quarrying.

Partial Demolition with Horizontal desired cutting line

Well Designed Drilling Patterns can make your work more effective!

Trenching Technique
- Unfilled holes provide Free Space

Tunneling Technique
- Unfilled holes stop cracks

Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

For Demolition, Reinforced Concrete Cutting, Excavating, Rock Breaking, Stone Quarrying, Mining and More ...

Visit us at www.Dexpan.com
Brief Material Safety Information
Conforms to ANSI Z400.1-2004 Standard (United States, Canada, Mexico)
Complete MSDS, Usage Instruction and Warranty are available at www.Dexpan.com

Warning: Irritating Material, Hazardous to Humans and Domestic Animals

CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Keep container tightly closed and sealed until ready to use. Wash thoroughly after handling.

Composition / Information on ingredients:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Hydroxide</td>
<td>1305-62-0</td>
<td>60-100</td>
</tr>
<tr>
<td>Silica, Vitreous</td>
<td>60676-86-0</td>
<td>5-10</td>
</tr>
<tr>
<td>Diiron Trioxide</td>
<td>1309-37-1</td>
<td>1-5</td>
</tr>
<tr>
<td>Aluminum Oxide</td>
<td>1344-28-1</td>
<td>1-5</td>
</tr>
</tbody>
</table>

First Aid *

Eye or Skin Contact: Immediately flush eyes or skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Environmental Precautions

NO KNOWN significant effects or critical hazards. The product itself and its products of degradation are NOT toxic.

Storage and Waste Disposal


The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.

Visit Dexpan® at Trade Shows

Toll-Free 1-866-272-4378 or +1-575-874-9188 (USA)
Web: www.Dexpan.com

Version: 20120915