

StablWall™ Contractor Installation Manual

**IMPORTANT! READ ALL INSTRUCTIONS BEFORE BEGINNING
INSTALLATION!**

Introduction:

This manual is designed to give you a basic understanding of the StablWall™ system, what conditions it is meant for, and will also provide you with a clear understanding of the installation basics, so that you can effectively install StablWall™. If you read this manual thoroughly before beginning the installation process, then go back and follow the step-by-step procedure, the installation will be very straightforward.

How it Works:

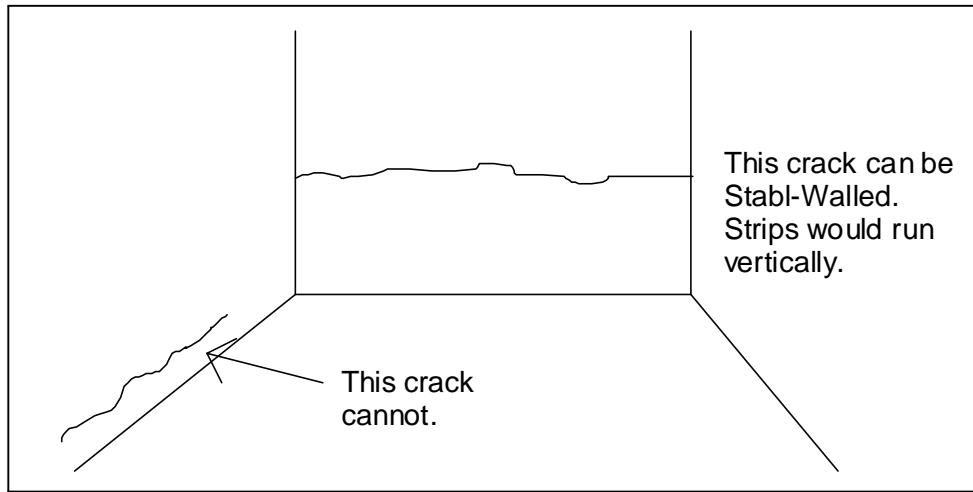
StablWall™ is composed of many carbon fibers lined up parallel to each other. When it is installed, it is impregnated with an epoxy bonding adhesive to bond the carbon fibers to each other and the wall. Those fibers are very resistant to stretching (10 times the resistance of steel at the same thickness). If the wall tries to continue to bow after it has been installed, it cannot because the fibers that are now bonded to the wall won't stretch. To make sure it is effective, a number of parameters and conditions must be followed and it must be installed correctly. We will look at these factors in the following sections.

When to Use it and When Not To:

Engineering specs say that StablWall™ can be used on cracks/bows up to 2". You can check this by hanging a string (with a weight attached at the bottom) from the top of the wall that extends to just above the floor. If the widest width to the wall is 2" or less when the string is touching the outer edge of the bow, then StablWall™ can be used. If a wall is deflected more than 2", you should consider pushing or rebuilding that wall.

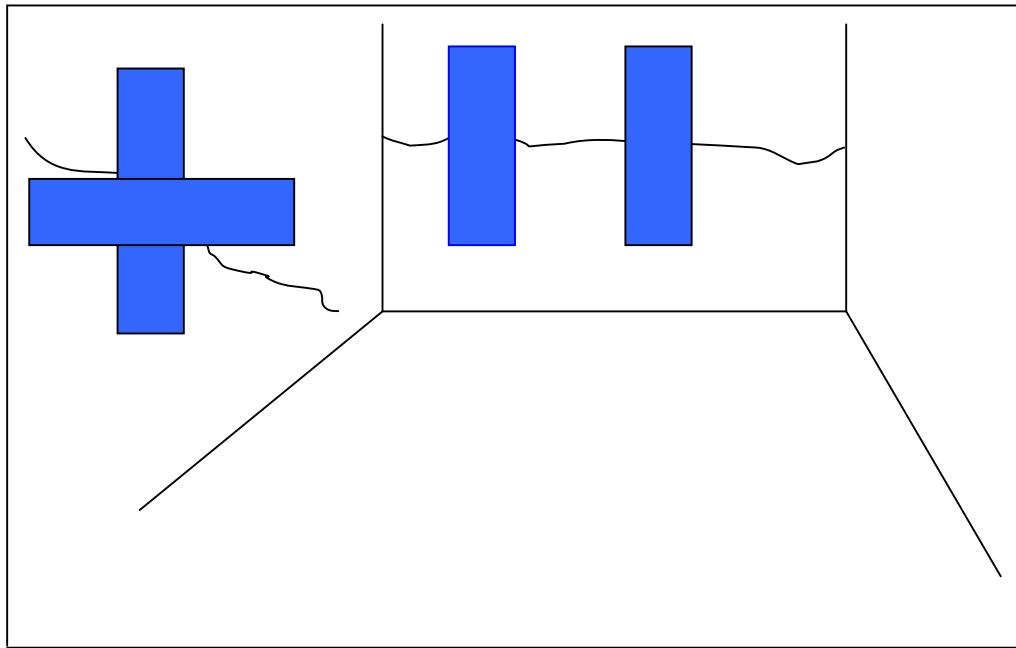
Secondly, you must have the ability to attach StablWall™ a minimum of 2 feet on each side of the crack for it to have the proper strength.

Remember that the sheets are 5' long, because the sheet needs to go 2 feet beyond the crack in each direction. The 5' sheets allow for 2.5 feet to go on either side of the crack – more than enough. This provides adequate stability for the crack/bow in question. If you do want to do the entire length of a wall, though, it can easily be done. Simply overlap the sheets, to make a total possible length of 9 feet (with a 1 foot overlap).



In either case, do not install StablWall™ if either of these conditions cannot be met.

Remember that StablWall™ is always installed PERPENDICULAR to whichever way the crack is going. In other words, if you are reinforcing a vertical crack, the sheets would be installed horizontally. If you are reinforcing a horizontal crack, the sheets would be installed vertically.



If the wall has slipped off the sill plate – in other words, if the wall is relatively straight but leaning in - or if the wall has pushed itself off the bottom course of block, StablWall™ will not work. Use beams, or better yet, rebuild that wall.

Wrapping StabWall™ sheets around a corner does not count in the 2 foot rule, nor will it add stability to that corner. Remember that the sheets are 24 inches wide, and should be left that wide, not cut lengthwise. It must also be installed perpendicular to the crack for it to be effective.

Also note – the minimum installation is 2 sheets. Do not install 1 sheet only!

Types of Wall Construction:

StabWall™ can be used on:

1. Block walls.
2. Poured concrete walls.
3. Clay tile walls.
4. Brick walls.
5. Smooth stone walls.

How do you determine if StabWall™ can be used on the wall you are looking at? The conditions are:

1. The wall must be relatively flat – that is, smooth stone walls with occasional irregularities can be StabWalled. Stone walls with large protruding rocks cannot, unless they can be smoothed out.
2. Uneven or stepped walls are suspect – you need to have a flat surface to bond the sheets to.

A Word About the Epoxy:

Two part epoxies form an extremely strong bond with almost any surface. When the two parts are mixed together, a chemical reaction unites those parts and the surface they're applied to into a new substance. This bond is dramatically weakened if the chemical formula is altered. For that reason, you must mix all of parts B to all of part A every time, and you must mix it thoroughly!

Soft epoxy can be cleaned by wiping it with acetone or paint thinner (available at hardware stores or paint centers). Remember that epoxy bonds very well to most surfaces – so once it hardens it will be very difficult to remove, no matter what it is on. In other words, clean it while it's still soft!

Maintenance Guidelines:

There is absolutely no maintenance required on this product. You must wait at least 48 hours before painting over the StablWall™. At that point, you can paint over it with any good quality latex paint of your choosing.

Tools Needed:

Rented or owned grinder with vacuum attachment. Drop cloth. Wire brush. Some rags. Plastic/rubber gloves. Eye protection. Stirring sticks – 3 of them. A regular sized paint roller. A can of acetone for clean-up. The ribbed roller, putty knife, roller covers, tray inserts and everything else you need is included.

If You Have Wide Cracks – ½” and Over - Backing Material:

Backing rod is a poly foam rope, typically found in the window section of your local improvement store. It is commonly used to seal around windows, and can be used to fill larger cracks in the wall. We use 3/8" backing rod. To use it, push it into a crack to make it possible to fill the crack with paste filler without losing the filler into the block cavities. Push the rod in so that the space that is left to fill is similar to the depth of a normal mortar joint.

If the Walls are painted:

Use a grinder that has a vacuum attachment connected to a wet/dry vacuum to grind paint off walls. If you have many layers of paint to remove, have a possibility of lead-based paint, or just want to make the grinding process easy, fast and clean, these grinders are readily available at most rental yards, if you don't already own one.

General Safety Guidelines Regarding StablWall™:

- 1. Always use plastic/rubber gloves when working with the epoxies (primer, paste filler, bonding adhesive)**
- 2. Do not wear contact lenses when working with StablWall™ materials. Wear safety glasses to avoid splashing into eyes.**
- 3. Do not ingest any StablWall™ materials.**
- 4. Use dust protection and provide ventilation when grinding paint.**
- 5. Make sure the area to be worked on is well ventilated. While the fumes are non-toxic, they could irritate a sensitive person.**
- 6. Seek medical attention if any materials are ingested.**

Hazardous Communications Regarding StablWall™:

StablWall™ materials do not contain carcinogenic materials as defined by OSHA Hazardous Communications Act.

A Word About Temperature:

The air temperature affects the speed at which the epoxies set up. The ideal temperature should be between 65 and 75 degrees Farenheight. For lower temperatures, expect longer drying times. For higher temperatures, expect the epoxies to set faster.

How To Install It:

Note: the putty knife is for the paste filler. One $\frac{1}{4}$ " knapp roller cover is for the primer. The other roller cover is for the bonding adhesives. Also, the labels for all materials are color coded, to make sure you mix the right substances together – red for primers, white for paste fillers, and blue for bonding adhesives. It will also be applied in that order – red, then white, then blue. Our suggestion is that you lay out the materials in 3 piles – that way you'll know what gets installed with what.

Pile 1 – Primer A, B, one roller cover, one disposable roller pan insert.

Pile 2 – Paste filler A, B, and the putty knife.

Pile 3 – Adhesive A, B, one roller cover, the fabric, one disposable roller pan insert, and the ribbed roller.

1. Decide where your sheets will be placed.
2. Measure and mark the wall 1" wider than and 1" above and below each sheet location.
Note: each sheet is 2' wide and 5' long.
3. Scrape the marked areas thoroughly. If the wall is painted, grind the paint off with a grinder that has a vacuum attached.
4. If you are going to use paste filler, mix the paste filler by putting all of can B into can A. Mix thoroughly (until it is completely gray with no streaks.) Wait until it thickens enough to hold it in the cracks (approximately 10 - 15 minutes in normal temperatures).
5. Use the putty knife to fill all the cracks and holes in marked areas with paste filler. Make sure you feather the edges. Wait until it gets tacky.

- 6. Mix the two primers (A & B) together thoroughly, by putting all of B into the A can. Mix until it is completely mixed – 3 to 5 minutes. Pour into the disposable tray insert you have installed in the roller pan.**
- 7. Roll the primer within all the marked areas with a thick coat. Let it sit for 15 to 20 minutes. Dispose of the extra primer, by removing the disposable tray and discarding.**
- 8. Mix the bonding adhesives (A & B) together by putting all of B into can A. You will put 2 thick coats on all the marked areas. Use about $\frac{1}{2}$ of the mixture for each coat. Pour the entire mixture into the second disposable tray insert.**
- 9. Roll the first thick coat of bonding adhesive onto all marked areas. You should use about half of the bonding adhesive on this first application.**
- 10. Take pre-cut carbon-fiber sheets and place them over the bonding adhesive. Press and smooth them out by hand (use gloves!).**
- 11. Take the ribbed roller and firmly roll from the middle to the top and from the middle to the bottom, to squeeze the bonding adhesive in-between the fibers and to eliminate air bubbles. Roll in one direction only – not back and forth!**
- 12. Roll on a second thick coat of bonding adhesive. If there's extra adhesive, go ahead and apply it now – you should use up all of the adhesive that has been supplied.**
- 13. Apply the ribbed roller again, in the same fashion as before.**
- 14. You're done! Clean all the tools and dispose of all pre-mixed leftovers promptly.**

Note: Let your installation set for 48 hours or longer (depending on ambient temperatures) before painting or touching!

Frequently Asked Questions:

1. How do I know how many StabWall™ sheets it will take?

StabWall sheets are 2 feet wide and required to be no more than 6 foot on center, or no more than 4' between sheets. In other words – an 8' long crack requires 2 sheets. Every subsequent 6' requires another.

Total Length of Crack	# of Sheets Necessary
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1' – 8'	2 Sheets
9' – 20'	4 Sheets
21' – 32'	6 Sheets
33' – 44'	8 Sheets
45' – 56'	10 Sheets

This is a guideline. Where you might install them on that crack actually depends on the severity of the crack, and whether one side is more cracked than the other (as long as you don't violate the maximum 4'-between-sheet rule). In other words, an 18' crack would require 4 sheets. That also means there will be less than 4' between sheets – where you might put those 4 sheets depends on where the wall is worst, or where the most stress is located.

If you have an extra sheet available, you can either lessen the distance between the sheets, or overlap one of the strips to make it longer (and even stronger). Which one you do depends on the type and size of cracks being serviced.

In addition, if that wall was near the limits – wide crack, 2" bow – you might actually decide to install 6 sheets instead. Putting more on than required only provides more support!

2. What if I only have 1.5 feet above the crack, not 2?

StabWall™ is not applicable, according to our specs. It will add strength protection to the wall, however, just not as much as is specified in the engineering data.

3. I have a wall that's got step cracks, a vertical crack, and the center has bowed out – the middle is leaning in, and the center of it has moved across the sill plate by about 2 inches. Can I StabWall™ this?

No. If the wall has moved across the sill plate at all, or the wall has moved off the lower block, StabWall is not applicable.

4. My walls are 8 feet tall, and the sheets are only 5 feet long. Is that okay?

Sure. Specs say that the sheets must go at least 2 feet above and below the crack – the sheets are 5 feet long, which leaves 2.5 feet on either side of the crack.

That's plenty. However, if you do want to StablWall the entire 8 foot length, you can do so. Simply prepare the entire area, then overlap two sheets so that they cover the entire wall, bottom to top. You will need at least one more kit, because each installation requires at least 2 sheets *wide* – but overlapping will simply make the wall stronger. Nothing wrong with that!

5. Can I use cement to fill big cracks?

No – unless you let it cure first. That would take a few days at least – and there's no reason to wait that long. Use the backer rod and paste filler for those applications.

6. How much time do you need to leave between applying the primer and the application of the paste filler?

You can begin application of the paste filler about 15 to 20 minutes after the application of the primer. Most of that time will be used up mixing and preparing to apply the paste filler anyway.

7. Can I apply the sheet if the crack filler is still tacky?

Yes. It will not jeopardize the installation or strength of the StablWall™.

8. What is the best paint to use on walls with StablWall™?

A good latex paint will do. You want to use latex paint that is specified for use on concrete walls. For basements, you can also put in an additive call Killz, which will reduce the tendency for mold and mildew to grow.

9. I have product left over. Is that okay?

It depends. You might have paste filler left over if the walls are relatively smooth. You also might have primer left over – we wanted to make sure you had enough product no matter the type or porosity of the surface. However, you must use all of the bonding adhesive, no matter what. Use about half before you put the sheets up (the first coat), then the other half over the sheets (the second coat). No matter what, use all of the bonding adhesive!

StablWall™'s Straight-Talk Buyer Protection

Limited Warranty on StablWall™ products

What is warranted?

Your StablWall™ product is warranted to be free from defects in materials and workmanship. Should any defect be found which would result in the product being unsuitable in function or application, StablWall™ will furnish you with a replacement kit or replacement parts at no charge.

Who gets the benefit?

The terms of the warranty are extended to the original purchaser of the StablWall™ system.

What will StablWall™ do?

For any defective product returned, StablWall™ will provide a replacement kit or replacement materials, either through the dealer where the product was purchased, or directly through the StablWall™ factory. The only cost would be the shipping costs from the factory to the customer, if product has to be shipped.

What are the exceptions?

This warranty will be invalid if the product has not been installed according to the instructions provided, or if it has been damaged due to mishandling or abuse in installation. No labor charges and/or damages incurred in the replacement installation will be allowed.

What do you have to do?

If a defect is found in the product, contact the store or dealer where you purchased it. It will be necessary to show proof-of-purchase. A new kit will be supplied to you.

Any limitations on StablWall's liability?

StablWall's only liability is to replace defective product and this warranty will not cover any damages which might be caused by the product. (Some states do not allow certain limitations, so this reference may not apply to you.)

**THIS WARRANTY IS EXCLUSIVELY IN LIEU OF ALL OTHER
WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF
MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.**