

How to Permanently Anchor to Masonry

A plaque with mounting pins can be anchored to masonry. These bronze pins are integrated directly into the piece during the casting process. A mountable piece will look like this:



Tools Needed:

- Hammer Drill (with a ½" drill bit)
- Compressed Air (an air compressor, or simply a can of compressed air)
- Anchoring adhesive with mixing nozzle (available at most large hardware stores)
- Caulk gun (used to apply most anchoring adhesives)
- Bubble Level
- 2 pairs of rubber gloves, dust mask, and paper towels

Notes:

- Being a sculpture in "relief", the expression and feeling of this piece will vary depending on the angle of lighting. In deciding on a location, it helps to hold it up in various places at different times of day.
- This can be mounted to concrete, stone, mortar, brick etc. The masonry should be as solid as possible. Cement blocks and some types of brick have hollow cores which can present challenges.
- This process is well within the scope of most people with construction experience. It's always best to consult a professional with experience in masonry. I'm always available to answer any questions: 479-283-2252

Step by Step:

- Decide on a location for drill holes:
 - The piece will look best if mounting to a surface that's "level" and "plumb".
 - Use a bubble level aligned with the bottom edge of this template, to ensure the piece itself will be level.
 - Situate your drill holes to be in either a mortar joint, or in solid stone. Different masonry materials (mortar, stone, brick, etc) vary considerably in hardness. Therefore it's difficult to drill a hole where they intersect, as the drill bit will invariably be pulled towards the softer material.

- Mark your drill holes by holding the piece in position and circling each mounting pin
- If you have a smaller drill bit (1/4" or so) it helps to pre-drill an inch or so into the wall to keep things aligned.
- Drill your holes with a 1/2" drill bit, to a depth deeper than the pins. These pins can be trimmed with a hacksaw if you come upon an impenetrable spot within the wall (rebar, etc).
 - Keep your drill bit as square as possible to the wall. It helps to have someone watching from the side. Stop to check alignment from time to time.
- "Test Drive" the piece. Make sure it sits level and that the face is plumb. Also make sure the holes are deep enough for the pins.
 - If the alignment is off, the easiest way to correct this is by re-drilling a problem hole with a slightly larger drill bit. Increase in small increments (from 1/2" to 5/8" for example)
- Using compressed air, blow out all loose dust and debris from the hole.
 - **Wear a mask to avoid breathing dust**
- Read the directions on your anchoring adhesive. Pay particular attention to the "working time". Most types of anchoring adhesive are two part resin (like epoxy). The mixing nozzle will do all the mixing for you, and is for one time use. A single nozzle will be sufficient for a plaque install.
 - **Wear rubber gloves and have paper towels handy**
 - Make sure your tools are within reach (extra gloves, level, the piece itself)
- Take a moment.
 - You'll need to work relatively quickly once the adhesive is mixed. It's best to take a moment to visualize the steps you're about to perform, so you can be calm and methodical.
- Insert the mixing nozzle all the way to the back of each hole, and withdraw it slowly as you dispense the mixed adhesive. This will help fill the hole completely and minimize bubbles. Fill each hole to approx 3/4" from the opening.
- If you get adhesive on your gloves, change to a clean pair before handling piece.
- Install the piece.
 - Insert the pins into the adhesive until the piece is flush against the surface.
 - **Using your level, be sure the piece is level and the face is plumb.**
 - Simply hold in place until the adhesive sets. This is usually about 5 minutes from mixing time.
 - Having a sample glob of mixed adhesive nearby will serve as a good reference for when the batch is set.
 - These resin adhesives generally become quite hot as they set. Please use caution.
- If any adhesive leaks out around the plaque, it's generally easiest to let it set up and chip off later. Trying to wipe off adhesive will likely just make a mess and distract from holding the piece in its proper position.