

SEALING JOINTS IN GFRPC TRENCHES

Properly sealing joints in GFRPC trenches can ensure a watertight seal and provide protection against chemical attack. The steps below are a general guide to sealing the joints, however, field conditions need to be observed to ensure that alteration of these steps is not necessary for your application.

1. Find the components of the sealant kit. There will be a bucket of resin paste labeled part A and a smaller container of hardener labeled part B. Some kits include and require reinforcing mesh, which will be included with your kit if required. You will also need gloves, eye protection, putty knife, 100 grit sand paper, and acetone. These can all be purchased at your local hardware store.
2. The most important step to a good seal is to properly prepare the joint. The joint must be dry. Start by lightly sanding the two edges of the joint that will be touching each other with sand paper to give it a rough finish or some "tooth". Once the sanding is complete, clean any debris off of the joint with a clean rag wetted with acetone or rubbing alcohol.
3. If your kit came with glass fiber, cut the strips of fiberglass mat to the desired length to wrap the joint that is being sealed. It is best to do this before you mix the paste with hardener as you will have a limited amount of time after this step is complete. The fiberglass mat is applied to the outside of the trench around the joints. The fiberglass mat can be applied later to the inside for additional strength and sealing if required, however, it will leave the trench slightly rough at the joints.
4. Make sure you are wearing your gloves and eye protection. Mix the resin paste (part A) with the hardener (part B – also known as the catalyzing agent). The resin paste and hardener should be mixed in small amounts as it will harden in approximately 10 minutes. **WARNING:** A large mass of resin can get very hot and catch on fire, or cause fires to surrounding materials. We recommend mixing the resin in small batches on paper plates (about 2 cups). The ratio of part B hardener is 2% to 98% part A resin paste. This ratio will give about 10 minutes to work with the resin before it begins to gel. (Assuming the temperature is above 55 degrees F. The curing process is temperature dependent and is slower at low temperatures and faster at higher temperatures.) Be sure to mix thoroughly by scraping sides and bottom while mixing. Do not throw catalyzed resin in the trash as it can heat up and start a fire. Place cooled resin in metal containers to dispose of unused, hardened material.
5. Spread some catalyzed resin paste on the female portion of the joint, and then mate the two pieces tightly together.
6. If you were supplied with fiberglass mat, smear some of the catalyzed resin paste on the outside of the joint. If you do not have fiberglass mat, the glass fibers were pre-mixed into the paste and you can skip to step 10.

7. In the uncured soft paste, lay the fiberglass mat over the seam and into the wet paste.
8. Smear an additional thin layer of resin paste over the fiberglass mat until the mat is wetted out. The mat is wetted out when all of the fibers are coated with resin paste.
9. Repeat if necessary to attain a proper seal.
10. Protect the joint from water for 4 hours minimum at standard room temperatures. Protect the joint from chemicals for 24 hours minimum at standard room temperatures. Longer cure time may be required at lower temperatures.
11. Clean up tools with Acetone (or rubbing alcohol) and a clean rag.