

INSTRUCTIONS FOR ADHESIVE KIT

(Product code #40-0161)

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ADHESIVE JOINT

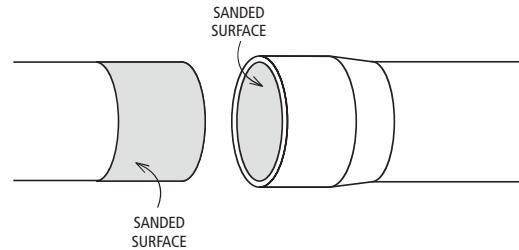
The design engineer may elect to specify that the conduit joint be adhesive bonded for greater pullout strength requirements approximately $\text{lb.} = \text{diameter (in)} \times 1000 \text{ lb.}$ or $\text{kg} = \text{diameter (cm)} \times 200 \text{ kg}$, when excessive vibration occurs in the environment.

A detailed applications procedure, as well as all the necessary tools and materials, is included with the FRE® Adhesive Kit for the user's reference. All joints must be bonded with adhesive shall it not be assembled with our TriSeal™ gasket.

The Bell and Spigot is not designed to withstand under a bridge sufficient pullout load based on its friction fit (interference) joint only. Usage of the FRE® Adhesive Kit varies with diameter of the conduit — 18 joints per kit for 2" (53 mm), 10 joints for 4" (103 mm) and 6 joints for 6" (155 mm) conduit.

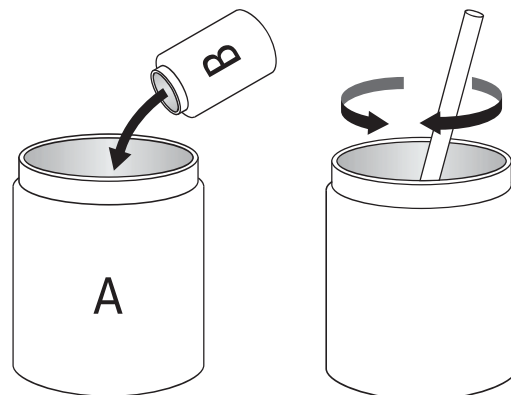
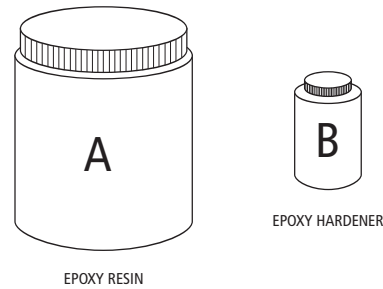
1. PREPARATION

- 1.1- All the surfaces to be bonded must be clean and dry.
- 1.2- The internal face of the bell (female end) and the external face of the spigot (male end) must be sanded (to simply remove the glossy finish) with 80 grit sand paper.
- 1.3- To prevent contamination of the surfaces to be joined, avoid any further contact after cleaning.



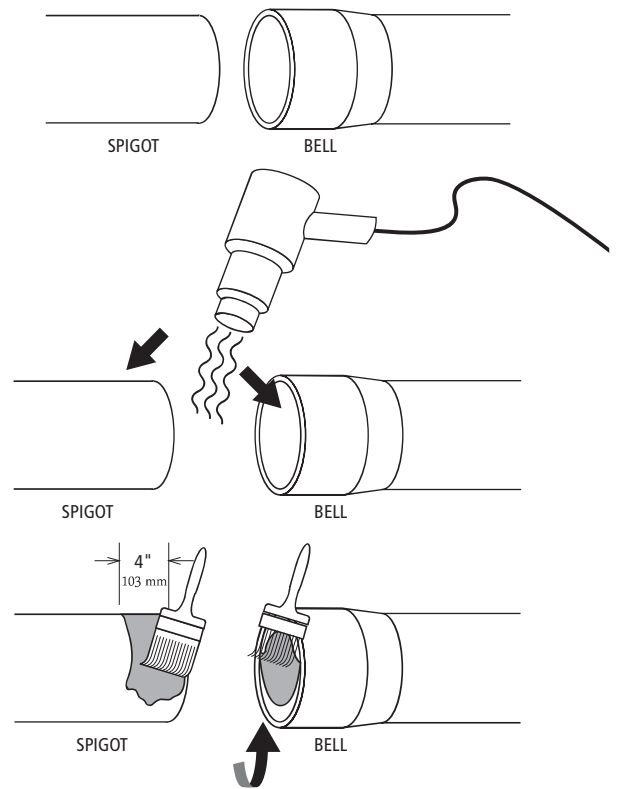
2. MIXING THE ADHESIVE

- 2.1- In 68 °F (20 °C) or higher ambient temperatures, the glue pot can be kept at a lower temperature, from 59 °F to 64 °F (15 °C to 18 °C), with a such temperature the pot life will be a little bit longer.
- 2.2- In colder ambient temperature, from 10 °F to 59 °F (from -12 °C to 15 °C), the glue must be heated gradually up to a minimum temperature of 59 °F (15 °C) prior to mixing. This will assure an easier and more homogeneous mixture.
- 2.3- Take a resin pot (A) and a small hardener bottle (B).
- 2.4- Pour the hardener in the epoxy resin pot.
- 2.5- Atentively mix the resin and hardener for 2 minutes, will being careful not to leave any unmixed areas in the pot, make sure the bottom material is homogeneously mixed also.



3. APPLY THE ADHESIVE ON THE CONDUIT

- 3.1- The two parts (bell and spigot) have to be side by side.
- 3.2- In colder temperatures, from 10 °F to 59 °F (from -12 °C to 15 °C) ambient temperature, the conduit surface to bond must be gradually heat up to a 59 °F (15 °C) minimum, before application of the adhesive. To heat up the spigot and the bell, use a heat gun, but be careful, the conduit must not be damaged with a flame or a too high temperature (maximum acceptable temperature : 194 °F (90 °C)).
- 3.3- When the conduit (bell and spigot) are hot enough, pour the mix and spread it on the spigot side with a brush, for 4" (103 mm) wide.



4. BONDING THE BELL INSIDE THE SPIGOT

- 4.1- When the spigot is totally covered with glue, push it in the bell.
- 4.2- When the spigot is pushed to the end of the bell, smooth out the glue at the joint to form a chamfered edge.
- 4.3- Once the joint is made at a low ambient temperatures, from 10 °F to 59 °F (from -12 °C to 15 °C), the joint must be cure, before it is moved (see below recommended cure times). To cure the joint, use a "heating strap" installed around the bell (maximum acceptable temperature: 194 °F (90 °C)).

Cure temperature Cure time (100% cured)

| | |
|----------------|---------|
| 77 °F (25 °C) | 24 hrs |
| 194 °F (90 °C) | 1.5 hrs |

