

Teflon Bonding Kit Instructions

Surface Preparation:

1: Use proper safety procedures: Wear Rubber gloves (Nitrile), safety goggles, and a respiratory mask.

2: Due to a short exposure time *(see Note), Teflon etchant must be poured and used quickly. Prepare substrate in advance of opening the etchant container with following procedure:

- Using 100 to 120 grit sand paper abrade surface of substrate thoroughly.
- Wash with Isopropyl Alcohol (IPA), Acetone, or Methanol, so that all surface contamination is removed. Use MEK on Rubber or steel substrates only.

3: Allow the surface to thoroughly dry for approximately 15 minutes at ambient. Alcohol/solvents must be evaporated before moving to the next step to avoid causing the etchant to deactivate.

Fluoropolymer Etching instructions

1: Pour etchant into a container appropriate to the size and area you wish to etch. It is recommended to use a tall, thin container that minimizes the etchant's exposure to air. Oxygen weakens the active ingredient in the etchant. The preferred method of application is to dip the surface of the Teflon or PTFE into the etchant. If dipping is not possible, pouring the etchant onto the desired surface area is acceptable. If pouring, ensure the desired surface area is thoroughly covered by the etchant by brushing to coat the surface evenly.

2. Allow the Teflon or PTFE to be submerged or completely covered by the etchant for approximately 30 seconds to 2 minutes. You will know the etchant is working if a brown "stain" appears on the surface. If the stain is not completely covering the bond surface, repeat the dipping or pouring process of the etchant.

3: Remove the Teflon or PTFE part from the etchant and thoroughly clean it. The proper procedure is to rinse the etched part in isopropyl alcohol, as this stops the etching process. allow to air dry thoroughly before continuing. Ensure no residue of etchant (beyond a brown stain) is left, and that the surface is completely dry before applying the adhesive.

* Note: Average exposed life of Teflon etchant is approximately 1 minute or so in direct contact with oxygen and should be taken into consideration when using. If a fume hood is available, it is also recommended to use it. Otherwise, an open and well ventilated area should be utilized. Proper safety and ventilation practices should be followed. For any or all precautions, refer to the MSDS on proper handling. Avoid contamination by handling etched parts with gloves.

Storage: Etchant solution should be stored at ambient (do not refrigerate). Keep containers of etchant sealed when not in immediate use. Store containers in a way with minimal to no UV/oxygen exposure.

Adhesive preparation and application instructions

1: Please keep in mind proper safety procedures and use rubber gloves and wear safety goggles.

2: The adhesive cartridge must first be “burped” in order to ensure an even mix:

- Taking your B-45TH** cartridge, hold it upright.
- Remove the end plug and place the 2:1 ratio plunger in the back end of the cartridge. DO NOT apply pressure just yet.
- Burp the cartridge; be sure to have a wipe of some sort ready. Using the plunger, apply even, slow pressure to gently push out any existing air bubble(s) that have been trapped in the cartridge. Press a small amount out until the two components are coming out evenly. Catch excess with wipe. Keep the cartridge end pointed away from one’s face when applying pressure. Also see RELTEK instructional video on YouTube <https://www.youtube.com/watch?v=8eYiVbsvmsg>.
 - After initial “burp” the adhesive cartridge is ready to use. The adhesive may now be mixed by either a static mixer or by hand.
 - Attach a 6” static mixing tube if available. Mixing the epoxy by hand is not required if using a static mixer.
 - For mixing by hand, apply even and steady pressure to back of cartridge with the plunger, and inject adhesive into the supplied Petri dish or similar container of choice.
- Mix with the tongue depressor for approximately 2-5 minutes. At this point material should be an even amber color and have a smooth consistency.
- Spread material onto etched surface of fluoropolymer substrate. Note that the adhesive requires a minimum clearance of .007”.
- Cure at either of the following:
 - Ambient temperature (70 degrees Fahrenheit or 26 C) for 24-36 hours.
 - Or, cure in oven at 200 degrees Fahrenheit for 3 hours. Allow for cooling after removing from heat.

** If the Teflon bonding is a potting application, B-45 should be used instead of the B-45TH. The B-45 is an unfilled version of the adhesive necessary to bond Teflon and will allow any bubbles to easily rise to the surface after mixing. This is suggested for potting and wicking applications.

To review the entire line of RELTEK products, we invite you to visit the Website www.RELTEKLLC.com or call for technical assistance (707) 284-8808.