

## **ADHESION PROMOTION (WET PROMOTION)**

Silane A-174 is available for adhesion promotion if improved Parylene adhesion is desired. Wet Promotion is a treatment process that is performed on the substrate before it is loaded in the coating machine.

### **Making the Promotion Solution**

The promotion solution is made of 99% pure isopropyl alcohol (IPA), deionized water (DI), and A-174 Silane solution.

1. Mix equal parts of IPA and DI, then add 0.5% (1 part to 200, by volume) of A-174. The shelf life of the solution is 24 hours, so mix only the amount that will be used during that time.
2. Stir the solution with a clean stirring rod for 30 seconds and allow the solution to stand for at least 2 hours (to allow adequate chemical reaction) before using it.

### **Quality Check, Disposal**

1. Use a pipette or dropper to place 6-10 ml of the promotion solution into a clean, dry 100 ml beaker.
2. Carefully add 3-4 grains of potassium permanganate to 100 ml beaker.
3. Agitate the sample by gently swirling the beaker contents for 15-30 seconds. DO NOT mix the sample in any other way.
4. Observe the color of the sample: A good solution will turn yellow-brown (much like apple cider). This indicates that the solution is ready for use. A bad solution will turn bright pink. This color indicates that a fresh batch of promotion solution is required.
5. Dispose of the old/bad test solution properly see MSDS and NanoFab procedures of solution. Rinse the test items and all containers thoroughly in IPA before conducting another test.

### **How to Use Promotion Solution**

1. Submerge the parts in the prepared promotion solution for 15-30 minutes.
2. Remove the parts from the solution and allow them to air dry for 15-30 minutes.
3. Submerge the parts in IPA for 15-30 seconds. Agitate the basket of parts up and down several times.
4. Remove parts and drain adequately (approximately 30-60 seconds)
5. Dry parts per requirement before you start the coating operation.
6. Parts should be coated within 30 hours, maximum. If parts are not coated within this time, parts must be re-promoted, repeating this process.