



Aerospace Maintenance Competition – PPG Surface Seal® Procedure

NOTE: THIS PROCEDURE IS FOR THE MAINTAINANCE SKILLS COMPETITION ONLY! YOU SHOULD REFER TO THE APPROPRIATE MAINTAINANCE MANUAL FOR INSTRUCTIONS TO COMPLETE THIS TASK.

NOTE: Access PPG Surface Seal® Coating System Application kit DSS0100 for all materials to complete this procedure.

WARNING: Throughout each described procedure, it is required that gloves (for cleanliness) and safety glasses be worn.

1. WINDSHIELD PREPARATION

- A. ~~Clean windshield with 50/50 IPA and water to remove any particles or contamination. Dispose of used cloths in disposal bag.~~
- B. ~~To protect moisture seal, Apply 2" tape over moisture seal onto glass 1/4". See Figure 1.~~

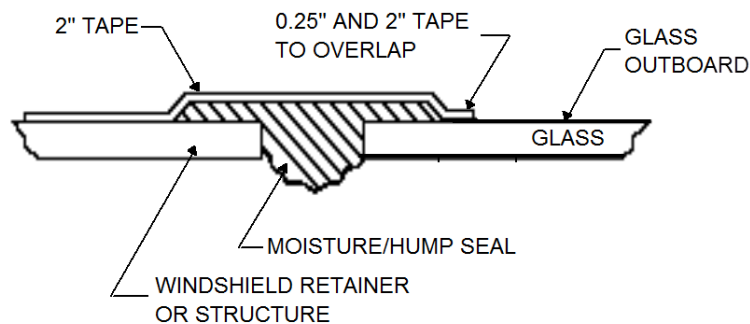


Figure 1 – Tape Over Moisture Seal

2. GLASS SURFACE PREPARATION

- A. ~~Apply felt pad to sanding block~~
- B. Remove 120ml bottle of polishing slurry. Shake the polishing slurry until the slurry is consistent and apply liberal amount of slurry to felt pad.
- C. Using overlapping strokes, cover the entire glass surface evenly with the polishing slurry. Add additional slurry as needed to keep the felt pad moistened throughout the polishing process.

NOTE: This polishing procedure is intended to remove any remaining particles or contaminates on the glass surface.

- D. Spray Surface with DI water and begin wiping in the center of the windshield toward the taped edges, taking care not to wipe the taped edge for the possibility of transferring silicone contamination from the tape to the glass.

Start Here



- E. Continue cleaning with fresh cloths until all traces of the slurry has been removed.
- F. Obtain water-break free surface.

NOTE: If water droplets are present, repeat the polishing procedure in the affected area. Repeat localized wash, dry, and evaluation as described previously until no beaded droplets form.

- G. Put on a clean pair of disposable gloves, and remove one Surface Prep ampule and gauze application pads from the Surface Seal Kit.
- H. Visually inspect the Surface Prep Ampule to make sure it is not broken. Do not use if the glass has been broken or if there is any indication of white precipitate or leakage into the foam end.
- I. The Surface Prep ampule is surrounded by sealed plastic tubing above the foam filter. To open it, use scissors to cut off a corner of the plastic tubing at the top as illustrated. Do not cut into the foam.

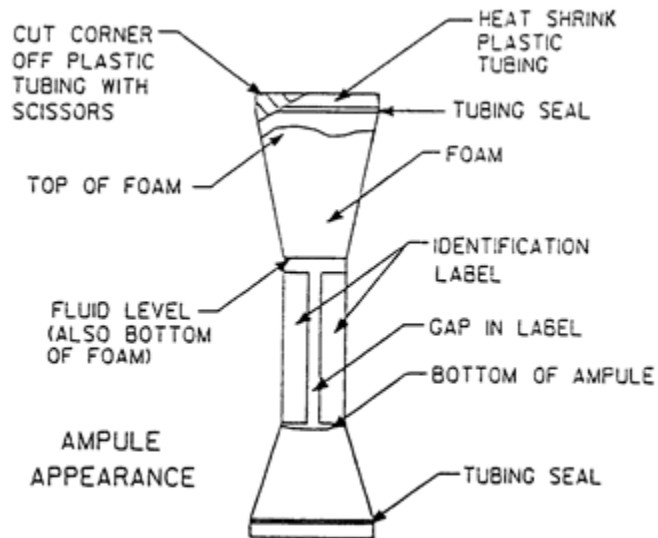


Figure 2 – Surface Prep Ampule

- J. Hold the ampule in your hand and press against the sponge tip end with your thumb until the ampule snaps. Application should be completed within 15 minutes after the ampules are opened.
- K. Obtain gauze application pads. Dampen the pad with $\frac{1}{2}$ of the ampule contents to begin wiping.

NOTE: Do not hold the pad over the aircraft structure or glass surface while pouring. Pour Surface Prep onto pad over the trash can.



- L. Immediately begin wiping quickly over the center portion of the glass surface with slightly overlapping straight - line strokes. If necessary, use a separate, dry gauze pad to immediately wipe away excess Surface Prep solution.
- M. To prevent contamination of the center glass surfaces with residue from the taped edges, wipe in the center and wipe toward the edges. Stop each wiping pass just short of the taped edge.
- N. A thin film of solution will trail from the applicator and quickly evaporate from the glass surface. Do not allow thick films of liquid to accumulate on the glass surface. If the solution is not quickly evaporated or wiped from the surface (within 2 to 3 seconds), a staining may occur.
- O. Discard any remaining Surface Prep Solution and gauze pads in disposal bag.

3. GLASS COATING PROCEDURE

- A. Put on clean, disposable gloves, and remove the Surface Seal® III Coating Solution ampule from the kit. Repeat the previously explained technique for opening the ampule: cut off the top corner of the plastic tubing surrounding the ampule above the foam; hold the ampule assembly with the cut tubing pointing upward; break the seal by bending the ampule above the cylindrical reservoir.
- B. Holding the ampule away from the aircraft, pour about 1/2 of the solution onto the applicator, and wipe the Surface Seal® III Coating Solution onto the glass surface, using quick, circular motions. Begin in the critical vision areas and work toward the outer edges of the windshield. Add more solution as required to coat the entire part thoroughly.
- C. To prevent contamination of the center glass surfaces with residue from the taped edges, wipe in the center and wipe toward the edges. Stop each wiping pass just short of the taped edge. After thoroughly wiping the center area, wipe around edges.
- D. Dispose of the application pad, and obtain a fresh application pad.
- E. Clean the glass surface using gauze with Cleaning Solution and Kimwipes until all material is removed. If available, cleaning with a 50/50 isopropanol/water and Kimwipes will assist in the cleaning process.
- F. Place the used applicator, empty ampule, soiled gloves and towels into the disposal bag.
- G. Fully mist surface of glass to ensure “beading” of water droplets to check coating efficiency.
- H. Wipe the glass surface with Kimwipes to remove water. Discard Kimwipes in disposal bag.
- I. Remove tape from window.



The event will be judged on time and penalties will be assessed as follows:

- Water break free surface (2 minutes)
- Surface Prep pour over trash can (30 seconds)
- Changing of gloves – 3 total pairs required (1 minute)
- Cleanliness (15 seconds)
- Proper coating application – center of window to outer edges (1 minute)

****If any step in process is omitted, there will be a 5 minute penalty per step****