



## VACUUM CHAMBER PM TECHNIQUE AMAT ETCHERS

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### **OBJECTIVE:**

TO EFFECTIVELY PM THE AMAT ETCH IN A TIMELY MANNER, WHILE HELPING TO MINIMIZE PARTICLE ISSUES, IMPROVE TOOL PERFORMANCE AND REDUCE HAZARDOUS WASTE

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<b><u>Vacuum Chamber:</u></b>	AMAT ETCHERS
<b><u>Vacuum Chamber Process Residue:</u></b>	ER ON ESC AND OXIDE RESIDUES ON CHAMBER WALL
<b><u>Vacuum Chamber Components:</u></b>	CHAMBER, COMPONENTS SURFACES
<b><u>Old Procedure:</u></b>	Standard cleanroom polyester wipers and Scotch-Brite™
<b><u>Solvent:</u></b>	DI water, IPA

### **Vacuum Chamber Products:**

- (2) [HT4532A](#)-10 320 Grit UltraSOLV® ScrubPAD
- (1) [HT4540](#)-10 400 Grit UltraSOLV® ScrubPAD
- (1) [HT4580A](#)-10 800 Grit UltraSOLV® ScrubPAD
- (2) [HT4520PA](#)-10 2000 Grit UltraSOLV® ScrubPAD
- (1) [HT4754](#) UltraSOLV® Sponge
- (4) [HT4790](#)-5 UltraSOLV® Wipers
- (1) [HT173228D](#) Diamond ScrubTIP®
- (1) [HT1732](#)-50 UltraSOLV® Swabs

**NOTE: INITIAL CLEAN MAY REQUIRE THE USE OF ADDITIONAL PRODUCTS TO EFFECTIVLY CLEAN CHAMBER BACK TO BARE METAL**

**RECOMMEND: PERFORM A ROUND OF 2-3 PM'S ON SAME TOOL TO ESTABLISH SUFFICIENT DATA FOR EVALUATION**

View "How to" instructional videos on <http://www.foamtecintlwcc.com/flash/>

**AMAT ETCH PM PROCEDURE:**

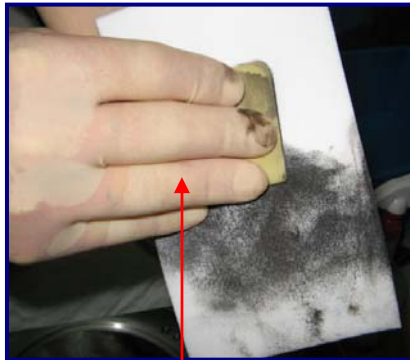
**Step 1:** Initial Clean - Use 3-4 four-folded DI/IPA saturated wipers to thoroughly wet and remove build-up from surface and subsurface of chamber and components. Dampen four-fold wipers using a squeeze bottle; dispense ¼ to ½ teaspoon of DI/IPA solution in a thin line across the area just behind the fold.

**Step 2:** For the best results, allow poly build-up to cool until slightly hardened. Use DI/IPA dampened [HT4532A](#)-10 UltraSOLV® ScrubPAD to remove the top surface of the build-up. Dampen UltraSOLV® ScrubPAD with a squeeze bottle.

**Step 3:** To clear ScrubPAD of sludge, wipe lightly, in one direction, with an [HT4754](#) UltraSOLV® Sponge. (See Fig 1, 2 & 3)



**Fig 1:** ScrubPAD loaded with deposition



**Fig 2:** Pull ScrubPAD across UltraSOLV® Sponge



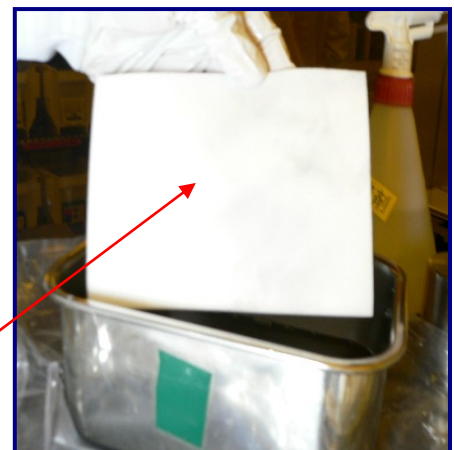
**Fig 3:** Unloaded ScrubPAD

**Step 4:** Unload the UltraSOLV® [HT4754](#) Sponge by rinsing out with DI water and ringing out into a HazMat container. (See Fig 4 & 5)



**Fig 4:** UltraSOLV® Sponge loaded with deposition

**Fig 5:** UltraSOLV® Sponge free of deposition after rinse in DI water



**AMAT ETCH PM PROCEDURE (CONT'D):**

**Step 5:** Cover the ESC to prevent scratching. Lightly scrub the upper ceramic areas with the [HT4540A](#)-10 UltraSOLV® ScrubPAD to remove residue. Occasionally wipe scrubbed areas with [HT4754](#) UltraSOLV® Sponge to remove loosened residue. The same sponge can also be used to “unload” the ScrubPAD for maximum effectiveness. (See steps 3 & 4)

**Step 6:** Move the pedestal to process position to access areas below and around the ESC. Using a fresh UltraSOLV® ScrubPAD, lightly scrub the vertical walls of the pedestal to remove excess residue. As build-up is loosened, follow with Sponge wipe for maximum effectiveness. Remember to unload the UltraSOLV® ScrubPAD frequently to increase cleaning efficiency (See steps 3 & 4) Repeat above for remaining pedestal areas.

**NOTE:** For pedestal walls with extremely hard residue, it is recommended to use an [HT4580D](#)-10, 800 Grit Diamond UltraSOLV® ScrubPAD. For hard-to-reach areas and small vertical surfaces use an [HT174813PD](#) ScrubTIP®. A [HT179060](#) ScrubTIP® should be used to clean vertical surfaces. To final clean these areas use enough [HT1748](#) and [HT1790](#) UltraSOLV® Swabs until no visible contamination transfers off surface to the swab.

**Step 7:** Use an [HT17328D](#) ScrubTIP® to clean areas where the bafflers are fastened to the chamber. [HT1732](#) UltraSOLV® Swabs should be used where residue has been deposited.

**Step 8:** Vacuum the scrubbed areas to ensure final removal of loosened particles.

**Step 9:** Finally, wipe down chamber with 25-40 [HT4790](#) UltraSOLV® Wipers and isopropyl alcohol.

**NOTE:** If the baffle and ceramic rings need to be cleaned in place, the following procedure should be used.

**Step 10:** The ceramic focus ring can be cleaned with an [HT4536D](#)-10 UltraSOLV® 360 Grit Diamond ScrubPAD. To final clean ceramic, wipe with [HT4790](#) UltraSOLV® Wipers until all residue is removed.

**Step 11:** The baffle is easily cleaned with [HT174813PD](#) ScrubTIPS®. The ScrubTIPS® are also effective at cleaning loose residues from the tight spaces in the “fan sector” area. Remember to clean both sides of the baffle with a fresh UltraSOLV® ScrubPAD.