



VACUUM CHAMBER PM TECHNIQUE **AMAT DPS 200MM CHAMBER SCRUB**

OBJECTIVE:

TO EFFECTIVELY PM THE AMAT DPS CHAMBER IN A TIMELY MANNER, WHILE SHOWING A SIGNIFICANT REDUCTION IN COST/PM BY ELIMINATING THE NEED FOR OUTSOURCED PART CLEANING VENDORS

Vacuum Chamber:

AMAT METAL ETCH

Vacuum Chamber Process Residue:

METAL ETCH DEPOSITION

Vacuum Chamber Components:

DPS CHAMBER

Old Procedure:

Remove DPS chamber from ETCH tool and replace with a clean DPS chamber. Use 15 to 20 wipes with DI water and IPA to wipe out the lower ETCH chamber and ASP chamber

Recovery time: 4 to 6 Hours

PROBLEM: DPS CHAMBER SENT TO OFF SITE TO BE CLEANED BY OUTSOURCED PARTS CLEANING VENDOR

New Procedure:

Remove DPS chamber from ETCH tool and replace with a clean DPS chamber. Use 15 to 20 wipes with DI water and IPA to wipe out the lower ETCH chamber and ASP chamber

Recovery time: 4 to 6 Hours

SOLUTION: DPS CHAMBER EASILY CLEANED ON SITE BY CUSTOMER USING FOAMTEC INTERNATIONAL'S PM TECHNIQUE SAVING LARGE COSTS

Vacuum Chamber Products:

AMAT DPS 200MM CHAMBER PM KIT

PM Kit P/N: HT4500 – AMTDPS2

x (2) HT4754 UltraSOLV® Sponge

x



AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

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

- Step 1:** Using proper procedures and **safety guidelines** remove AMAT DPS Chamber from ETCH tool and stage for proper wet clean

- Step 2:** If needed, use an approved fab vacuum and vacuum out the DPS Chamber to remove excessive flakes prior to performing wet clean

- Step 3:** Fill a small container with 1/3 full of DI water and stage next to DPS Chamber (See Fig 1)

Fig 1: Foamtec International products staged for source chamber clean



- Step 4:** Place HT4754 UltraSOLV[®] Sponge in container of DI water to moisten sponge

- Step 5:** Using the dampened UltraSOLV[®] Sponge, begin wiping off deposition from the DPS Chamber walls (See Fig 2 & 3)



Fig 2 & 3: Dampened UltraSOLV[®] Sponge wiping off deposition from DPS Chamber



AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

Step 6: It is important to keep rinsing off the UltraSOLV[®] Sponge with DI water in order to help clear the sponge free from deposition (See Fig 4 & 5)

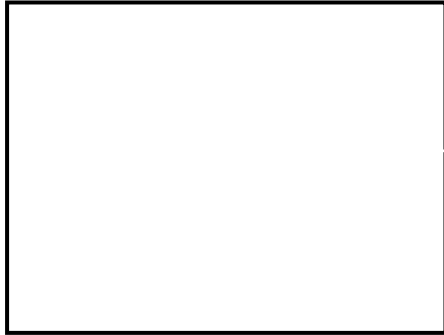
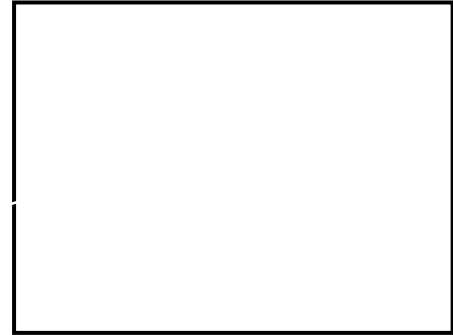


Fig 4 & 5: Rinsing off the UltraSOLV[®] Sponge in DI water



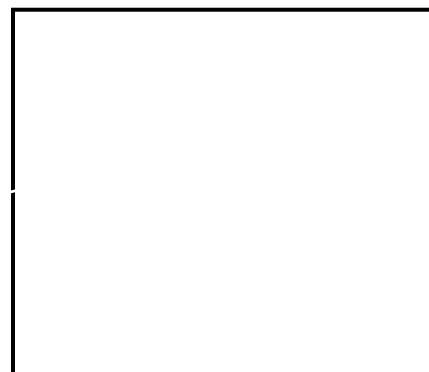
Step 7: Continue wiping the DPS chamber with the dampened UltraSOLV[®] Sponge and rinsing off the sponge as necessary. It is important to keep the UltraSOLV Sponge moist as the DI water will react with the deposition on the DPS Chamber making it easier to remove

Step 8: Continue wiping the DPS Chamber for 30 to 45 minutes or until all of the heavier deposition throughout the chamber has been removed

Step 9: Poor the contaminated DI water in properly approved drain and refill the container with fresh DI water

Step 10: Place the 2nd UltraSOLV[®] Sponge and one of the 800 Grit Diamond ScrubPADS into the container of DI water (See Fig 6)

Fig 6: Placing UltraSOLV[®] Sponge and Diamond Grit ScrubPAD in fresh DI water



AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

Step 11: In order to fully remove the remaining deposition accumulated on the DPS Chamber, take the dampened 800 Grit Diamond ScrubPAD and begin scrubbing the chamber walls (See Fig 7)

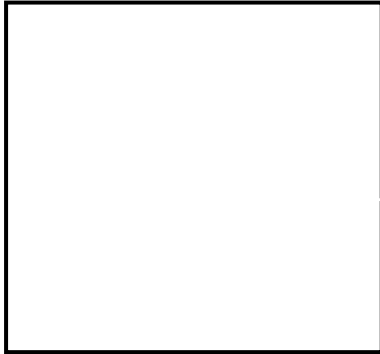


Fig 7: Diamond ScrubPAD scrubbing off remaining deposition from DPS Chamber

Step 12: As the deposition begins to loosen on the chamber walls, take the dampened UltraSOLV[®] sponge and wipe of the loose deposition

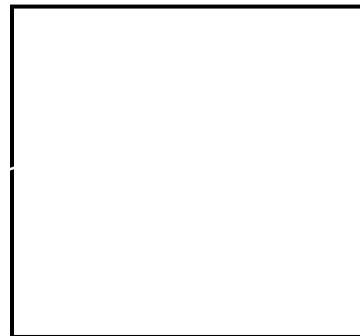


Fig 8: UltraSOLV[®] Sponge removing loose deposition from DPS Chamber

Step 13: As the ScrubPAD loads up with deposition, pull across dampened UltraSOLV[®] Sponge to unload ScrubPAD (See Fig 9, 10 & 11)



Fig 9: ScrubPAD loaded with deposition



Fig 10: Pull ScrubPAD across UltraSOLV[®] Sponge



Fig 11: Unloaded ScrubPAD

AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

Step 14: As UltraSOLV® Sponge becomes loaded with deposition, rinse in container of DI water (See Fig 12 & 13)

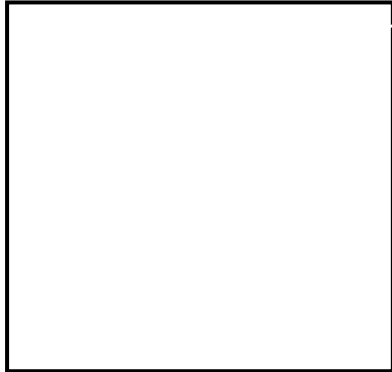


Fig 12: UltraSOLV®
Sponge loaded with
deposition

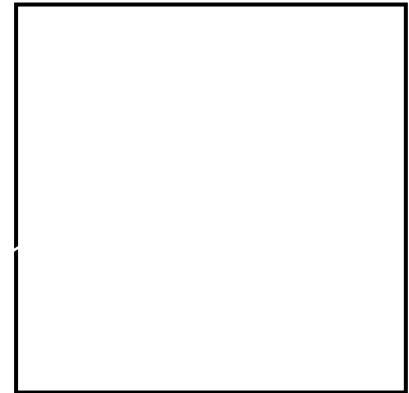


Fig 13: UltraSOLV®
Sponge free of
deposition after rinse in
DI water

Step 15: Repeat steps 11 - 14, scrubbing the remaining areas of the DPS Chamber, ensuring to rinse out UltraSOLV® Sponge and unload 800 Grit Diamond ScrubPAD as necessary

Step 16: After 20 – 30 minutes of scrubbing, take the 2nd 800 Grit Diamond ScrubPAD and using the same technique described above, scrub the remaining areas of the DPS Chamber concentrating on the areas where heavy buildup may have accumulated (See Fig 14)



Fig 14: Scrubbing
remaining deposition
from DPS Chamber

Step 17: Ensure to remove the corner access plates around the DPS Chamber (See Fig 15)

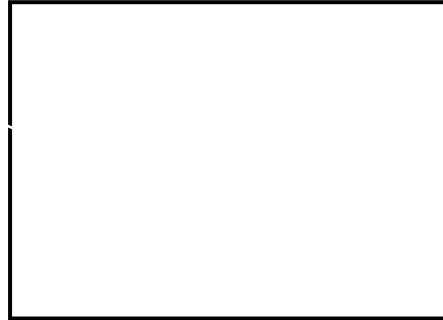
Fig 15: Removing
access plates around
DPS Chamber



AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

Step 18: In order to effectively reach into the holes around the DPS Chamber, roll up the 800 Grit Diamond ScrubPAD. Insert the rolled up ScrubPAD and continue to twist while pulling the ScrubPAD in and out of the hole. This will help remove the accumulated deposition from within the holes (See Fig 16)

Fig 16: Rolled up Diamond ScrubPAD removing deposition from holes throughout DPS Chamber



Step 19: If there is still some remaining deposition accumulated in any of the holes, take the 800 Grit Diamond ScrubTIP® and insert into the holes and scrub deposition free (See Fig 17)



Fig 17: 800 Grit Diamond ScrubTIP® used to scrub out deposition from within holes throughout DPS

Step 20: In preparation for DPS Chamber Final Wipe, take an HT5790S MiraWIPE® and saturate with DI water

Step 21: With DI water saturated MiraWIPE® proceed to wipe down the entire DPS Chamber, that includes all areas throughout the chamber walls and all areas outside of the DPS Chamber, including top and bottom of DPS Chamber (See Fig 18 & 19)

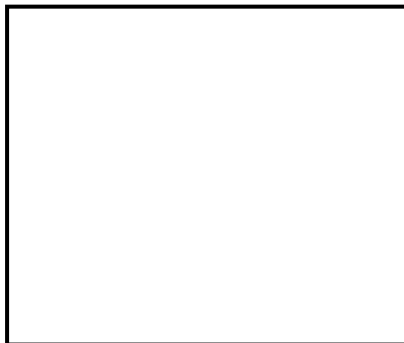


Fig 18 & 19: DI water saturated MiraWIPE® wiping down entire DPS Chamber



AMAT DPS 200MM CHAMBER SCRUB PM PROCEDURE:

Step 25: Using the HT1511FC MiraSWABS® saturated with IPA effectively wipe out all the hard to reach areas, including all o-ring areas throughout the DPS Chamber (See Fig 21)

Fig 21: MiraSWAB® wiping out o-ring area of DPS Chamber



Step 26: If bake oven is available and time allows, place DPS Chamber in oven for 4 to 6 hours prior to placing back into AMAT Centura ETCH tool

