



VACUUM CHAMBER PM TECHNIQUE NOVELLUS CONCEPT SHOWER HEAD WIPE

OBJECTIVE:

TO EFFECTIVELY PM NOVELLUS CONCEPT SHOWER HEAD IN A TIMELY MANNER, WHILE IMPROVING TOOL RECOVERY, PARTICLE PERFORMANCE AND REDUCING HAZARDOUS WASTE

Vacuum Chamber:

Vacuum Chamber Process Residue:

Vacuum Chamber Components:

NOVELLUS CONCEPT 1 & 2

PROCESS INDUCED RESIDUE

SHOWER HEADS

Old Procedure:

DI water, 50+ wipers

New Procedure:

DI water, Foamtec Foam Wipers

Vacuum Chamber Products:

- (6) [FS4291](#) PilloWIPE®
- or -
- (6) [HT4790](#) UltraSOLV® Foam Wipe

- (1) [HT5790S](#)-5 MiraWIPES®



The Foamtec International PilloWIPES® and UltraSOLV® Foam Wipers are sponge-like 9x9 wipers that can effectively wipe the Novellus hot shower heads, while protecting the technicians

NOVELLUS CONCEPT SHOWER HEAD WIPE PM PROCEDURE:

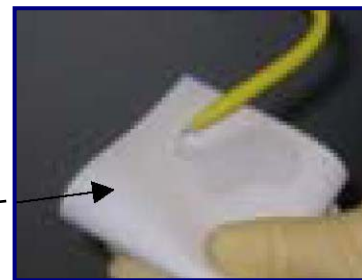
View "How to" instructional videos on <http://www.foamtecintlwcc.com/flash/>

Step 1: Using proper procedures and **safety guidelines** properly shutdown, vent and prepare to perform Novellus Shower Head Wipe

Step 2: Fold the [FS4291](#) PilloWIPE® into ¼'s and soak with DI water (See Fig 1)

NOTE: **DUE TO THE PilloWIPE®'s SPONGE-LIKE CHARACTERISTICS, SUFFICIENT DI WATER WILL BE NEEDED TO PROPERLY SOAK PilloWIPE® THROUGH. ENSURE TO SQUEEZE TO WORK IN THE DI WATER**

Fig 1: [FS4291](#) PilloWIPE® Folded into ¼'s and soaked with DI water



Step 3: In a pulling motion, proceed to wipe shower head from back to front (See Fig 2 & 3)

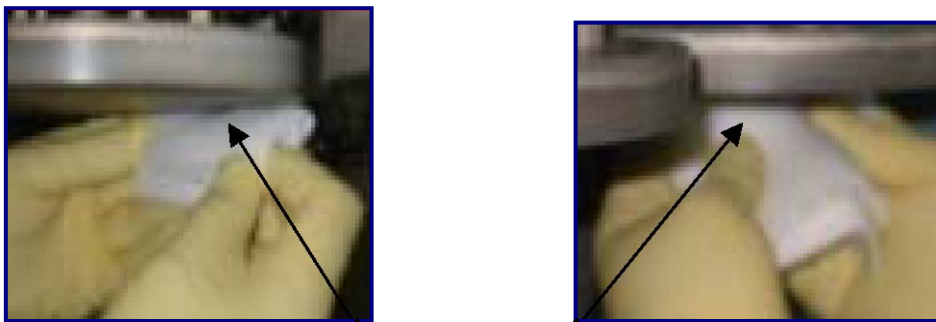


Fig 2 & 3: Pull [FS4291](#) from back to front across shower head

NOTE: **REFOLD PilloWIPE® AND CONTINUE TO WIPE SHOWER HEAD USING A FRESH AREA OF PilloWIPE®**

Step 4: Repeat process for remaining Novellus shower heads

NOVELLUS CONCEPT SHOWER HEAD WIPE PM PROCEDURE (CONT'D):

Step 5: Inspect Novellus Shower Heads and re-wipe any questionable areas, ensuring to use a fresh side of the PilloWIPE®

FINAL IPA WIPE PROCEDURE:

VERY IMPORTANT NOTE

THE USE OF HT5790S MiraWIPES® DURING THE FINAL WIPE PROCEDURE IS A CRITICAL STEP TO EFFECTIVELY REMOVE PARTICLE DEFECTS

NOTE: Figure below shows how much more deposition the Foamtec International MiraWIPE® can remove from a critical surface compared to the standard fab wiper, making the MiraWIPE® Final IPA Wipe the most **CRITICAL STEP** of the PM procedure (See Fig 4a & 4b)



Fig 4a: Current fab wiper after completely wiping chamber

Fig 4b: Particles picked up using HT5790S MiraWIPES® after completely wiping with current fab wiper

MiraWIPES® are the KEY STEP for DEFECT REDUCTION and IMPROVED TOOL RECOVERY

Step 6: Dampen the HT5790S MiraWIPES® with IPA and perform a **THOROUGH AND EFFECTIVE WIPE-DOWN** of all vacuum sealing surfaces on the Novellus chamber

Step 7: Ensure to wipe down all spare parts placed back into the Novellus Concept Chamber using additional IPA dampened HT5790S MiraWIPES®