Honeywell Advanced Cleaning Technology
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HIGHLY SELECTIVE CLEANING CHEMISTRIES* FOR COPPER DUAL DAMASCENE PROCESSING

BENEFITS
- Removal of polymer sidewall residue
- Copper and porous Low-k compatible
- Removal of post etch and ash residues
- Removal of CuOx, CuFx residues
- Non-volatile, non-flammable formulations
- Low process temperature (<35°C)
- Short process time (60 – 90 sec.)
- Compatible with existing manufacturing equipment
*patent pending

DEMO CONDITIONS
Blanket Film Preparation Conditions:
- Wafers prepared at the Honeywell STAR center in Sunnyvale, CA
- iBARC films deposited using a TEL Act 8 SOG coater

iBARC248
Bake sequence: 60sec at 130°C, 60sec at 200°C, 60sec at 250°C
Etch conditions: (TEL Unity 2 DRM): time = 10sec, power = 1500W, pressure = 40mT (10sccm CuF2, 50sccm CO, 200sccm Ar, 4sccm O2, 100sccm N2)
Ash conditions: (Gasonic L-3510): time = 60sec, power = 900W, pressure = 1200mT (2000sccm O2, 100sccm N2)

Wet Etch Conditions:
- Wafers processed at SEZ America’s Research and Development Lab in Phoenix, AZ
- Blanket wafers were processed on a variation of the SEZ Spin Processor 4200, a multi-task single wafer processing machine used for front side wafer treatment on 200mm wafers.

For more information on SEZ equipment, please contact SEZ: contact_us@sez.com

- Chuck speed: 600 rpm
- Flow rate: 1 L/min
- Temperature ranged from 25°C to 65°C depending on POR of chemistries tested
- Process time ranged between 20 sec and 2 min depending on initial thickness and removal rate of iBARCs tested

Complete Dissolution of Via Fill iBARC**

BLANKET FILM STUDIES

Static Beaker Tests Honeywell iBARC Cleaner @ 35°C

Post Plasma Treatment Selectivity iBARC : T EOS

Etched and Ashed Blanket Films

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