

Kapton Tape

STANDARD OPERATING PROCEDURE

CORAL

Name:--

Model

Number:--

Location:--

What it does:--

Introduction: Kapton tape is used during the initial installation and process qualification of ST Systems etch tools by the install engineer. The tape has later been used in micro-engine processes for:

- Covering global alignment marks in AX9260 since thick resist may form bubbles if painted on, resulting in pox and through holes in the wafers
- Backside seal when through holes and uniform etch are needed at the same time.

The tape must be applied to the wafer Using tweezers to avoid getting fingermarks on the wafer surface. The tape can be removed easily if it is put on top of resist and released in Acetone. When put directly on wafer surface, tape residue is difficult to remove by the usual cleaning processes such as Ashing, Piranha, and RCA.

Safety:--

Procedure: Process 1: Backside Sealing

1. Perform Photolithographic process on the front side.
2. Coat the wafer with thick resist on the back side and bake. Inspect to make sure the area to be taped is fully covered.
3. Put Kapton tape on the backside. Ensure that there are no bubbles and the contact is good.
4. DRIE in one of the STS machines according to process flow.
5. Place the wafer in a plasti000 c beaker with Acetone until all tape peels off the wafer. Peel the tape off before putting the wafer in acetone if possible.
6. Thorough rinse the wafer with solvents, inspect for tape residue.
7. Continue with normal cleaning procedures: Piranha, Ashing, and/or RCA depending on regular process flow. There should be no tape or its residue in the Asher, Piranha, or RCA.

Process 2: Alignment Marks

1. Complete Photolithographic process with AZ9260.
2. Paint the alignment marks or other features with thick resist and bake
3. Cover the painted area with Kapton tape. Ensure that there are no bubbles and the contact is good.
4. DRIE in one of the STS machines according to process flow.
5. Place the wafer in a plastic beaker with Acetone until all tape peels off the wafer. Peel the tape off before putting the wafer in acetone if possible.
6. Thorough rinse the wafer with solvents, inspect for tape residue.
7. Continue with normal cleaning procedures: Piranha, Ashing, and/or RCA depending on regular process flow. There should be no tape or its residue in the Asher, Piranha, or RCA.

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