AccuTRIM

Advanced multi step low swelling profile EBR System

Application – 45nm node Photomask Accurate Edge Bead Removal (EBR) System

In Brief: Acutrim is a new EBR (edge bead removal) system specifically designed to reduce swelling associated with post coat edge bead processing. Resist swelling can result in significant defects after the resist stripping. These defects manifest as resist residue on the edge of mask because of the significant thickness differential between the edge bead and the field resist thickness. A new design in EBR systems is utilized. A localized exhaust port is placed in close proximity to mask edge and surface evacuating solvent and resist byproducts during EBR processing. This results in significant reductions in swell height and width at the edge of the mask.

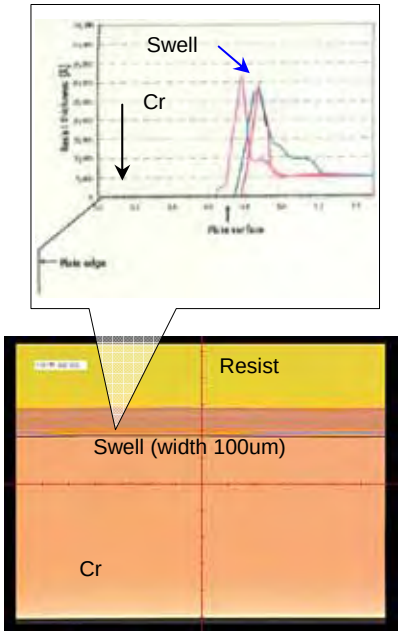

Fig 1. Existing EBR Process

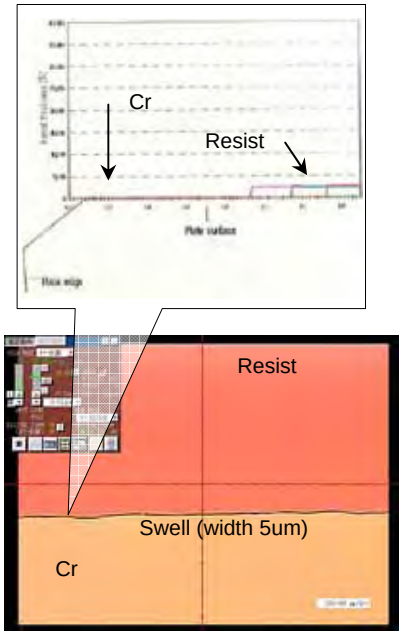

Fig.2 Accutrim Process

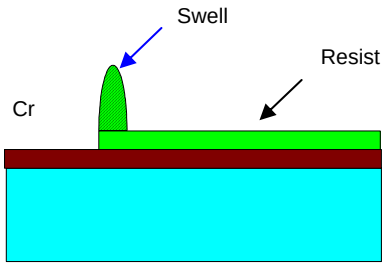

Fig 3 Cross Section EBR Process

Features and Benefits

Feature	***Benefit***
Suction nozzle	• Precise removal of solvent and resist resulting in no swelling
Syringe nozzle	• Precise solvent dispense clean delineation
Suction nozzle positioning	• Precision programmable positioning of suction nozzle 1~1.5mm from the masks edge
Syringe nozzle linear drive	• Programmable nozzle scan speed and cycle