



Aqua-45N

Advanced Multipass Slit-scan Photomask Developer

Application – 45 nm-node Photomask Aqueous Develop System

In Brief: Scanning chemical dispense nozzle provides class-leading CD uniformity while eliminating “coffee-cup” defects associated with conventional spray systems. At the reduced resist thickness required for the 45nm technology node, localised thinning at “coffee-cup” sites can result in pin-holing, leading to post-etch killer defects. Resist/developer by-products are gently dispersed by controllable low-power density ultrasonic energy, effectively solving the residue-defectivity limitations of puddle-like develop processes, while avoiding the impact-damage associated with spray.

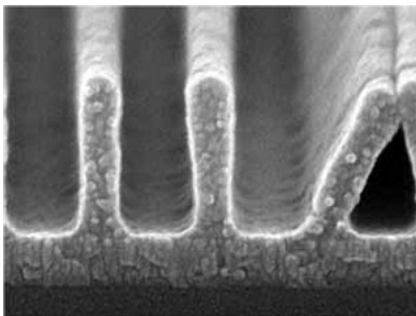


Fig.1 Existing spray process pattern x-section

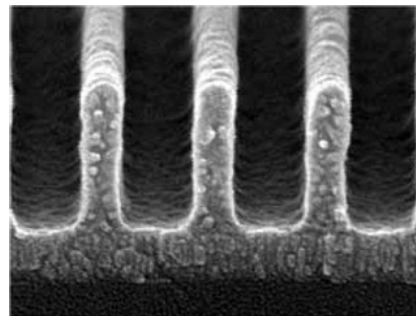


Fig.2 Aqua45N process Pattern x-section

Features and Benefits

Feature	Benefit
Mega-Sonic bar	<ul style="list-style-type: none"> Dispersal/removal of develop by-products – defect elimination Low power density qualified for fine geometries/scatter-bars
Slit Nozzle	<ul style="list-style-type: none"> Eliminates spray impact-damage to photoresist surface Class-leading CD uniformity improved
Integration	<ul style="list-style-type: none"> Fully Compatible standard MTC module
Fast scanning speed	<ul style="list-style-type: none"> Negligible edge-to-edge develop time difference

概要
Overview

プロセス
Process

システム
SYSTEM

その他
Other