Custom Ptfe Wafer Cleaning Baskets Semiconductor Silicon Wafer Holders Low Background Fluoropolymer Cassettes

Item Number: PL-CP266

Introduction

High-purity custom PTFE wafer cleaning baskets for semiconductor processing. Engineered for low background trace analysis and aggressive chemical resistance, these bespoke fluoropolymer cassettes ensure zero dissolution and contamination-free handling of silicon wafers in critical cleanroom environments and industrial laboratories.

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Application	Description	Key Benefit
RCA Cleaning (SC-1/SC-2)	Removal of organic contaminants, thin oxide layers, and ionic impurities from silicon surfaces.	High resistance to hydrogen peroxide and ammonium hydroxide mixtures.
Hydrofluoric Acid Etching	Selective removal of silicon dioxide layers and surface passivation.	Complete immunity to HF, which would otherwise degrade quartz or glass carriers.
Piranha Etch Processing	Aggressive removal of heavy organic residues and photoresist using sulfuric acid and peroxide.	Maintains structural integrity in highly exothermic and oxidizing environments.
Photolithography Support	Handling wafers during the developing, stripping, and rinsing of photoresist materials.	Solvent resistance ensures the carrier does not swell or soften when exposed to strippers.
Post-CMP Rinsing	Critical cleaning of wafers following Chemical Mechanical Planarization to remove abrasive slurries.	Low-particle generation surface ensures wafers remain clean after the polishing stage.
Compound Semiconductor Prep	Specialized cleaning of GaAs, GaN, and InP wafers for advanced optoelectronics.	Gentle, precision-slotted support prevents damage to brittle compound materials.
Ultrasonic/Megasonic Cleaning	High-frequency vibration cleaning to dislodge sub-micron particles in deionized water.	Material properties dampen excessive vibration while allowing effective energy transfer.

Parameter Category	Specification Detail for PL-CP266
Primary Material	High-Purity PTFE (Polytetrafluoroethylene) / PFA (Perfluoroalkoxy)
Manufacturing Method	High-Precision CNC Machining (Custom Fabricated)
Wafer Size Compatibility	Fully Customizable (Common sizes: 2", 3", 4", 6", 8", 12" or bespoke dimensions)
Slot Configuration	Custom spacing, depth, and quantity based on process requirements
Handle Design	Fixed, removable, or integrated lifting eyes available (Customizable)
Chemical Resistance	Excellent (Compatible with all acids, bases, and organic solvents)
Operating Temperature Range	-200°C to +260°C (Material limit; application specific)
Surface Roughness	Controlled CNC finish for minimal particle entrapment
Trace Element Background	Optimized for low-level trace analysis (□□□□□□)
Dissolution Profile	Zero dissolution / No leachable additives (□□)