

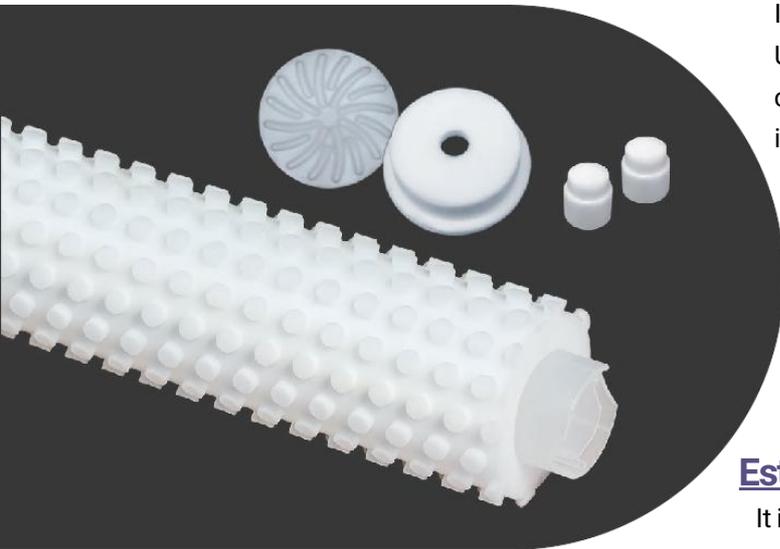
PRODUCT GUIDE

post-CMP equipment consumables
PVA brush

PURIENCE_PVA BRUSH

Optimal solution to control the wafer contamination

INTRODUCTION



Semiconductors : Cleanliness is important!

Impurities are not acceptable in the semiconductor industry. Using **the functional PVA brush is essential** for preventing contamination defects after the CMP process and improving yield.

PURIENCE's Functional PVA brush

We develop **highly clean brush** that eliminate organic impurities and **next-generation brush** designed to control metal contamination. We supply core-body integrated products that meet the stric standards required for ultrafine processes.

Establishing a stable supply system!

It is possible to accurately understand the customer's specific needs for **improving semiconductor quality and yield** and promptly address issues locally.

APPLICATION

Feature PVA brush is very hydrophilic and the pores are inter-connected.



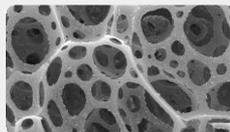
No generation of dust



Absorbs up to 12~18 times its dry weight



Highly resistant to chemicals (acids, bases, and organic solvents)



Pores are interconnected

- Rigid when dry, soft when wet
- Non-linting and non-scratching
- Resistant to sunlight and UV rays
- Easily controlled pore size and shape
- Mechanically strong, abrasion resistant
- Heat resistance to 80 °C in wet condition

Application They are used for a variety of purposes in the industries including semiconductors, displays, and advanced sectors.



Semiconductor



Display



Advanced tech.



Medical

- **Semiconductor**
 - p-CMP : FEoL, MoL, BEoL, packaging
 - Photomask cleaning, Substrate reclaim
- **Display**
- **Advanced technology**
 - Critical Thinfilm (Nano coating, Smart glass)
 - Micro Sensor (Wearable, Micro fluidic)
- **Medical**
 - Blood absorption, Device cleaning

BRUSH LIST

Tailoring products to meet the needs of individual customers

8inch PVA brush

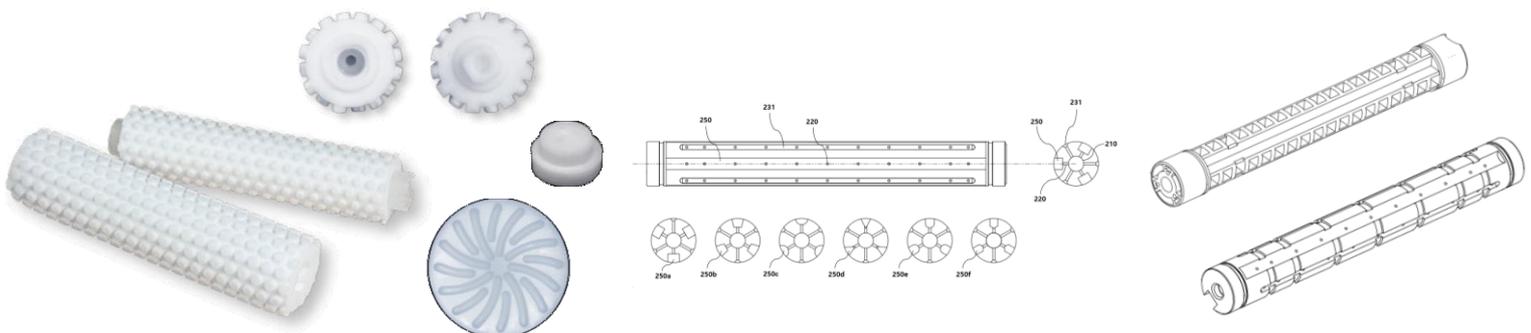
품번	제품명	규격
IC70-AM32-H218-P	PURIENCE-70-32-BRUSH-MESA	70*32*218
MC60-ON32-H241	PURIENCE-60-32-BRUSH-ONTRAK	60*32*241
MC60-UN32-H254-P	PURIENCE-60-32-BRUSH-UNIPLA	60*32*254
IC60-ON32-H241-P	PURIENCE-60-32-BRUSH-ONTRAK	60*32*241
MC38-EB18-H218	PURIENCE-38-18-BRUSH-EBARA	38*18*218
MC38-EB018-H218	PURIENCE-38-18-BRUSH-EBARA0	38*18*218

12inch PVA brush

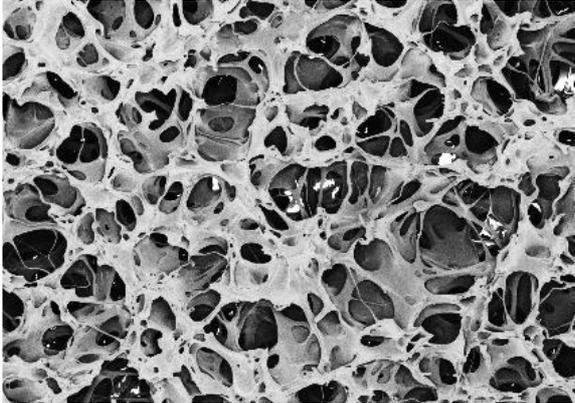
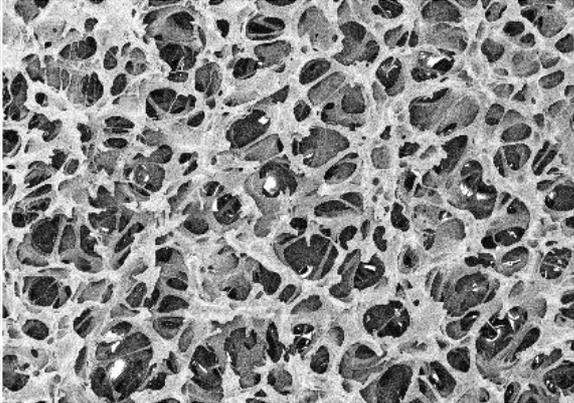
품번	제품명	규격
IC70-AL31-H319-P	PURIENCE-70-32-BRUSH-AMAT-LKI	70*32*319
MC70-AL31-H319-P	PURIENCE-70-32-BRUSH-AMAT-LKM	70*32*319
IC60-EX32-H309	PURIENCE-60-32-BRUSH-EBARA-XI	60*32*309
MC60-EX32-H309	PURIENCE-60-32-BRUSH-EBARA-XM	60*32*309
IC38-ESS18-H310	PURIENCE-38-18-BRUSH-EBARA-S2	38*18*310

Core Highlights

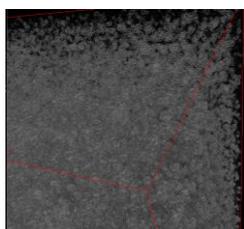
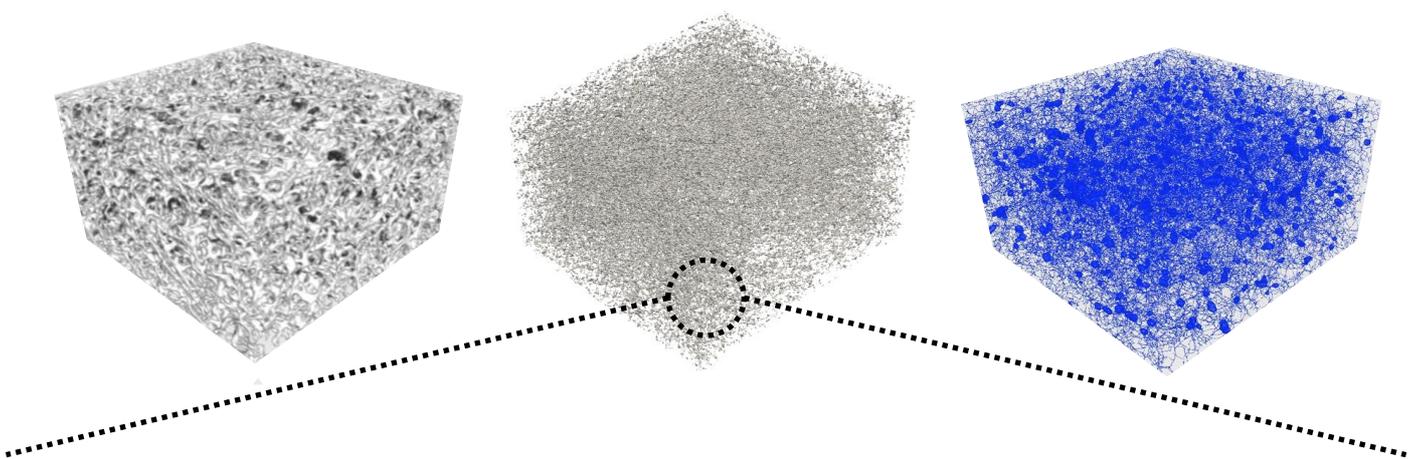
- Strip structure for **anti-slip and moisture uniformity**
- Pit design to **prevent idle rotation and twisting**
- ※ Integrated core-brush structure for **enhanced cleaning**



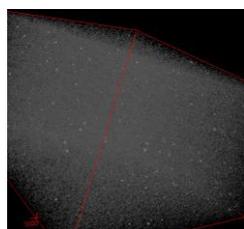
PHYSICAL PROPERTY

Specification	200mm (8inch)	300mm (12inch)
Image		
30% compressive stress (gf/cm ²)	120~140gf/cm ²	90~110gf/cm ²
Median pore size (μm)	60~80μm	70~120μm
Porosity (%)	88-90%	90%
Water Absorption (%)	750-850%	800~1000%
Density (g/cm ³)	0.15~0.25g/cm ³	0.10~0.20g/cm ³

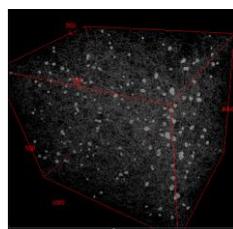
Advancing Microstructure Analysis



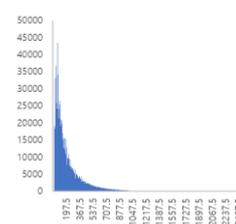
Open cell



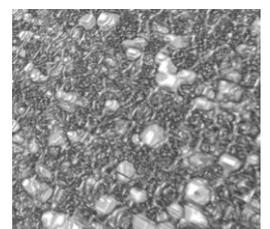
Closed cell



Impurity Analysis



Pore Size and Distribution



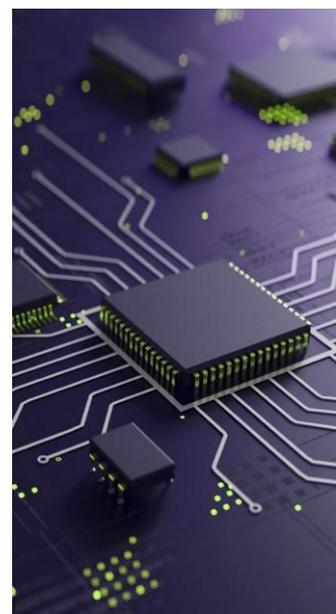
Connectivity

CHEMICAL RESISTANCE

Chemical	Concentration	Chemical	Concentration
Acetic acid	< 3%	Isopropanol	< 8%
Acetone	< 20%	Methyl ethyl ketone	< 10%
Ammonium hydroxide	< 20%	Methanol	< 20%
Citric acid	< 10%	Phosphoric acid	< 5%
EDTA	< 10%	Sodium hydroxide	< 5%
Ethanol	< 10%	Sulfuric acid	< 5%
Hydrochloric acid	< 3%	Tetrahydrofuran	Attacked
Hydrofluoric acid	< 5%	Xylene	Slight hardening
Hydrogen peroxide	< 5%		

CONTAMINATION

Ion	Concentration (ppb)	Metal	Concentration (ppb)
Br ⁻	< 0.5	Li	0.02
Cl ⁻	< 0.7	Na	0.02
F ⁻	< 0.5	K	0.02
NO ₃ ⁻	< 0.5	Mg	0.02
SO ₄ ²⁻	< 0.5	Ca	0.03
Na ⁺	< 0.5	Al	0.005
Li ⁺	< 0.2	Cu	0.005
K ⁺	< 0.5	W	0.005
Ca ²⁺	< 0.5	Cr	0.009
Mg ²⁺	< 0.2	Fe	0.009



Building a Domestic and Global Semiconductor Ecosystem

Purience Co., Ltd. is a provider of functional components for the semiconductor industry.

We develop, manufacture, and supply PVA brushes for post-CMP semiconductor processes, contributing to the localization of key components and the stabilization of the supply chain.

Through these efforts, we aim to play a vital role in strengthening Korea's semiconductor ecosystem.



Headquarters

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R&D center(Experiment)

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R&D center(Analysis)

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