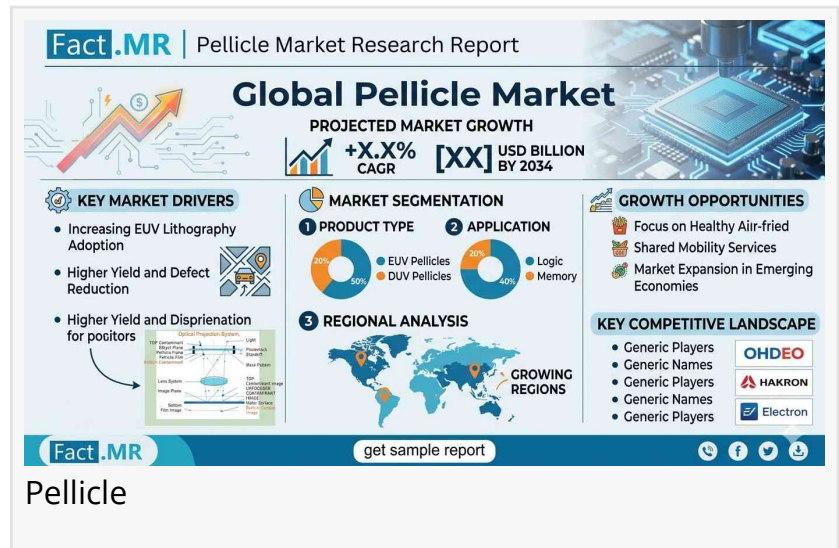


Global Pellicle Market Dominated by Asia Pacific as Mitsui Chemicals and Shin-Etsu Expand Semiconductor Materials

Pellicle Market is segmented by Type (Protective Film, Membrane Pellicles, Other)

ROCKVILLE, MD, UNITED STATES, April 1, 2026 /EINPresswire.com/ -- In the high-stakes world of sub-5nm chipmaking, a single microscopic particle can destroy a USD 500,000 photomask. This reality is the primary engine behind the global [pellicle market](#), which is projected to expand from USD 432.96 million in 2026 to USD 746.60 million by 2036, according to a definitive strategic outlook by Fact.MR.



The market's 5.6% CAGR is being fueled by a "dual-track" demand: the massive volume requirements of the flat panel display industry and the hyper-technical, high-value transition to Extreme Ultraviolet (EUV) lithography.

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The 90% Transmission Challenge: A New Technical Frontier

As ASML ramps up shipments of EUV scanners—surpassing 50 units annually—the industry is hitting a material science bottleneck. Unlike traditional deep ultraviolet (DUV) pellicles, next-generation EUV membranes must be incredibly thin (30 to 50 nm) to achieve 92% transmission at a 13.5 nm wavelength while surviving temperatures above 1,000°C.

"The EUV pellicle is currently the market's defining technical frontier. Suppliers who cannot demonstrate membrane survival through 30,000 wafer exposures face total exclusion from the qualification lines of giants like TSMC, Samsung, and Intel."

Pellicle Market Key Indicators: 2026–2036

Metric

2026 Projection

2036 Forecast

Market Value

USD 432.96 Million

USD 746.60 Million

Growth Leader

China (6.5% CAGR)

Taiwan (6.0% CAGR)

Dominant Type

Protective Film (Displays)

55.0% Share

Primary Application

Displays & Touchscreens

50.0% Share

Absolute Expansion

—

USD 313.64 Million

Regional Growth Engines: China and Taiwan Set the Pace

The geography of the pellicle market mirrors the global concentration of advanced electronics manufacturing:

China (6.5% CAGR): Dominating the volume segment. Massive investments by BOE Technology and local semiconductor fabs are creating a surge in demand for both conventional and high-performance protective films.

Taiwan (6.0% CAGR): The epicenter of high-value semiconductor pellicles. As the world's foundry leader, Taiwan is driving the shift toward inorganic membranes (Carbon Nanotube, Polysilicon) for EUV scanner integration.

South Korea (5.2% CAGR): Driven by the "Foldable Revolution." Samsung and Huawei's push for foldable laptops requires ultra-thin pellicle films that withstand 200,000+ folding cycles without optical degradation.

Strategic Imperatives for Procurement Leaders

With a limited number of qualified membrane manufacturers globally, Fact.MR highlights several critical takeaways for industry stakeholders:

Secure Allocation Early: Procurement teams must establish multi-year supply agreements to avoid bottlenecks as EUV production scales.

Focus on Material Science: R&D resources are pivoting toward Silicon Nitride and Carbon Nanotubes to replace legacy fluoropolymers that are opaque at EUV wavelengths.

Regulatory Preparedness: Tighter environmental and safety standards for chemical processing are favoring established European and Japanese processors who can guarantee traceability.

Competitive Landscape: The Power of Qualification

The market is consolidating around players who can bridge the gap between high-volume display films and high-precision semiconductor membranes.

Leading Innovators: Nitto Denko, 3M, Toray, Sumitomo, and Mitsui Fine.

Strategic Challengers: SKC, LG Chem, DuPont, and Shin-Etsu.

Niche Specialists: tesa, Avery Dennison, and Kolon.

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