

# **Semiconductor CMP Materials Market Forecasts to 2034 – Global Analysis By Material Type (CMP Slurries, CMP Pads, CMP Pad Conditioners, CMP Filters, CMP Cleaning Chemicals and Other CMP Materials), Slurry Chemistry, Polished Layer, Technology Node, End User and Geography**

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## **Abstracts**

According to Statistics MRC, the Global Semiconductor CMP Materials Market is accounted for \$3.2 billion in 2026 and is expected to reach \$5.8 billion by 2034 growing at a CAGR of 7.7% during the forecast period. Semiconductor CMP Materials are consumable materials used in chemical mechanical planarization to selectively remove and flatten material layers during semiconductor wafer fabrication. They primarily include CMP slurries, abrasive particles, polishing pads, conditioners, and associated chemical formulations. CMP is used to achieve highly planar wafer surfaces after processes such as interconnect formation, dielectric deposition, and device-layer fabrication. Materials are engineered to control removal rates, selectivity, surface roughness, defect levels, and contamination. Applications span silicon wafers, dielectric layers, copper, tungsten, cobalt, and other advanced semiconductor materials. Increasing wafer complexity and the adoption of advanced process nodes are driving demand for more precise CMP formulations. Development is increasingly focused on improved selectivity, reduced defects, advanced abrasives, and formulations compatible with emerging semiconductor materials.

## **Market Dynamics**

### **Driver:**

**Growing demand for advanced node manufacturing**

Increasing production of advanced node semiconductors for AI, 5G, and high-performance computing applications is driving demand for CMP materials that enable precise planarization at nanometer scales. Advanced nodes require increasingly sophisticated CMP processes with tighter tolerances and improved defect control. Growing complexity of interconnect stacks increases the number of CMP steps per wafer. Rising wafer sizes and production volumes drive higher CMP material consumption. Demand for defect-free surfaces at advanced nodes supports premium CMP material adoption.

## **Restraint:**

### **High material costs and process complexity**

High costs of advanced CMP slurries and pads present challenges for cost-sensitive applications, particularly at mature nodes. Process complexity of CMP at advanced nodes requires specialized expertise and extensive process optimization. Defectivity and yield challenges associated with CMP processes require continuous material innovation. Limited availability of certain rare earth materials used in CMP slurries creates supply chain concerns. Environmental regulations on slurry disposal add to total cost of ownership.

## **Opportunity:**

### **Advanced packaging and heterogeneous integration**

Growth in advanced packaging including 2.5D, 3D, and chiplet architectures creates new opportunities for CMP materials in packaging applications. Hybrid bonding and TSV formation require specialized CMP processes and materials. Growing adoption of gate-all-around architectures creates demand for new CMP formulations. Development of sustainable CMP materials with reduced environmental impact presents differentiation opportunities. Expansion of compound semiconductor manufacturing creates new CMP material applications.

## **Threat:**

### **Technology transitions and material substitution**

Technology transitions may render existing CMP material formulations obsolete, requiring continuous innovation investment. Competition from alternative planarization technologies may limit growth in certain applications. Economic cyclicity in semiconductor markets affects CMP material demand. Geopolitical tensions may

disrupt supply chains for critical CMP materials. Consolidation among semiconductor manufacturers may increase buyer power.

### **Covid-19 Impact:**

The COVID-19 pandemic disrupted semiconductor supply chains and highlighted the importance of CMP materials in maintaining chip production. Demand for semiconductors surged during the pandemic, driving increased CMP material consumption. The post-pandemic period has witnessed sustained investment in semiconductor manufacturing capacity, supporting CMP material demand. Supply chain resilience initiatives have increased focus on regional CMP material production. Growing government support for semiconductor manufacturing continues driving market growth.

### **The CMP slurries segment is expected to be the largest during the forecast period**

The CMP slurries segment is expected to account for the largest market share during the forecast period as slurries are consumed in every CMP step and represent the highest volume material category. Growing demand for advanced node manufacturing drives increased slurry consumption and performance requirements. Advances in slurry chemistry enable improved planarization for challenging materials. Established supply relationships and application expertise support segment leadership. CMP slurries are critical for achieving required surface quality at all technology nodes.

### **The ceria-based slurries segment is expected to have the highest CAGR during the forecast period**

Over the forecast period, the ceria-based slurries segment is predicted to witness the highest growth rate driven by increasing demand for shallow trench isolation and interlayer dielectric CMP applications. Ceria-based slurries offer high removal rates and excellent selectivity for oxide CMP processes. Growing adoption in advanced node manufacturing supports segment growth. Advances in ceria particle engineering improve performance and reduce defects. Ceria-based slurries are increasingly preferred for critical CMP applications.

### **Region with largest share:**

During the forecast period, the Asia Pacific region is expected to hold the largest market

share owing to dominant semiconductor manufacturing base in Taiwan, South Korea, China, and Japan. The region hosts the world's largest semiconductor fabrication capacity with extensive CMP material consumption. Major foundries and memory manufacturers drive substantial demand for CMP materials. Government support for semiconductor manufacturing reinforces regional market leadership. Continued capacity expansion across the region drives CMP material demand.

## **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by continued semiconductor capacity expansion and technology upgrades. China is investing heavily in domestic semiconductor production, creating substantial new demand for CMP materials. Southeast Asian countries are expanding semiconductor manufacturing capacity. Growing investment in advanced node production accelerates demand for high-performance CMP materials. Regional supply chain development supports market growth.

## **Key players in the market**

Some of the key players in the Semiconductor CMP Materials Market include Entegris, Inc., Cabot Microelectronics Corporation, Fujimi Incorporated, CMC Materials, Inc., Merck KGaA, DuPont de Nemours, Inc., Fujifilm Holdings Corporation, Resonac Holdings Corporation, Linde plc, 3M Company, AGC Inc., Hitachi Chemical Co., Ltd., TOKYO OHKA KOGYO CO., LTD., Asahi Glass Co., Ltd., and SKC Solmics Co., Ltd.

## **Key Developments:**

In August 2026, Entegris, Inc. launched a new line of CMP slurries specifically designed for gate-all-around transistor architectures, offering improved selectivity and reduced defectivity for critical oxide CMP applications.

In April 2026, CMC Materials, Inc. introduced advanced CMP pad technology featuring improved pad life and consistent performance for high-volume manufacturing.

In December 2025, Fujimi Incorporated expanded its CMP slurry production capacity in Japan to meet growing demand from advanced node manufacturers.

In July 2025, Merck KGaA announced the launch of a new ceria-based CMP slurry for shallow trench isolation applications, offering improved removal rates and surface

quality.

In February 2025, DuPont de Nemours, Inc. introduced a new CMP pad conditioner designed for extended life and consistent performance in advanced node manufacturing.

## **Material Types Covered:**

CMP Slurries

CMP Pads

CMP Pad Conditioners

CMP Filters

CMP Cleaning Chemicals

Other CMP Materials

## **Slurry Chemistries Covered:**

Alumina-Based Slurries

Silica-Based Slurries

Ceria-Based Slurries

Titania-Based Slurries

Polymer-Based Slurries

Other Slurry Chemistries

## **Polished Layers Covered:**

Interlayer Dielectrics

Metal Layers

Barrier Layers

Shallow Trench Isolation Layers

Polysilicon Layers

Other Polished Layers

## **Technology Nodes Covered:**

Mature Nodes

Advanced Nodes

FinFET Nodes

Gate-All-Around Nodes

Chiplet-Based Nodes

Other Technology Nodes

## **End Users Covered:**

Integrated Device Manufacturers

Foundries

Memory Manufacturers

Compound Semiconductor Manufacturers

Research and Development Facilities

Other End Users

## **Regions Covered:**

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

## What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

## **Free Customization Offerings:**

**All the customers of this report will be entitled to receive one of the following free customization options:**

### **Company Profiling**

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

### **Regional Segmentation**

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

### **Competitive Benchmarking**

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