

Chemistry at Work In Our Business



The Shin-Etsu Group holds the largest share of the global market for PVC, semiconductor silicon and other products. Starting in 1960 with the establishment of our first overseas subsidiary, we have built a manufacturing and sales network that gives us direct ties to markets worldwide. Our R&D bases have continuously upgraded technologies, developed new products and worked to improve productivity. Furthermore, our extensive, effective sales activities have reached a broad array of customers around the world. With these efforts, we have established the leading position in the world market for various products.

The Shin-Etsu Group will contribute to progress in our lives, industry and society through our materials and technologies. We base our actions on three guidelines: use strong R&D for more progress; build a strong business infrastructure based on secure, strong manufacturing; and perform strong sales and marketing activities in order to grow together with customers. We will continue to use these guidelines to achieve further growth in corporate value.

Strong Sales and Marketing



Interview with Key Person

Chihiro Kanagawa
Chairman

Growing together with Our Customers

I firmly believe that sales and marketing activities are more important than anything for our sustainable growth. Without sales and marketing, we cannot continue our business even if we have distinctive and unique products.

Today, our U.S. subsidiary, Shintech, has grown to be the world's largest manufacturer of PVC, with an annual production capacity of 2.63 million tons. When Shintech started operations in 1974, it was a small company, the 13th largest U.S. PVC manufacturer. At that time it had an annual production capacity of only 100,000 tons. Over the 40 years since then, Shintech has grown steadily, even in the face of intense competition. Shintech's strong sales and marketing ability enabled the growth. Even when facing large fluctuations in the market and the economic environment – through its sales and marketing efforts Shintech has constantly sold out its products and always has operated its plants at full capacity.

The most important keys to successful sales and marketing activities are to accurately grasp market conditions and sell out all products at appropriate prices.

Deepening the trust in our customer relationships has always been a Shin-Etsu Group priority. To earn our customers' trust, we must act with sincerity. The basics are critical – we make sure to keep our promises regarding delivery times, product quality and product volume. If a problem occurs, we act swiftly to get an accurate grasp of the situation and take appropriate actions to fix it.

When we can offer a solution that quickly solves the problem, we can build even stronger trust with our customers.

We are making every effort to grow together with our customers. To do this, it is critical to think from the customer's standpoint. As a manufacturer of key materials, it is important for us to offer products with value that contribute to the business growth of our customers. Of course, we respond to customer requests, but the Shin-Etsu Group seeks to go further. We are communicating in great depth with customers so as to find their potential needs, and we strive to offer products with new value that will meet those needs.

It takes more than strong sales and marketing to meet customers' needs. It is the trinity of strong sales, strong R&D and strong manufacturing that enables us to very effectively respond to customers' needs. Our sales, and R&D and manufacturing forces work together seamlessly to accomplish this goal.

I believe Shin-Etsu Group's growth is tied to customer's growth. Going forward, we will continue to work closely together with our customers.

Strong Sales and Marketing

Excellent Business Models

The Shin-Etsu Group uses strong sales activities to grow together with customers. One illustration of these activities is for PVC resin, a product where prices are volatile and competition is severe. We have maintained stable sales of PVC resin by earning the trust of customers, which we earned by working together to overcome tough situations.

Leading Global Markets

The Shin-Etsu Group meets the needs of customers by maintaining a stable supply of high-quality products while quickly developing products for new applications. Through these efforts, we hold the largest share of the respective worldwide markets for PVC, and semiconductor silicon and other products.

PVC is a commodity resin used in a wide range of applications from infrastructure construction projects to consumer products. Growth in PVC demand is expected to continue, primarily in emerging market countries. We are meeting the rising global demand for PVC by strengthening our integrated manufacturing infrastructure that begins with raw materials.

Semiconductor silicon is the most widely used material for semiconductor devices, which are used in PCs, smartphones, digital home appliances and automotive electronics. Demand for smaller electronic devices with more advanced performance continues to grow. In response, the Shin-Etsu Group is developing and producing wafers with outstanding quality using our advanced manufacturing technology.

Highest technology
Semiconductor Silicon Business



No.1 production capacity
PVC/Chlor-Alkali Business



Shintech Receives Award for Contributing to U.S. Export Growth

In 2014, Shintech received the President's "E" Award for Exports, from the United States Department of Commerce in recognition of the company's significant contributions to the expansion of exports. In 2012 and 2013, Shintech's volume of containerized cargo shipments through the Port of Houston was larger than any other companies. During a brief downturn in U.S. PVC demand, Shintech remained operating at a high level of utilization and continued to sell its entire production capacity by increasing exports. Under the leadership of Shin-Etsu Chairman Chihiro Kanagawa, Shintech has made large capital investments on numerous occasions. These investments have created jobs and supported consistent growth in earnings. Furthermore, Shintech's exports have made a large contribution to the U.S. trade balance.



Strong Manufacturing

Efficient Operations



Shintech Plaquemine plant (U.S.)

The Shin-Etsu Group strives for manufacturing efficiency and rationalization in order to supply customers with quality products while maintaining high profitability. When an economic downturn started in Japan in the early 1990s, we responded by forming the "G Committee." The committee's mission is to reduce costs by using advanced technology. Led by this committee, group companies proposed investment plans to make manufacturing more automated, labor-efficient and optimized, while putting their first priority on safety, which is one of the company's policies. Following the execution of these plans, we have lowered raw material cost and made technological innovations, such as optimizing production processes and boosting productivity.

In addition to cost savings, technological innovations also improved product quality consistency, which made the Shin-Etsu Group even more competitive.



Product quality audit in Naoetsu Plant (Japan)



Interview with Key Person

Fumio Akiya Executive Vice President

In charge of Semiconductors, Advanced Materials, Technologies and Environmental Control & Safety

Providing Stable Supplies

As a manufacturer, the Shin-Etsu Group places priority on providing customers with a stable supply of high-quality products.

As a Group, we always strive to see things from the standpoint of our customers, as we manufacture high-quality products that meet our customers' requirements. In addition, we are endeavoring to earn the trust of our customers by developing these kinds of products ahead of other companies to differentiate ourselves from our competitors and by stably supplying products with consistent quality. With our "G Committee" taking lead, we are constantly working to make production stable and to increase productivity through minimizing the variations

in product quality.

Our numerous products with leading global market shares demonstrate the solid reputation that we have earned among customers worldwide through the G Committee activities.

We are determined to achieve further sustained growth in our sales and earnings. To accomplish this objective, the Shin-Etsu Group will continue to provide stable supplies of products that offer high-added-value to customers, and will aim for the world's No.1 quality in every product of the Group.

Strong Manufacturing

Game Changing Decision

Great strides continue at Shintech – Stronger integrated production and a new ethylene plant

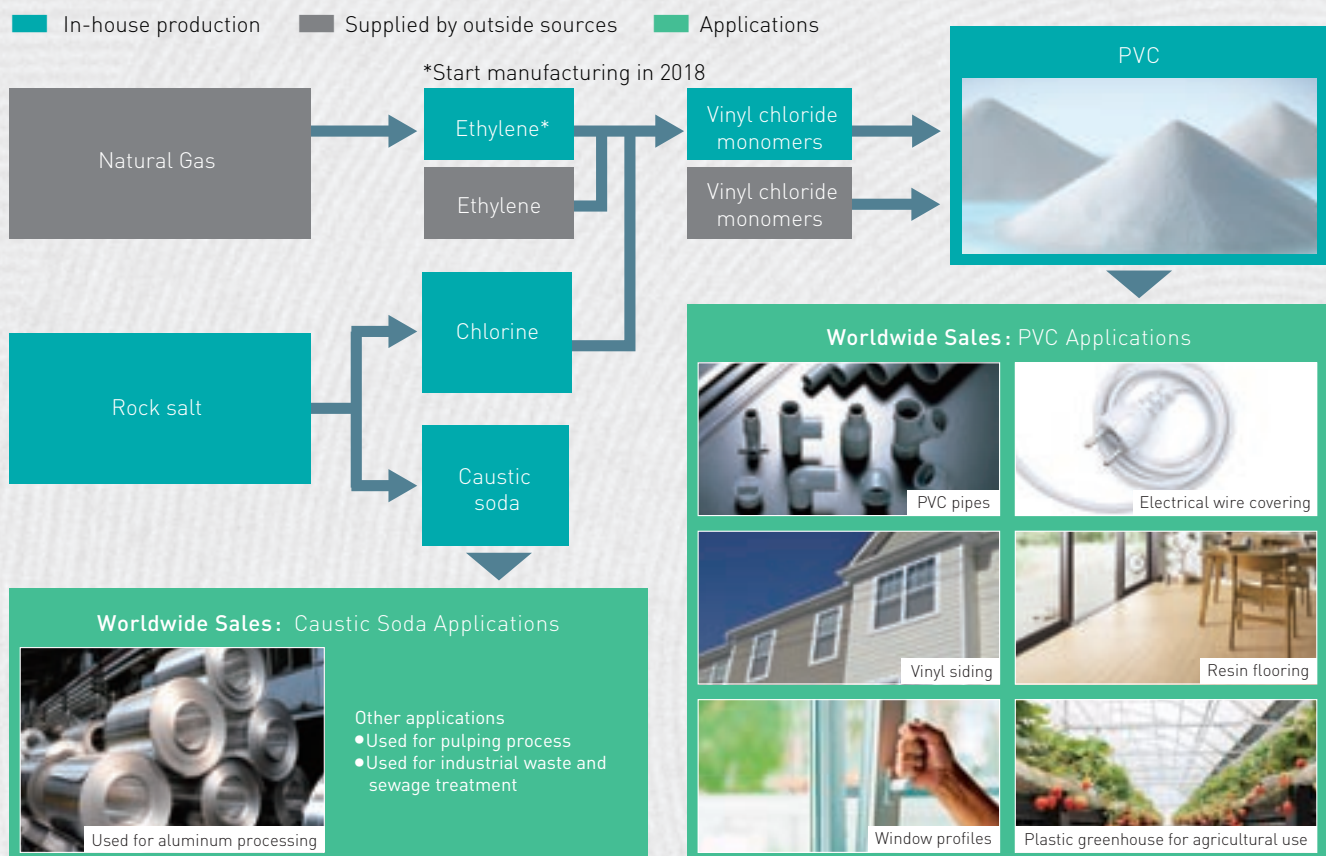
Shintech, the Shin-Etsu Group’s subsidiary in the U.S., is the world’s largest manufacturer of PVC. Shintech sells its products to customers in the U.S. and around the world. To meet rising demand, Shintech has significantly expanded its production capacity 12 times. Despite fierce competition in the world PVC market, Shintech has grown while consistently operating at full capacity and selling all its production volume, even after the multiple expansions. Currently, Shintech has an annual PVC production capacity of 2.63 million tons.

Shintech is now completing another expansion, which is targeted for the second half of 2015. When expansion is complete, annual production capacity will rise by about 300,000 tons for VCM, about 200,000 tons for caustic soda and about 300,000 tons for PVC. Total PVC annual production capacity at Shintech will climb to 2.95 million tons, about 30 times more than when Shintech first started operations in 1974.

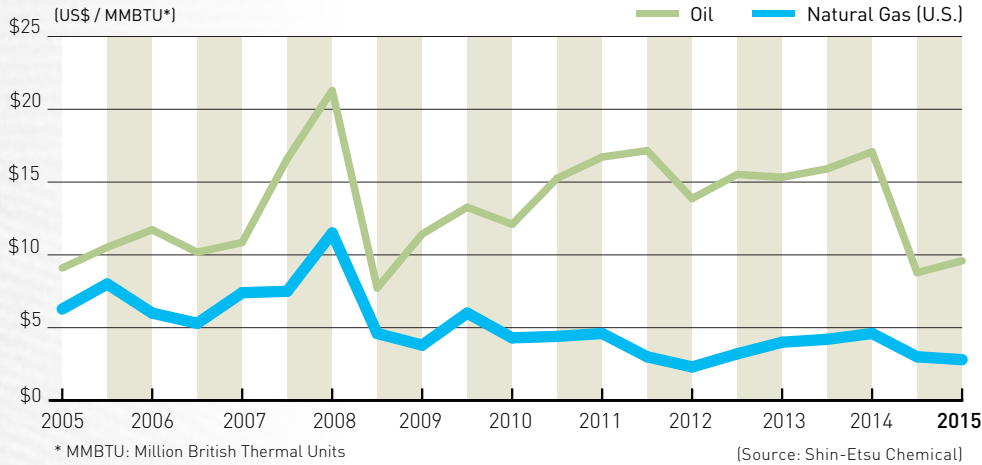
Global demand for PVC is forecast to continue increasing, mainly in association with infrastructure construction projects in emerging countries. To grow along with rising PVC demand, Shintech is strengthening its integrated production facilities that begin with raw materials. In 2011, construction was completed at the Plaquemine plant in Louisiana. This integrated facility performs the PVC production process starting with developing a brine well, extracting salt, salt electrolysis to produce chlorine, and ending with production of VCM and PVC resin.

Shintech has decided to construct a plant in Louisiana to produce ethylene, which is one of the primary raw materials used to produce PVC. Building the ethylene plant will require an investment of about US\$1.4 billion and the annual production capacity will be 500,000 tons. Completion is scheduled in the first half of 2018. Partially replacing ethylene currently purchased from external suppliers with internal production will reinforce Shintech’s integrated production facilities.

Shintech’s Integrated Production Facilities



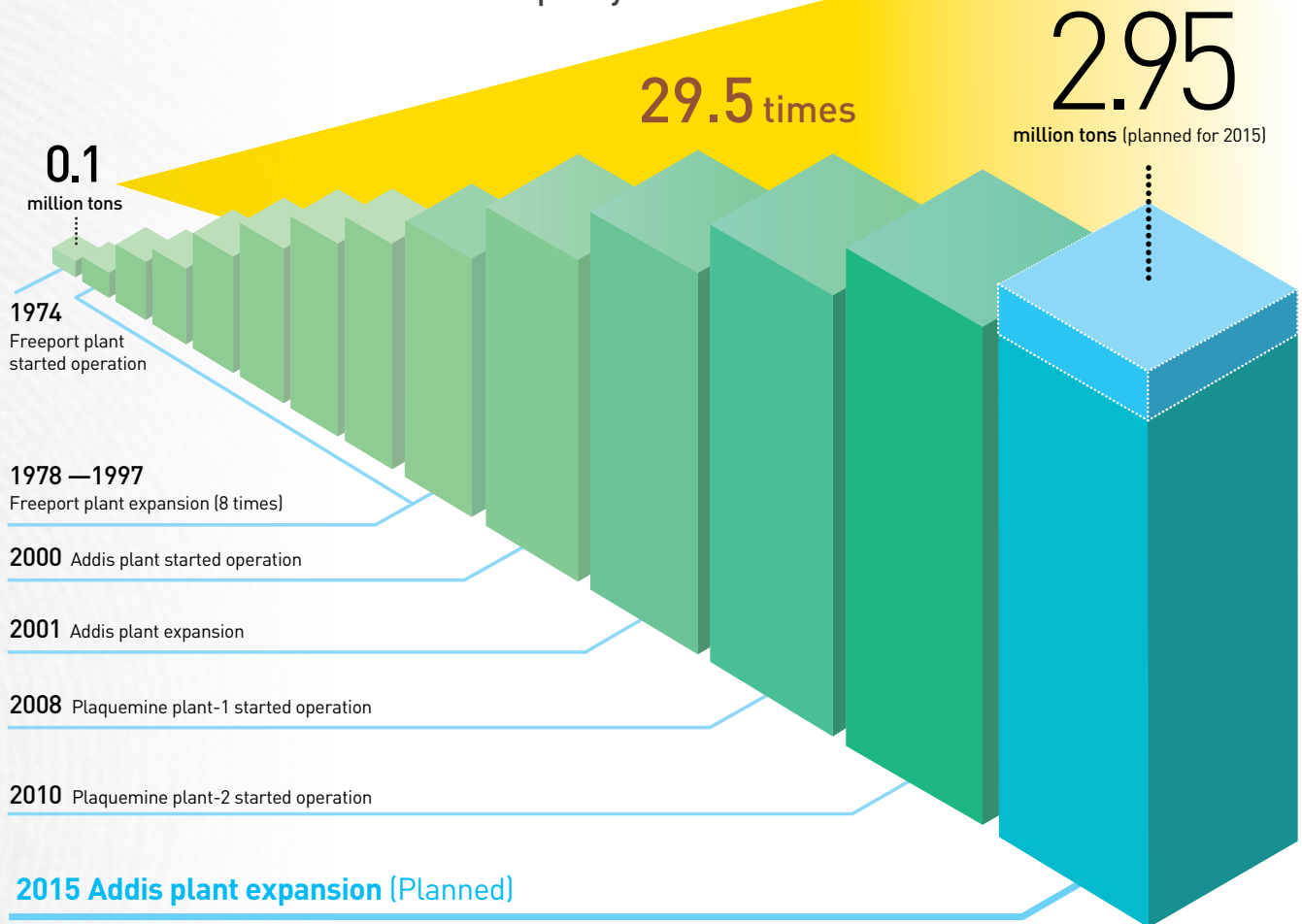
Comparison of Oil and Natural Gas Prices in U.S. (Converted to heat quantity)



The graph to the left shows the changes in oil and natural gas prices (converted to heat quantity) over ten years.

Ethylene made from natural gas is more cost-competitive than ethylene made from oil.

Shintech's Total PVC Production Capacity



Strong Manufacturing

Stable Supply

Diversified Production Bases

Maintaining a consistent supply of high-quality products for customers is one of the highest priorities of the Shin-Etsu Group. We manufacture our major products at more than one location, so that even if a natural disaster or other event disrupts operations at a facility, we can continue to supply a product from one or more other facilities. For PVC resin, semiconductor silicon and silicones—our major products—we have production facilities in Japan and elsewhere in Asia, the U.S. and Europe. These diversified production bases allow us to manufacture our products in areas where there is demand worldwide.

We also manufacture other products in other business divisions at multiple locations. For example, we have decided to build a new plant in Taiwan to manufacture lithography products such as photoresists which are vital to produce semiconductor devices. This investment will

reduce our risk exposure by giving us a second plant, along with the Naoetsu Plant. Also, the plant will position us to expand our photoresist business by targeting the strong demand in Taiwan, one of the world biggest markets.

For rare earth magnets, which are used in a wide range of applications such as automobiles and hard disk drives, we are building a new plant in Vietnam that will include the sintering process for magnetization. Currently, we carried out this process only in Japan. The first-phase portion of the plant construction work is scheduled to be completed in September 2015 with a production capacity of 1,000 tons/year and the second-phase portion to be completed in September 2016 with another 1,000 tons/year of capacity. We will strive to capture the forecast expansion in demand, which is mainly in the automobile applications.

Increasing Production of Silicone Overseas

Silicone is a highly functional material with a wide range of applications, including electric and electronics products, automobiles, construction materials and cosmetics. Demand is increasing in developed countries like the U.S. as well as in emerging market countries. To meet this demand, we are expanding capacities in Thailand. Asia Silicones Monomer is boosting output of silicone monomer,

while Shin-Etsu Silicones (Thailand) is raising output of silicone polymer. Increases at both of these subsidiaries are scheduled for completion in 2017. Annual production capacity will rise by 50%, from 70,000 tons to 105,000 tons, for silicone monomer and by 40%, from 54,000 tons to 74,000 tons, for silicone polymer.

Silicone Production Process and Applications



Strong Research and Development

Consecutive Investment

Number of Patents by Region

● Number of patents acquired during the year ended March 31, 2015

Japan	671
North America	276
Asia/Oceania	600
Europe	266
Other Areas	10
Total	1,823

● Cumulative number of patents acquired as of the end of FY 2015

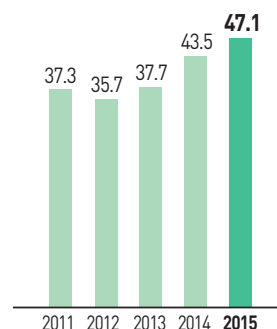
Japan	6,806
North America	2,674
Asia/Oceania	3,550
Europe	2,879
Other Areas	80
Total	15,989

The Shin-Etsu Group has two categories of R&D activities: “domain research” and “mission research.” For domain research, we improve product quality and create new applications for existing products. Mission research seeks to create the core products of the future. We select research themes based on market size, growth potential, profitability, and the relationship with our existing technologies and expertise. Once a theme is selected, we make progress toward commercialization. Furthermore, by increasing collaboration among Shin-Etsu Group research facilities, we use all of the Group’s resources to create products that incorporate our distinctive strengths.

Patents, technologies and other intellectual property are valuable assets for the Shin-Etsu Group. Our group companies submit many patent applications in order to protect our own technologies that originate from our research programs. Furthermore, since our overseas sales ratio is high, we energetically apply for patents in foreign countries while we expand our business overseas.

As of March 31, 2015, the Group had 6,806 patents in Japan and 9,183 overseas patents, including 276 patents newly registered in the U.S. in 2014. We are in the top class among Japanese chemical companies for patents in the U.S.

R&D Costs (Billions of yen)



Interview with Key Person

Toshinobu Ishihara

Senior Managing Director

In charge of New Functional Materials and Patents
General Manager, Research & Development Department

Priority Fields for R&D

The Shin-Etsu Group is concentrating its R&D efforts in five priority business fields: energy-related, semiconductor materials, substrate materials for power devices, healthcare-related and materials for optical communications. In each of these fields, we select R&D themes that allow us to take advantage of our core technologies, and in cooperation with our customers and external institutions as well, we intensively conduct our research and development activities. As a result, each one of our R&D programs is beginning to yield steady results.

In the energy-related field, we are using silicon-based materials to develop a negative electrode material for lithium-ion batteries that are applied in automobiles and mobile devices. We are also working on other applications for this electrode material that respond to society’s environmental needs,

including storage batteries.

In the semiconductor materials field, we are moving forward with the development of completely new next-generation materials and technologies, which we will suggest that our customers adopt as “total solutions” for their businesses.

In the healthcare field, we are developing high-quality functional polymers to be applied to new types of anti-cancer drugs. In optical communications, we are developing technologies for materials required for industrial applications such as laser processing.

In 2015, we will make great efforts in these five priority R&D fields, as we strive to produce fruitful results that will lead to new products and create new core businesses for the Shin-Etsu Group.

Strong Research and Development

Technologies for the Semiconductor Industry

In the semiconductor manufacturing sector, the Shin-Etsu Group supports the progress of the industry as a global supplier of a broad range of materials. Our product lineup extends from the raw material silicon metal to chief material silicon wafers, process

materials for electrical circuit printing, and materials for IC chip assembly. Through customers' evaluations of these products, the Shin-Etsu Group's technologies make a great contribution to further progress in the performance of semiconductors.

1. Silica and Silicon Metal

Simcoa Operations Pty. Ltd. of Australia has long-standing silica mining rights and produces silicon metal, a main raw material for semiconductor silicon, silicone and synthetic quartz. It provides key support to the Shin-Etsu Group by ensuring a stable, long-term supply of high-quality silicon metal.



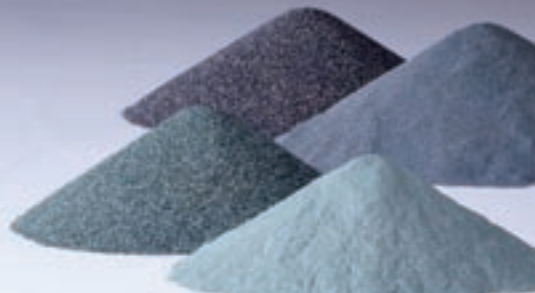
3. Silicon Wafers

The Shin-Etsu Group was first to globally mass produce 300mm silicon wafers in 2001. Shin-Etsu Handotai Co., Ltd., established defect-free technology for single crystals and high-flatness processing technology for silicon wafers, gaining strong customer trust for its quality technologies and commercial production capabilities.



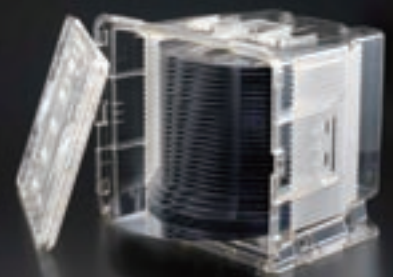
2. Silicon Carbide Products

The silicon carbide products of Shinano Electric Refining Co., Ltd., greatly contribute to improving precise processing of silicon wafers through their use as sawing materials and abrasives.



4. Wafer Containers

Group company Shin-Etsu Polymer Co., Ltd., has an excellent track record in front opening shipping boxes (FOSB) and front opening unified pods (FOUP).



Process

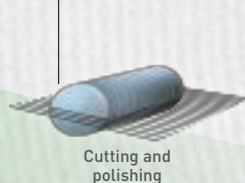
1. Silica and Silicon Metal



Polycrystal

Single crystal growth

2. Silicon Carbide Products



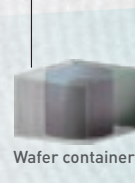
Cutting and polishing

3. Silicon Wafers



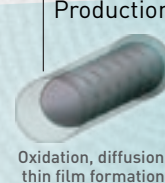
Silicon wafer, epitaxial wafer

4. Wafer Containers



Wafer containers

5. Quartz Glass for Semiconductor Production Processes



Oxidation, diffusion, thin film formation



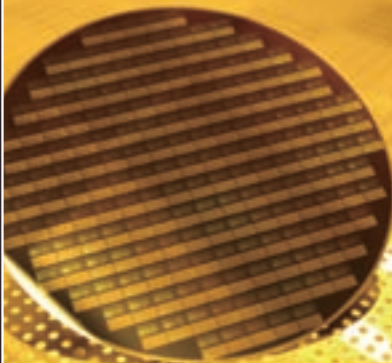
5. Quartz Glass for Semiconductor Production Processes

Wafers are fixed in a boat (right) and placed in a furnace tube made of quartz glass (left) for oxidation, diffusion and CVD processes. The quartz glass products of Shin-Etsu Quartz Products Co., Ltd., meet customers' needs for high-temperature processes.



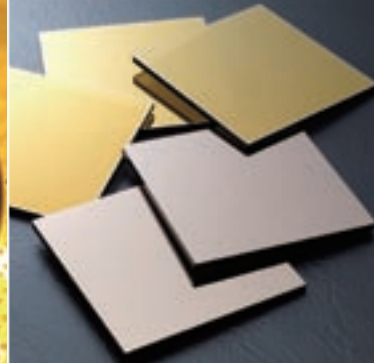
6. Photoresists

Shin-Etsu developed the first photoresist for use with the short wavelength excimer laser in 1996, and has become the leading manufacturer in this field. Sales have also begun for trilayer materials used in post-45nm generation refined processes.



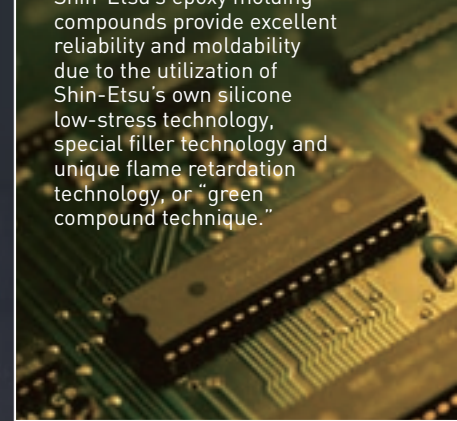
7. Photomask Blanks

Photomask blanks are photomask materials used for etching circuit patterns on silicon wafers. In fiscal 2009, Shin-Etsu began commercial production of cutting-edge photomask blanks, which are indispensable to the refining of semiconductors.



10. Epoxy Molding Compounds

Shin-Etsu's epoxy molding compounds provide excellent reliability and moldability due to the utilization of Shin-Etsu's own silicone low-stress technology, special filler technology and unique flame retardation technology, or "green compound technique."



8. Synthetic Quartz Photomask Substrates for LSIs

Used to transfer circuit patterns to semiconductor wafers, these photomask substrates have earned a reputation among customers for outstanding quality and consistency of supply. In recent years, these substrates are also being used as raw materials for photomask blanks.



9. Pellicles

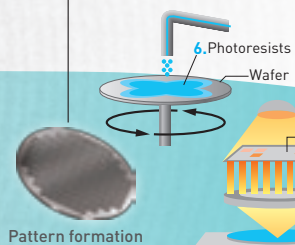
Shin-Etsu supplies high-quality pellicles for ArF and KrF excimer laser lithography. These products have high light-resistance and good transmission uniformity. In addition, Shin-Etsu has succeeded in the development of super large-size pellicles for the production of liquid crystal display (LCD) panels.

11. Silicone-based Thermal Interface Materials

Shin-Etsu offers various silicone-based thermal interface materials. These thermally conductive materials fill gaps between heat-generating units like CPUs and heat sinks.



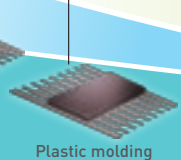
6. Photoresists



7. Photomask Blanks 8. Synthetic Quartz Photomask Substrates for LSIs 9. Pellicles



10. Epoxy Molding Compounds



11. Silicone-based Thermal Interface Materials

