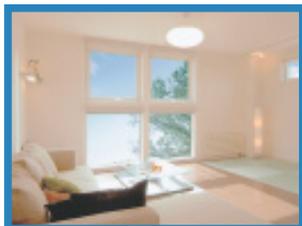


ORGANIC AND INORGANIC CHEMICALS



PVC is used in window profiles due to its superior heat insulation capabilities.



Silicones are used in a wide variety of applications, from lipsticks to aquarium sealants.

Net Sales of Main Products

(Billions of yen)

	2007	2006	2005
Polyvinyl chloride (PVC)	375.8	345.3	296.5
Silicones	198.8	176.5	155.9
Cellulose derivatives and others	133.8	114.7	96.6
Total	708.4	636.5	549.0

Polyvinyl Chloride (PVC)

With 60% of its material being salt and only 40% petroleum, PVC is a general-purpose resin that has many advantageous properties. It is easy to process and economical as well. Compared with other plastics, the manufacturing of PVC involves far less dependency on petroleum resources, and coupled with the progress of recycling, PVC makes major contributions to the environment from the standpoint of life cycle assessment.

The superior properties of PVC have received high evaluations, marked by continuing growth in global demand of 5% annually. Demand for PVC is largely for applications in pipes and sidings in the U.S. and for pipes and window profiles in Europe and Asia. In particular, demand is growing strongly in China, mainly for construction materials and consumer goods. In addition, the use of PVC window profiles has started to spread in Japan recently. This is due to their superior insulating effects that help prevent condensation in winter and contribute to the reduction of global warming by cutting air conditioning costs in summer.

In its PVC business, the Shin-Etsu Group is expanding production capacity at Shintech Inc. in the U.S. as global demand increases. Expansion construction at Shin-Etsu PVC B.V. in the Netherlands was completed in 2006, and business operations there have been expanding.

The expansion of PVC production capacity in China has continued rapidly in recent years, causing concern about its effect on the global PVC market. The Shin-Etsu Group will continue as it has in the past, focusing on Shintech Inc. and strengthening business in the Netherlands while taking appropriate measures as a trilateral structure.

Silicones

Shin-Etsu provides more than 4,000 different silicone products for applications in broad areas such as the electric, electronics, automotive, construction, cosmetics, toiletries and chemical industries.

Silicones combine organic and inorganic properties and can take different physical forms, including fluid, resin or rubber. Their numerous unique properties include electrical insulation, as well as heat, cold and weather resistance. In each market, we are striving to improve product functionality and to make production processes more efficient.

Among the wide range of different applications for silicones, one that has been steadily growing in recent years is that of automobiles, where high functionality is increasingly required and silicones are becoming an essential material in various applications such as electronics equipment, interior finishes, airbags and engine casings. Furthermore, in electrical and electronics uses, silicones serve application needs for an efficient heat transfer medium. In cosmetics applications, silicones have attracted a great deal of attention for their ability to help make products feel good on skin while giving them a better texture.

The Shin-Etsu Group is aggressively going forward on a global basis with the expansion of production and sales of silicones in the regions where demand is growing. In addition to its production bases in Japan, the U.S., the Netherlands, Korea, Taiwan and China, the Shin-Etsu Group has been working to achieve stable operations at its integrated silicone monomer and polymer manufacturing facilities in Thailand.

The Shin-Etsu Group will continue to develop new products and new applications of silicone while utilizing its features that are in demand in a wide range of fields. In addition, the Group will increase production capacity at plants in Japan, Thailand, the U.S. and other countries, and aims to expand overseas operations in tandem with those in Japan.

Cellulose Derivatives

Cellulose derivatives are an environmentally friendly material made from a natural polymer. Shin-Etsu has developed a wide array of cellulose derivative products that are used in diverse fields.

Their broad range of applications includes pharmaceutical coatings and binders for tablets and granules, industrial uses such as in automobiles, as well as construction, civil engineering, agriculture, additives for fine ceramics, paper processing, foods and toiletries.

Shin-Etsu acquired the cellulose business of Clariant AG at the end of December 2003, establishing SE Tylose GmbH & Co. KG in Germany. In 2006, SE Tylose completed expansion of its facilities and is promoting business growth, as demand is

projected to increase steadily in the future. Also, in light of the accident at the Naoetsu Plant, the Group will set up a framework for supply of each product in both Japan and Germany.

Organic and Inorganic Chemicals and Other Related Products

Female insects secrete a sex pheromone to attract males of the species. Shin-Etsu has developed a synthetic sex pheromone to disrupt mating behaviors and, as a result, to suppress the population of the next generation. In Europe and North America, they are widely used in fruit orchards, such as apple and peach. In Japan, they are used mainly in fruit orchards as well as in vegetable fields, such as cabbage, and in tea fields. Mating disruption is now expected as an alternative technique to insecticides. Shin-Etsu has the world's number one market share in this field and will continue to expand sales worldwide. In addition, Shin-Etsu supplies acetylene derivatives as aroma chemicals for the flavor and fragrance in food, cosmetics and toiletries.

The Shin-Etsu Group also manufactures silicon metal, an essential raw material in such products as silicones, semiconductor silicon, and synthetic quartz, which are among the Group's

core businesses. Simcoa Operations Pty. Ltd., a wholly owned subsidiary in Western Australia, has long-term mining rights to high-quality silica, and produces 30,000 tons of silicon metal annually from this raw material. Simcoa contributes to securing a stable, long-term supply of quality silicon metal raw material.

Topics

PVC Receives High Evaluation at Life Cycle Assessment Symposium in Japan

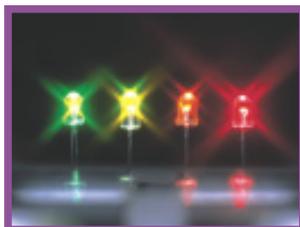


Prof. Nobuyuki Kimata of Tottori University of Environmental Studies explained the excellence of PVC compared to various other materials used for siding from a life cycle assessment (LCA) standpoint at the First Annual Symposium of ILCAJ (Institute of Life Cycle Assessment Japan). He reported that the results of LCA evaluation comparing various materials indicate that for housing-use siding, PVC's environmental loading in terms of CO₂ emissions and energy consumption is 34 to 41 percent of that of materials such as tile, metal or wood. He also estimated that using PVC to produce all the sidings currently manufactured in Japan would potentially reduce annual CO₂ emissions by approximately 1.4 million tons.

ELECTRONICS MATERIALS



Silicon wafers boast a degree of evenness to within 100 nanometers.



Epoxy molding compounds, which are silicone variations, are necessary materials for high-intensity LEDs.

Net Sales of Main Products

(Billions of yen)

	2007	2006	2005
Semiconductor silicon	406.7	305.7	256.6
Others	72.7	55.7	50.3
Total	479.4	361.4	306.9

Semiconductor Silicon

The Shin-Etsu Group, as a world leader in the silicon wafer business, constantly works to achieve the world's highest quality products and highest level of customer satisfaction. The Group provides products that meet the needs of the world's most advanced technologies, such as larger-diameter, super-smooth silicon wafers with the lowest defect rate. Demand for semicon-

ductor devices has been expanding for a wide range of applications, including personal computers, mobile telephones, digital home appliances and automobiles. Amid significant growth in the silicon wafer market in recent years, the Shin-Etsu Group has been providing a stable supply to users from its silicon wafer production bases in Japan, Malaysia, the U.S., the U.K. and Taiwan.

The Shin-Etsu Group is the world's leading silicon wafer supplier with a world market share of approximately 32 percent, and is the undisputed leader in the steadily expanding 300mm wafer market. To meet growing global demand and disperse risk, the Group continues to expand capacity at its five production bases in Japan and the U.S. in order to rapidly increase production of 300mm wafers. In the future, the Group will apply its collective strength, and is structuring a stable supply system.

The Group is also focusing on expansion of sales of such special products as SOI wafers, used for applications in highly functional devices. For wafer products of up to 200mm, the Group will concentrate on greater competitiveness through increased productivity, product quality improvement efforts and product differentiation, and continue to strengthen its systems for meeting any and all requests by customers.

Rare Earth Magnets for the Electronics Industry

Rare earth magnets are high-performance, permanent magnets that have about 10 times the magnetic force of ferrite mag-

nets. They have been contributing to the development of more compact and lightweight electric and magnetic components for products that are more energy efficient with highly specialized functions. The Shin-Etsu Group has the largest global market share for rare earth magnets for voice coil motors (VCM) for hard disk drives (HDD) used in computers, servers and video recording devices, for which demand is strong. The Shin-Etsu Group is the only manufacturer in the world to carry out integrated production of high-quality rare earth magnets starting from high-purity rare earth. Starting by developing materials with the characteristics that customers demand, the Shin-Etsu Group then uses its ability to quickly adapt in moving from prototype to commercial production and provide a stable supply of products, with product development to meet application requirements and thorough product quality control to respond to customer needs.

Epoxy Molding Compounds

Demand for thinner and smaller devices in the semiconductor market is driving the development of chip-size packages and the system-in-package trend in which multiple large-scale integrated (LSI) chips are stacked and installed in a single package. Amid these trends, the Shin-Etsu Group is working aggressively to meet diversified needs for semiconductor packaging.

Employing cutting-edge technology accumulated through the development of various silicone products, the Shin-Etsu Group supplies a line-up of unique products that are differentiated from those of other companies. These include Green EMC products, which incorporate a new flame-retardant system that responds to recent environmental concerns, liquid epoxy encapsulating materials, and epoxy moldable compounds modified with silicones for high-luminosity LEDs, for which applications have rapidly broadened in recent years.

Photoresists and Other Products

The Shin-Etsu Group is developing a system to supply the principal materials needed in the lithography process for manufacturing semiconductor devices. We have commercially produced and marketed photoresists compatible with KrF (krypton fluoride) excimer lasers as a photo-sensitive material used in imprinting semiconductor circuits, I-line resists for thin-film magnetic heads and wafer-level chip-size packaging (WLCS), and pellicles, which are the protective dust covers used for photomasks with excimer laser lithography. In addition, ArF (argon fluoride) resists for advanced devices are demonstrating substantial growth with the progress of full-scale adoption.

The Group's efforts to prepare for the next generation of semiconductor devices include the development of advanced photomask blanks together with users.

Topics Shin-Etsu and Toppan Printing Jointly Develop Leading-edge Photomask Blanks



Shin-Etsu and Toppan Printing Co., Ltd. conducted joint development of photo-mask blanks on leading-edge photo-mask substrates, which are essential for miniaturizing semiconductors, and succeeded in developing photomask blanks for 45nm and 32nm. The two companies have already started offering sample shipments of these new blanks as well as photomask samples using these new blanks. They have been highly evaluated by customers. Now that Shin-Etsu has entered the business of supplying advanced photomask blanks, it will further enhance its position in leading-edge sectors.

FUNCTIONAL MATERIALS AND OTHERS



Applications for Shin-Etsu's rare earth magnets include motors for air conditioners, reducing energy consumption and environmental impact.



Shin-Etsu's rare earths are used in the observational equipment at the core of X-ray astronomy satellites.

Synthetic Quartz Products

With silicon metal refined to a high degree of purification as a raw material, the Shin-Etsu Group established a manufacturing technology for super-high-purity synthetic quartz

Net Sales of Main Products

(Billions of yen)

	2007	2006	2005
Synthetic quartz products	32.9	34.5	26.5
Rare earths and rare earth magnets, etc.	34.8	30.6	28.2
Others	49.2	64.9	56.9
Total	116.9	130.0	111.6

that holds impurities to the level of 1 ppb (one part per billion). The Group is the first in the world to mass produce high-purity synthetic quartz, which is much higher in purity than natural quartz.

Synthetic quartz products such as preforms for optical fiber, LSI photomask substrates, stepper lenses for inscribing semiconductor circuitry, and large-size photomask substrates for LCDs, have become indispensable materials for the IT industry. The Shin-Etsu Group plans to expand production capacity for preforms at the Kashima Plant due to signs of recovery in demand for preforms for optical fiber.

The Shin-Etsu Group is committed to differentiation through quality and will ensure an accurate grasp of demand for preforms for optical fiber and large-size photomask substrates for LCDs to prepare for the further development of the high-level information society.

Rare Earths and Rare Earth Magnets for General Industrial Use

The Shin-Etsu Group possesses its own original proprietary high-level separation and refining technologies and physical property control technologies. We use them for commercial production of various kinds of rare earths, which have a purity rate of 99.9999%, and spherical nanoparticles. The Group’s rare earths are widely applied to such products as plasma display panels, LCD TVs and fluorescent lights, luminescence for medical equipment, oxygen sensors in automobile engines, catalytic converters, ceramics for electronic components such as capacitors, and semiconductor manufacturing equipment. In addition, applications in various other fields are expected to expand.

By maximizing strong magnetic force, the Group’s rare earth magnets for general industrial use help to enable the introduction of products that are lighter in weight, smaller in size, and higher in output for equipment such as motors. With a wide range of applications, rare earth magnet uses are increasing in product areas such as home appliances, including energy-efficient air conditioners and washing machines, and various motors for automobiles. In addition, rare earth magnets have begun to be used in such energy-saving and environmentally friendly applications as motors for hybrid cars and wind-power generators.

The Shin-Etsu Group has developed high-performance technology for producing neodymium rare earth magnets which it has named the “new alloying process.” As a result of the development of this new high-performance technology, the Group has realized the world’s highest neodymium magnet performance characteristics for applications at higher temperatures. At the same time, the Group is able to provide products with both high heat-resistance and high-performance characteristics. Expected applications include motors for cars, air conditioners and other equipment that requires high heat-resistance.

Liquid Fluoroelastomer SHIN-ETSU SIFEL®

SHIN-ETSU SIFEL® is a revolutionary liquid fluoroelastomer that Shin-Etsu was the first in the world to develop. Its form

before hardening is either a liquid or a paste, and after heat curing, it becomes a flexible synthetic rubber material. SHIN-ETSU SIFEL® is superior in resistance to cold, keeping its elasticity even at minus 50°C. In addition, it has such desirable characteristics as resistance to oils, solvents, chemicals and heat as well as excellent electrical insulation properties. Accordingly, it is used as rubber molding, adhesive sealant and filler in a wide range of application fields including the automotive, aircraft, electric, electronics, office equipment and petrochemical industries. It is contributing to the improvement of product reliability in many application areas.

Other Products

Shin-Etsu’s flexible copper-clad laminates (FCLs) are used as materials for printed circuit boards in such electronic products as mobile phones, digital cameras, video cameras and DVD recorders and players, and are contributing to making these products lighter and more compact. In addition to its existing three-layer FCLs, Shin-Etsu developed and started marketing two-layer FCLs and a halogen-free cover layer with excellent properties by using its proprietary technology.

Shin-Etsu Engineering Co., Ltd., a Shin-Etsu Group company, consists of the Plant Division, which mainly handles the integrated design and construction of various types of plants, and the Electro-Mechanics Division, which handles the development, planning and manufacturing of mechatronics equipment for electronics-related industries that manufacture such products as semiconductors and liquid crystal displays (LCDs). Both divisions also receive a large number of orders from companies outside of the Shin-Etsu Group. The System Equipment Division timely supplies alignment machines of LCDs and Plasma Display Panels (PDPs), which are essential for achieving larger panel sizes and the key to expanding demand for flat-panel TVs.

Topics Successful Development of Optical Communications Parts that Comply with the European RoHS Directive



Shin-Etsu has developed a manufacturing technology for lead-free optical isolators that comply with the European RoHS Directive (Restriction of Hazardous Substances). Optical isolators are incorporated in such devices as laser modules because they block

return beams from the optical fiber. Until now, the manufacturing process for Faraday rotators, which are key components in optical isolators, contained lead oxide. Shin-Etsu developed its own original manufacturing method for Faraday rotators that does not use lead oxide at all, thus eliminating all lead. Shin-Etsu is steadily complying with the European RoHS Directive through the use of this technology, and broadening its response to environmental regulations in the future.