

# Playing a Key Role



## For vital infrastructure

### PVC siding

PVC is an ideal material for durable products that require a long useful life. It is used for home construction materials, such as exterior siding.



## Polyvinyl Chloride



Polyvinyl chloride

### Application Examples

- Infrastructure components
- Window frames
- PVC pipes
- Plastic greenhouse for agricultural use

### The world's largest manufacturer of PVC, a material indispensable to infrastructure and daily lives

PVC is a widely used commodity plastic resin with outstanding physical properties, ease of processing and economic merits, such as lower cost compared to other plastics. It has many applications that are essential to people's daily lives. These include infrastructure components such as water and sewage pipes, construction materials and household products.

The Shin-Etsu Group started overseas PVC operations more than half a century ago, and has plants in the U.S., Europe and Japan. We are the world's largest manufacturer of this material, with an **annual PVC production capacity of 3.84 million tons.**

Demand for PVC is continuing to grow worldwide. In emerging countries, infrastructure projects are driving growth. In developed countries, growing awareness of energy conservation is increasing demand for PVC window frames and similar products which reduce CO<sub>2</sub> emissions.



# For electronics

## Tablets

Integrated circuit chips made with semiconductor wafers are used in light, portable digital electronic devices, such as tablets.



## Semiconductor Silicon



Single crystal silicon ingot and wafers

### Application Examples

- PCs
- Mobile phones
- Home appliances
- Automobiles

### The world's leading manufacturer with the highest quality and technology for silicon wafers

Silicon wafers are vital to the production of semiconductor devices, which are used in products such as PCs, mobile phones, and digital home appliances. With restless advancement of technology, high integration and high functionality of these devices have led electronic products to be smaller and more innovative in recent decades. The evolution of smartphones is an example.

The Shin-Etsu Group has production facilities in Japan, Malaysia, Taiwan, the U.S. and the U.K to serve our customers worldwide. As **the world's leading manufacturer** of silicon wafers, we have played a key role in the evolution of semiconductor devices through the development of larger diameter wafers and super flat wafers. For 300mm wafers, the most widely used size of wafers today, we have **four supply locations in Japan and the U.S.** providing a stable supply of high quality wafers to our customers.

# Playing a Key Role



## For cosmetics

### Cosmetics

Silicones make cosmetics comfortable to use by preventing makeup deterioration due to sweat and improving oil resistance. Silicones are used in a variety of cosmetics, including emulsions, creams, lipsticks, foundations and eye shadows.



## Silicones



Silicone oil

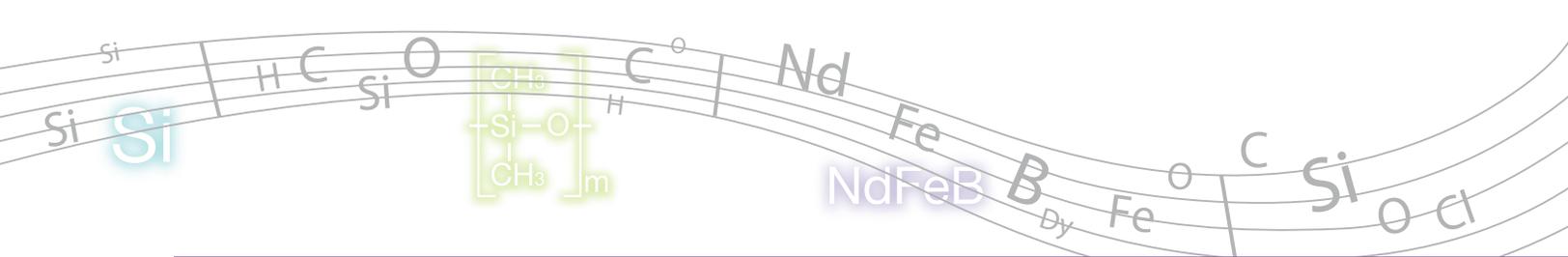
### Application Examples

- Cosmetics and toiletries
- Automobiles
- Construction
- LEDs
- Computers
- Mobile phones

### Advanced development to create products for a variety of applications in various fields from one diverse material

Silicones can be produced in various physical forms, such as an oil, resin or rubber. This highly functional material is used in a diverse array of applications.

The Shin-Etsu Group develops unique products and technologies with knowledge gained from 60 years of experience in the silicones business. Currently, we supply **more than 5,000 types** of silicone products. They are sold to companies that manufacture computers, mobile phones, automobiles, construction materials, chemicals, cosmetics and more. With silicones at use in so many industries, this business **continues to grow regardless of the performance of any particular market.** That continuous growth produces stable earnings for the Shin-Etsu Group.



# For hybrid vehicles

## Hybrid vehicles

In hybrid and electric vehicles, the motor affects both fuel efficiency and driving performance. Rare-earth magnets in hybrid vehicle motors help conserve energy by lowering motor weight and conserving fuel.



## Rare-Earth Magnets



Rare-earth magnets

### Application Examples

- Hybrid vehicles
- Energy-saving air conditioners
- Wind power turbines
- PCs

## Producing rare-earth magnets from raw materials to contribute to environmentally friendly products

Small yet powerful, rare-earth magnets are a key component in automobiles, home appliances and digital electronics. They are also used in the generators of wind power turbines, an environmentally friendly energy source.

The Shin-Etsu Group has **the world's only comprehensive production system**, which starts with the refinement of rare earth and ends with finished magnets. At each production stage, we use our advanced technologies to supply high-quality magnets. Furthermore, we are a global leader in technological innovation and mass production. For example, we have developed an exclusive production method that reduces the amount of heavy rare earths in magnets without affecting performance.

# Playing a Key Role



*For various industries*



## Other Materials

### Materials that are used in various industries

We supply basic materials for a diverse array of household and industrial applications. These include a variety of materials for LEDs (lenses, packaging materials, reflecting materials, etc.) in the consumer products field and preforms for optical fiber in the communications field. In the health care field, our cellulose derivatives are used for pharmaceutical coatings and binders for tablets and granules. In the agricultural field, we supply synthetic pheromones, which are used as a mating disruption agent for specific insects.



Cellulose derivatives used as a coating for tablets



Optical fiber preform with diameters of 200mm and lengths of 2,000m



Synthetic pheromones used in orchards as a mating disruption agent