

# Leadership That Creates Value

## Production Expansion through Integrated Facilities

As the world's largest PVC manufacturer, Shintech of the United States, the core of the PVC business of the Shin-Etsu Group, responds to market trends by establishing integrated production from raw materials.

Since beginning operations in 1974, Shintech has expanded its production facilities a number of times. It now has more than 20 times its initial production capacity.

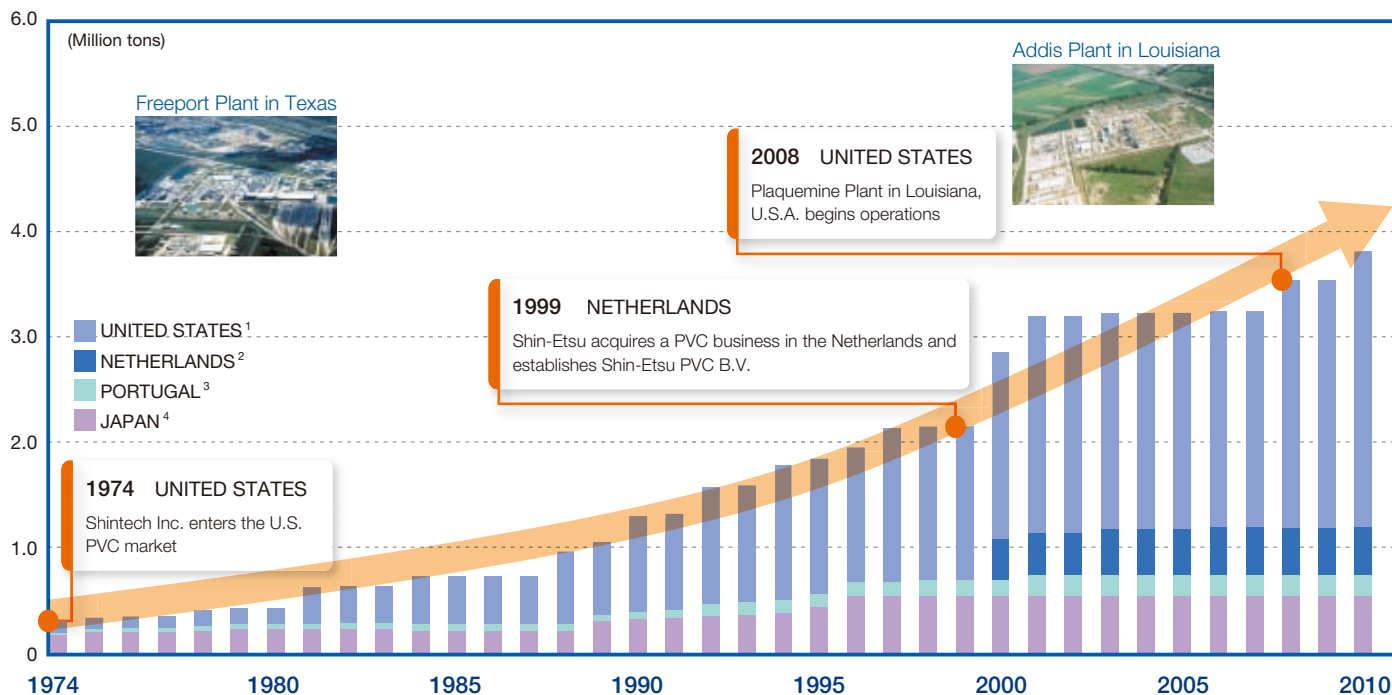
In 2008, operation of the first phase began at the No. 1 plant at Plaquemine, Louisiana, an integrated PVC manufacturing facility handling all processes from raw materials. Second-phase expansion of this facility is

scheduled for completion in the second half of 2010. This will bring Shintech's total annual PVC production capacity to 2.6 million tons.

Until recently, Shintech has purchased most of its vinyl chloride monomer, which is a raw material needed to make PVC, from the Dow Chemical Company, its excellent, long-standing and reliable partner. Shintech will continue to purchase raw material from Dow Chemical while strengthening its competitiveness by establishing an integrated system that enables in-house vinyl chloride monomer production whenever necessary.

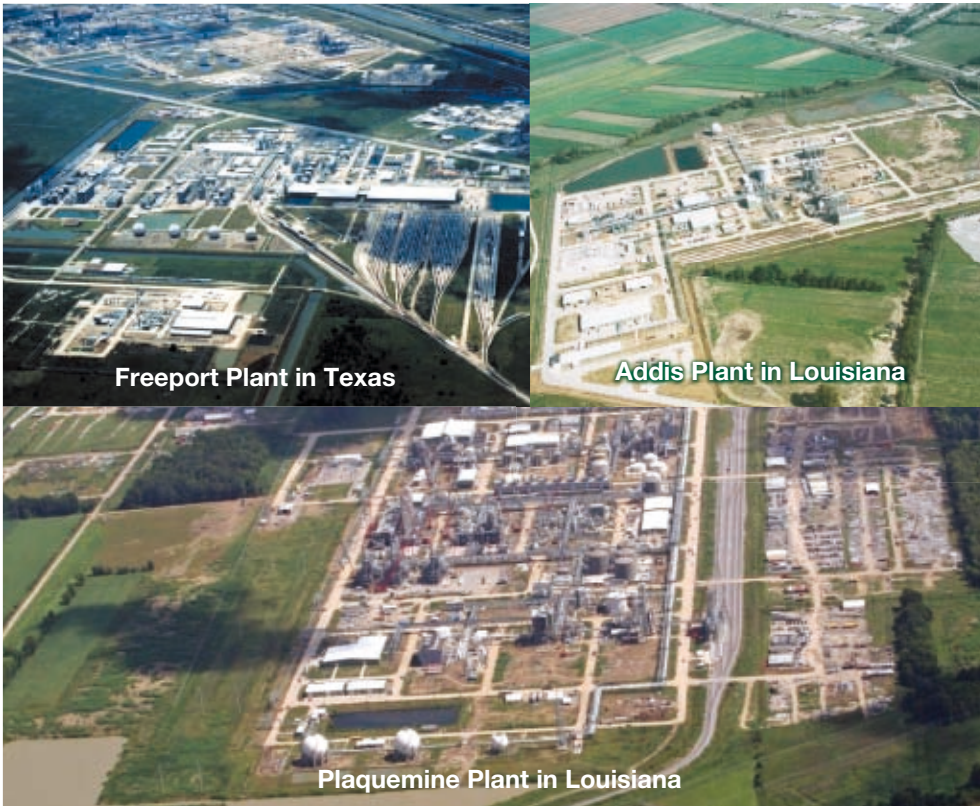
## Worldwide PVC Production Capacity of the Shin-Etsu Group

At the end of 2010, the Shin-Etsu Group's annual PVC production capacity will be 3.8 million tons, the largest in the world.

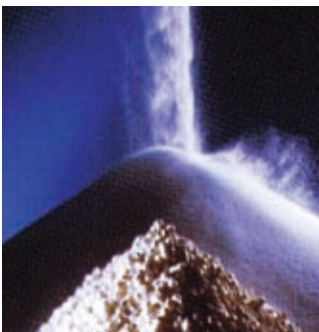


Notes: 1. UNITED STATES (Shintech Incorporated — Freeport Plant, Addis Plant, Plaquemine Plant)  
 2. NETHERLANDS (Shin-Etsu PVC B.V.)  
 3. PORTUGAL (CIRES, S.A. (Companhia Industrial De Resinas Sinteticas, S.A.))  
 4. JAPAN (Shin-Etsu Chemical Co., Ltd. — Kashima Plant)

## Shintech Invests ¥100 Billion to Expand Production Capacity of PVC Raw Materials

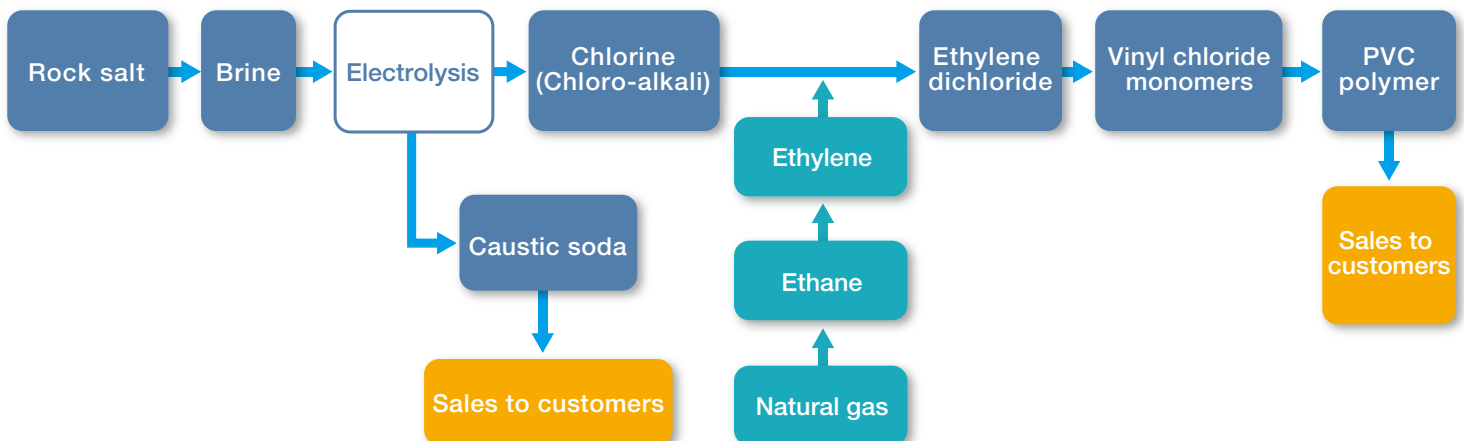


Shintech began construction of the No. 2 plant on a site adjacent to the No. 1 plant in Plaquemine, Louisiana. Scheduled for completion in 2011, the No. 2 plant will produce vinyl chloride monomer, a raw material for PVC. Total construction costs for the new facility, expected to be around ¥100 billion, will be internally funded. The No. 2 plant will further enhance Shintech's integrated PVC production system from raw materials by doubling total output at Plaquemine with additional annual production capacity of 800,000 tons of vinyl chloride monomer and 530,000 tons of caustic soda.



### Integrated Production System from Rock Salt to PVC Resins

At one plant we are able to perform all production processes, from the mining of salt from underground salt domes and its purification to electrolysis and the production of vinyl chloride monomer and PVC.



# Leadership That Creates Value

## Shin-Etsu's Contributions to Semiconductor Production



Shin-Etsu was first in the world to 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 commercial production capabilities and quality technologies.

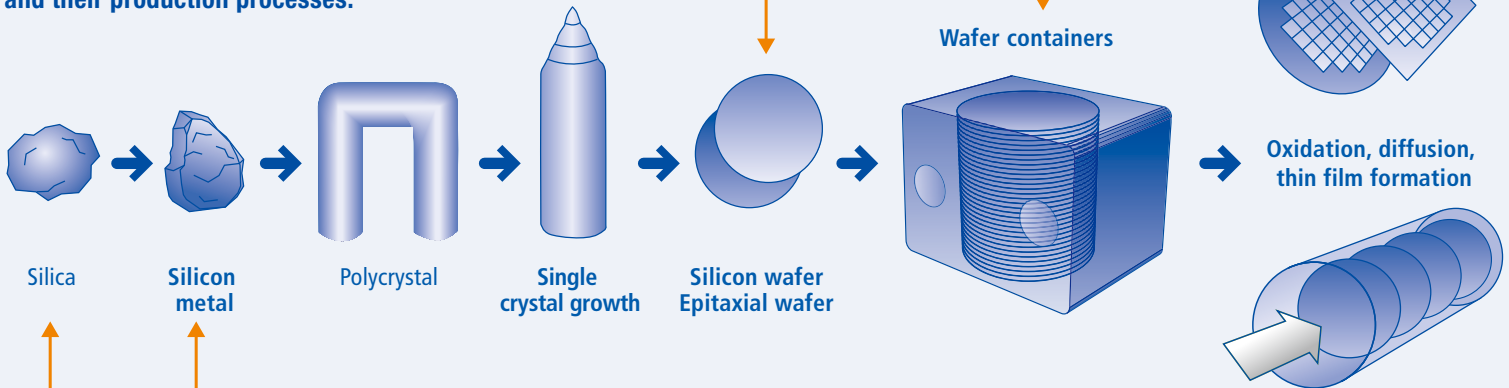
### 300mm Silicon Wafers



### Wafer Containers

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

Various products developed by Shin-Etsu are indispensable to semiconductor materials and their production processes.



### Silica and Silicon Metal

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



Silica

Silicon Metal

### Silicon Carbide Products



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

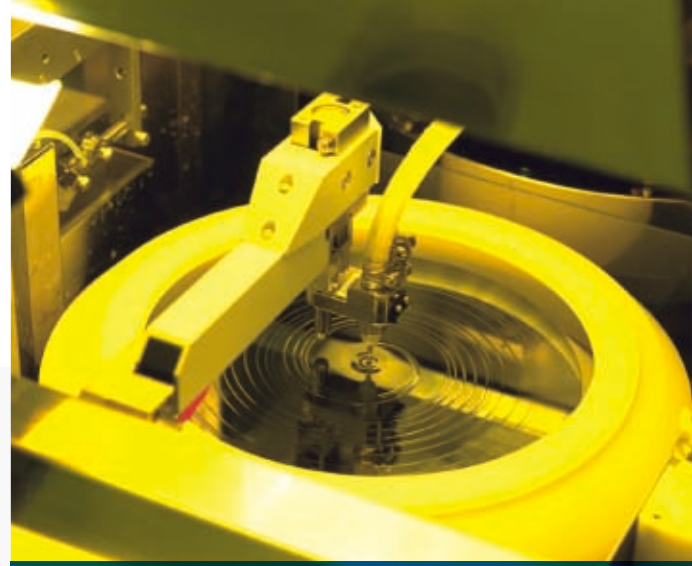
### Quartz Glass for Semiconductor Production Processes



Wafers are fixed in a boat (right) and placed in a furnace tube made of quartz glass (left) for oxidation, diffusion and CVO processes. The Shin-Etsu Group's quartz glass products meet the customer's needs of high-temperature processes.

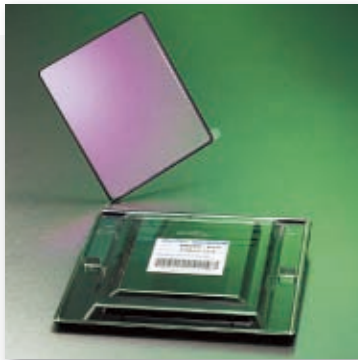


The Shin-Etsu Group is a global leader in developing sophisticated technologies for the semiconductor industry. Throughout the semiconductor production process, Shin-Etsu technologies support greater integration and production efficiency.



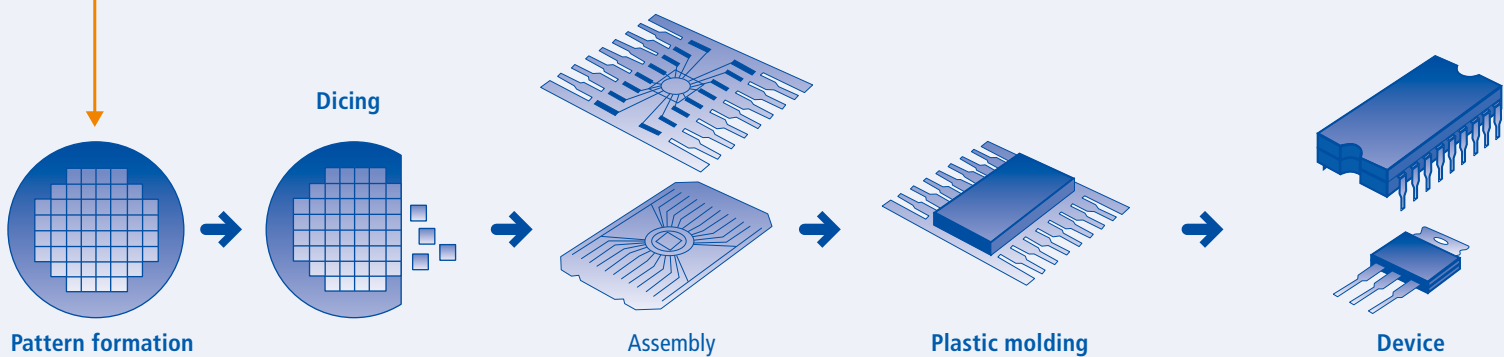
Shin-Etsu developed the first photoresist for use with the short wavelength excimer laser in 1996, and has become the leading manufacturer in this field. Sales have also begun for trilayer materials used in post-45nm generation miniaturization processes.

### Photoresists



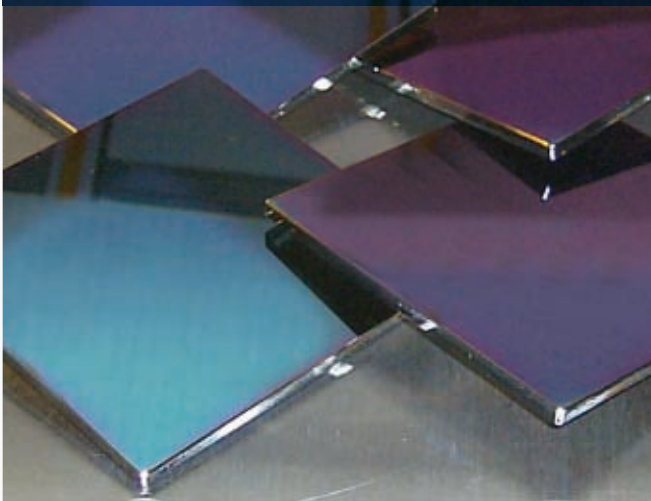
Shin-Etsu supplies high-quality pellicles for ArF and KrF excimer laser lithography. These products have high light-resistance and good transmission uniformity. In addition, Shin-Etsu has succeeded in the development of super large-size pellicles for the production of liquid crystal display (LCD) panels.

### Pellicles

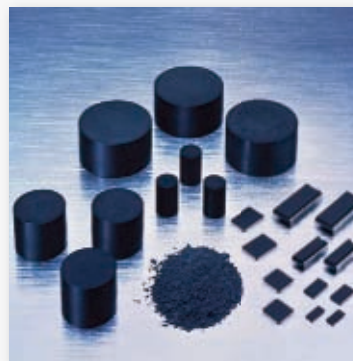


### Photomask Blanks

Photomask blanks are photomask materials used for etching circuit patterns on silicon wafers. In fiscal 2010, Shin-Etsu began commercial production of cutting-edge photomask blanks, which are indispensable to the miniaturization of semiconductors.



### 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."

### Silicone-based Thermal Interface Materials



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