High Performance Plastics Company (HPP)

The Prominence of the High Performance Plastics Company

- Differentiating technology that provides high value-added
- Global operation that meets market needs
- Information gathering ability and product development technology born from top market share
- Business expansion limited to markets where high growth is expected

Primary Business Areas

- AT (Automotive materials)
  - Interlayer films for laminated glass, Polyolefin foam, Automotive resin products, Double-sided tape
- IT (IT-related materials)
  - LCD fine particles, Photosensitive materials, Semiconductor materials, Optical adhesive tape and film
- MD (Medical products)
  - Diagnostic drugs, Blood sampling plastic tubes, Transdermal drugs, Drug discovery support business
- Functional materials and others
  - Adhesives, Marking film, Fire resistant tapes and sheets, Packaging tape, Packaging and agricultural tape, Plastic containers

Sales & Operating Income

<table>
<thead>
<tr>
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<th>Sales (bn.yen)</th>
<th>Operating Income (bn.yen)</th>
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<tbody>
<tr>
<td>FY2005</td>
<td>218.3</td>
<td>17.5</td>
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<tr>
<td>FY2006</td>
<td>245.5</td>
<td>20.7</td>
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<td>FY2007</td>
<td>280.5</td>
<td>24.5</td>
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<td>FY2008</td>
<td>262.6</td>
<td>15.8</td>
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Sales in Strategic Business Fields

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<tr>
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<tbody>
<tr>
<td>AT</td>
<td>85.5</td>
<td>109.0</td>
<td>134.5</td>
<td>124.9</td>
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<tr>
<td>IT</td>
<td>23.5</td>
<td>27.0</td>
<td>29.7</td>
<td>26.4</td>
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<tr>
<td>MD</td>
<td>50.5</td>
<td>57.6</td>
<td>67.8</td>
<td>61.2</td>
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Differentiating technology that provides high value-added
Our core product of interlayer films are transparent polyvinyl butyral resin films with superior adhesiveness for use in glass for automobiles and construction. Our films combine three of our technologies: 1) multi-layer technology enabling simultaneous shaping of multiple layers, 2) fine-particle dispersion technology enabling the uniform incorporation of fine particles and other elements into the films, and 3) adhesion technology with superior moisture resistance capable of withstanding high humidity levels.

1. What is interlayer film?
Interlayer film is used to laminate glass plates to make safety glass for automobiles and buildings and is made of transparent polyvinyl butyral resin with strong adhesiveness to glass.

2. High performance interlayer films
1) Sound acoustic film
2) Solar control film
3) SA and SC film
4) Wedge-shaped high-performance interlayer film for head-up display
5) Interlayer windshield film that extends onto the roof

3. Expanding applications
Shatter Prevention
Blocks Over 99% of UV Rays
Impact Absorption
Smash & Grab Prevention

5-layer Structure (world’s first)
Multi-layer Extrusion Technology

Cross Section of Laminated Glass
1. Normal Film Layer
2. Colored Layer
3. Normal Film Layer
4. Sound Insulation Layer
5. Normal Film Layer

Nano-dispersed Heat Shielding Particles

Sunroof
Windshield
Door Window (partial)
Global Operations to Meet Market Demand

We have moved ahead of competitors to establish a global production network with six film plants and two resin plants in each region of high demand. Our interlayer film plants are strategically situated near automobile plants to provide local production and meet specific local demand.

North & South America
Demand: Approx. 70-kiloton
Start operation of U.S. interlayer film plant (October 2007)
Sekisui Share: Approx. 20% (No.3)

Europe
Demand: Approx. 80-kiloton
Start expanded production line at the Netherlands Raw Materials Processing Plant (July 2010)
Sekisui Share: Approx. 40% (No.1)

Asia
Demand: Approx. 30-kiloton
Start expanded interlayer film production line at the China plant (October 2009)
Sekisui Share: Approx. 50% (No.1)

Japan
Demand: Approx. 20-kiloton
Start expanded high-performance interlayer film production line (October 2009)
Sekisui Share: Approx. 80% (No.1)

Note: Demand figures are based on Company FY2006 estimates and include construction-use interlayer films.

2006 2010
Growth of global market (estimate) 200-kiloton 240-kiloton
Sekisui share (automotive applications) 40% 45%
Composition ratio of interlayer film in HPP 15% 22%

Accelerating the Further Development of Global Operations

Expanding Sales of High-performance Films
Developing and Introducing New Types of High-performance Films
Differentiating technology that provides high value-added

The key product in our foams business is Softlon®, a polyolefin foam pioneered by Sekisui in 1965. With high strength and heat resistance, Softlon is used for a variety of automotive applications, such as auto interiors, and IT applications, including mobile phones, that demand uniform thickness and high moldability. Softlon can be adhered seamlessly to plastic components, enhancing both designability and cushion properties. In lightweight sound dampening materials for automobiles, Softlon is 50% lighter than other existing products and enables both sound insulation (vibration dampening) and weight reduction. Softlon meets automakers’ strong needs for foam with moldability into complex shapes.

1. What is foam?

Sekisui pioneered the development of cross-linked polyolefin foam with the release of Softlon® in 1965. Softlon material is used for car interiors and other automotive materials requiring high levels of strength and heat-resistance. Softlon is also widely used in the IT field, where its high functionality, consistent thickness and moldability make it ideal for use in mobile phones and other devices.

Sekisui’s Softlon provides a unique combination of design sophistication and cushioning properties

2. Lightweight Vibration Reduction Materials

- Weight reduced by 50% from existing products
- Both lightweight and vibration reduction (good sound insulation) achieved simultaneously
- Formable into complex shapes

- Tight Contact with Plastic Parts without Gaps
- Lightweight
- Cushion Elasticity
- Design Properties
- Moldability
- Heat Insulation
- Chemical Resistance

Applied to Roof Panel

PP Foam
Special Elastomer Foam
Vibrating Parts
Adhesion
PP Laminate Film
Global operation that meets market needs

Our foam business operating bases (development, production, sales) and nine plants are strategically located in each global region of high demand. Establishing this global network early has enabled us to capture top-level market share and positions us to quickly ascertain customer needs and open new markets.

Reinforcing the Global Network
- Promoting further optimization by securing development, production and sales bases in each demand region worldwide
- Utilizing our leading position in the industry (No.1 share) captured through early establishment of a global network

Expanding Sales of Existing Products

Cultivating the Existing Market

Applying our Technological Capabilities to Generate New Demand
- The world’s first cross-linked polyolefin foam (1965)
- Applying our technology and strong customer relations to generate new demand

Putting New Products on the Market

Introducing New Environmental Products
- Introduced new products responding to weight-savings and vibration-deadening needs
- Aggressively expanding applications for new automotive parts

Increase Share by Offering Comfort-enhancing and Environmentally Friendly Products

Weight-saving and sophisticated appearance

Enabling the development of each interior section

Aiming to Further Expand Share Focused on the Frontiers of Growth Markets (including possible M&A)

Foaming Polyolefin Plant Exclusively for Automobiles Constructed in China (November 2006)

Capturing New Markets

Foam can be processed into various shapes, making it ideal for car interior applications

PP Laminated Film
Special Foam (elastomer foam)
Vibrating Base
Differentiating Technology Providing High Added Value

Spacers are spherical fine particle products produced using our proprietary fine particle technology. Spacers ensure uniform spacing between glass substrates in the display area of an LCD panel, and thereby prevent discoloration. Sekisui spacers command major market share in the LCD industry, which demands high quality performance, such as high color vividness. We are also aiming for top share in related fields, such as in conductive fine particles segment, to which we supply gold-plated spherical plastic fine particles.

Liquid Crystal Display Materials

- **Phase Difference Film**
  - Phase difference film is used as a polarizing film to enable a wide viewing angle for high-contrast liquid-crystal display. The thin, high-precision film compensates for a change in phase depending on the viewing angle.

- **High Transparency Double-faced Tape**
  - The heat- and moisture-resistance properties of this double-faced tape provide stable adhesiveness while its ultra-thinness (5 micron) enables high transparency.

- **UV Adhesive**
  - UV adhesives made of high-performance, high-purity resins with exceptional ultraviolet-curing properties. These products’ minimal elution to liquid crystals is contributing to new advances in LCD production processes.

- **LCD Spacer**
  - Pearl-like plastic spheres of several-micron diameter maintain a constant thickness of the liquid crystal layer. Sekisui global share: 70% in the LCD of 17-inch and under LCDs

- **Conductive Fine Particles**
  - Fine particles with electrical conductivity on gold-plated plastic spheres. Display images are produced by electric voltage flowing through the fine particles. This system can also be applied to the large-sized LCDs.
Business Expansion Focused on Expected High Growth Markets

Sekisui Chemical acquired Daiichi Pure Chemicals as a downstream operation to support our growth projections for core polymer technologies. We merged the company with Sekisui operations and formed Sekisui Medical Co., Ltd., with the objective of increasing profits through the merger effects throughout the value chain. Sekisui Chemical operates four businesses under two divisions. The testing division specializes in testing agents and testing implements, and the medical division in drug agents and dynamic testing of drug compounds for other companies. Narrowing down the target business segments allows us to concentrate management resources. We have global No. 1 market share for HDL and LDL cholesterol testing agents, and global No. 2 share in diabetes testing columns. With these differentiating technologies, we are aiming to attain top domestic market share in the blood clotting, diabetes, and infection fields.

M&A Business Integration with Daiichi Pure Chemicals

Vertical Integration

Development Planning & Product Development  
Production Technology & Productization  
Sales

Sekisui Chemical Polymer Technology  
Daiichi Pure Chemicals

Establishing a Value-chain from Raw Material to Sales

Pursuing Synergy, Product Examples

POC Testing
Japan: ¥80 billion
Overseas: ¥300 billion

Lifestyle-related Disease Testing
Japan: ¥35 billion
Overseas: ¥350 billion

Daiichi Pure Chemicals

Non-centrifugal Blood Collection Tube
Launched World’s First in August 2006

Test Column for Diabetes
Share: No.1 in Japan, No.2 globally

Pharmaceuticals
Fields
31%
Diagnostics
Fields
62%
Withdrawal
7%
FY2007
Net Sales
33 bn yen
Management Target

Net Sales
FY2007
FY2011
33bn.yen
50bn.yen

Operating Income Ratio
11%
18%

Percentage of New Products Sales
12%
20%

Percentage of Overseas Sales
17%
30%

Note: Figures do not include Daiichi Pure Chemicals goodwill amortization.

Note: Share percentages include our estimates

Reagent for Influenza Test
Share in Japan 15%

Reagents for HDL (Good), LDL (Bad) Cholesterol Test
Share: No.1 in Japan, No.1 globally

Sekisui Chemical

Test Column for Diabetes
Share: No.1 in Japan, No.2 globally