

The world of foams for automotive

SEKISUI | **FOAM**
INTERNATIONAL
Global Foam Solutions
your reliable partner



Sekisui Foam International is a Sekisui Chemical (Japan) company with operations in Sydney and Thailand. It specialises in the development, production, sales and marketing of physically and chemically crosslinked, closed-cell Polyolefin Foams.

A team of specialised development and application engineers together with dedicated automotive sales engineers are available for your consultation.

SFI's Australian and Thai plants together with our parent company, Sekisui in Japan, and our sister companies, Sekisui Alveo in Europe and Sekisui Voltek in the United States, are your guarantee of quality and reliability world-wide as your polyolefin foam partner.



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POLYOLEFIN FOAMS IN THE AUTOMOTIVE INDUSTRY

The increasing trend towards **light-weight** materials combined with **noise-reduction** properties calls for specialised cost effective materials. Environmentally neutral physically crosslinked polyolefin foam is just such a material. Its unique combination of mechanical, chemical and thermal properties makes it an ideal replacement for traditional foams such as EPDM rubber, polyurethane and PVC.

Sekisui Foam International (SFI) specialises in the development, production, sales and marketing of polyolefin foams. The company has the physically crosslinked potential to manufacture customised products capable of meeting individual customer requirements.

A major aspect of the company's philosophy is its commitment to total quality including protection for the environment. Our manufacturing process together with our products are environmentally friendly:

- All SFI Foams are manufactured without the use of CFC's or HCFC's.
- SFI products enhance the "All Polyolefin Concept" whereby the total composite may be recycled for future alternative use.
- Due to their extremely light weight nature, SFI polyolefin foams are already making a significant contribution to reduced vehicle weight and fuel consumption.

FOAM PROPERTIES

The SFI polyolefin range is specially designed to meet the key requirements for the automotive industry:

- Product flexibility:
 - Wide density range: (25 to 200kg/m³).
 - Wide thickness range: (between 1.3mm & 50mm).
- Flame retardant characteristics to meet FMVSS 302, and UL 94 HF-1 requirements.
- High property values at low densities.
- Special vacuum forming and press moulding characteristics.
- Thermal Stability.

SFI products also feature the following important properties and characteristics thereby providing many advantages when compared to traditional materials:

- Light weight - up to 84% lighter than PVC foam.

- Wide working temperature (-80°C up to 130°C depending on type).
- Inertness against most chemicals including fuels, oils, brake fluids and cooling liquids.
- Good weathering resistance and ageing behaviour.
- Good cushioning characteristics.
- Fine regular closed cell structure with two process skins.
- Nearly no water absorption, low water vapour transmission.
- Low fogging values.
- Excellent thermoplastic properties, particularly vacuum and press-forming.
- Good thermal and noise insulation properties.
- Odourless and non-toxic.
- Ecologically and chemically neutral.
- Safe disposal by dumping or incineration in the event of recycling not being possible.

AUTOMOTIVE APPLICATIONS

SOFT TRIM

(Door & Side Panels, Seatback, Dashboard, Headliners & ABC Pillars)

- Function:** Provides soft feel and smooth contours in conjunction with a variety of cover-stock materials.
- Benefits:** Soft touch, excellent ageing behaviour compared to traditional materials and overall weight and cost savings. Recycling potential.

GASKETS/SEALS

- Function:**
- Sealing against air, moisture, noise and temperature.
 - Spacer.
 - Filling of cavities.

Typical examples include: head lamps, tail lamp clusters, heater seals, door trim seals and boot surrounds.

- Benefits:** Chemical and moisture resistance, less expensive than rubber and most synthetic materials (eg EPDM).

SUN VISORS

- Function:** Crash protection with soft feel.
- Benefits:** Shock absorption & thermal stability.

WATERSHIELDS

- Function:** Sealing against noise and moisture.
- Benefits:** No rattling, even at low temperatures, superior vacuum formability compared to non-crosslinked PP foams and plastic films.

MOTOR UNDERSHIELD

- Function:** Sound Deadening.
- Benefits:** Thermal stability, chemical inertness (resistant to fuel and oils).

CARPET BACKINGS

- Function:** Moisture and noise barrier with luxury feel.
- Benefits:** Heat insulation (reduced condensation), no water absorption (no corrosion).

Key Product line in automotive application

		Mould Process			Key Application					
		Softton	VF	LPM	PM	Dashboard	Doorpanel	Headliner	Watershield	General
PP	SPV	++				X	X			
	SPVA	+++				X	X			
	SPSMK	+	++	+++		X	X			
	SPLPM	+	+++	++		X	X			
PE	IF	++					X	X	X	X
	S	+						X	X	X

PM= Press Moulding, VF=Vacuum Forming, LPM = Low Pressure Moulding



Door Panel



Door Panel



Dashboard



Dashboard



Seatback



Door Panel



Sun Visor



Headliner



Motor Undershield



Gaskets



Watershield