

Cushioning Functions Gasketing · Sealing *Case Liner · Packaging · Drainable Seating*

General Description

Foamex flexible cellular plastics are high technology polyurethane foams designed to perform a variety of specifically engineered cushioning functions when fabricated into parts, as well as other cushioning-related functions including gasketing, sealing, positioning and spacing applications. For maximum utility, the manufactured foam capabilities can be extended by increasing density and/or the addition of functional characteristics through post-processing, including reticulation, coating, laminating, felting and other special techniques.

Applications Include: Comfort cushioning for stereo earphones, speaker surrounds, goggles, orthopedic soft goods, and cycle seats; automotive gaskets and seals, sealing and interior trim; carpet anti-skid cushioning and supermarket meat/produce display pads.

Polyurethane foam can also be ideal for low-pressure gasketing and for dust, light, vapor or water seals in appliances, electronic equipment, automobiles, trucks and aircraft.

It is also used as “spring” media for pushbuttons, pressure pads for photographic film packs, copy machine components and friction rollers.

By varying density and/or ILD (indentation load deflection), polyurethane foams can be an effective packaging material.

High-end outdoor furniture and boating manufacturers have found a reticulated, coarse pore polyether foam to offer unsurpassed drainability, durability and comfort in seating applications.

Benefits Include: A wide range of characteristics to meet special needs (i.e., low permeability for seals, controlled permeability for breathable gaskets); ease of fabrication; light weight; functional PVC coating for dielectric sealing; excellent shape retention, resistance to wear and abrasion and Mil spec certification.

Other Foam Functions: Other function sheets for polyurethane foams are available from Foamex. They are:

- Filtering Functions
- Reservoiring & Delivering
- Safety Foam
- Acoustical Functions



Cushioning & Sealing Foams **SIF® Foam**

SIF® is a patented, reticulated flexible polyurethane foam, characterized by a three-dimensional skeletal structure of strands which provide a 97 percent void space. With controlled pore sizes ranging from 3 pores per linear inch (coarse and abrasive) to 110 pores per linear inch (soft and downy), it offers outstanding uniformity/predictability.

Applications:

- Stereo Earphone Cushions
- Motorcycle/Ski Goggles
- Metal Limb Splint Padding
- Surgical Head Support
- Breathable Seals
- EKG Pads
- Prosthesis Padding

Custom Foam

Custom Foam is a non-reticulated flexible polyester polyurethane foam also available in 3 to 110 pores per linear inch (ppi) textures. It can be shaped and colored to meet a broad range of requirements.

Custom Foam has a K factor of 0.25 Btu/(hr) (ft²) (°F/ft), and can be used where thermal insulation must be flexible, resilient and lightweight.

Aesthetic Foam is a fine pore, hole free polyether polyurethane with

an ester-like look and feel. Aesthetic Foam can be used when the environment demands an ether and appearance is critical.

Applications:

- Case Lining
- Protective Packaging
- Low-pressure Light and Dust Seals
- Weather Stripping
- Automotive Gaskets
- Athletic Equipment Padding
- Electronic Equipment Shock Mounts
- Pushbutton "Spring" Padding
- Film Pack "Pressure Pads"
- Home Permanent Elastic End Wraps
- Appliance Gasketing

UL Recognized Foams

Several grades of UL 94 HF1 recognized foams are available in either polyester or polyether grades. Polyethers and Low Perm should be selected when a more hydrolytically stable product is desired. The advantages of polyester foams include stronger

physicals and in the case of Pyrell® Foam, an intumescent system to retard flammability. Samples of Pyrell® have retained their flammability classification even after aging under ambient room conditions for 10 years.

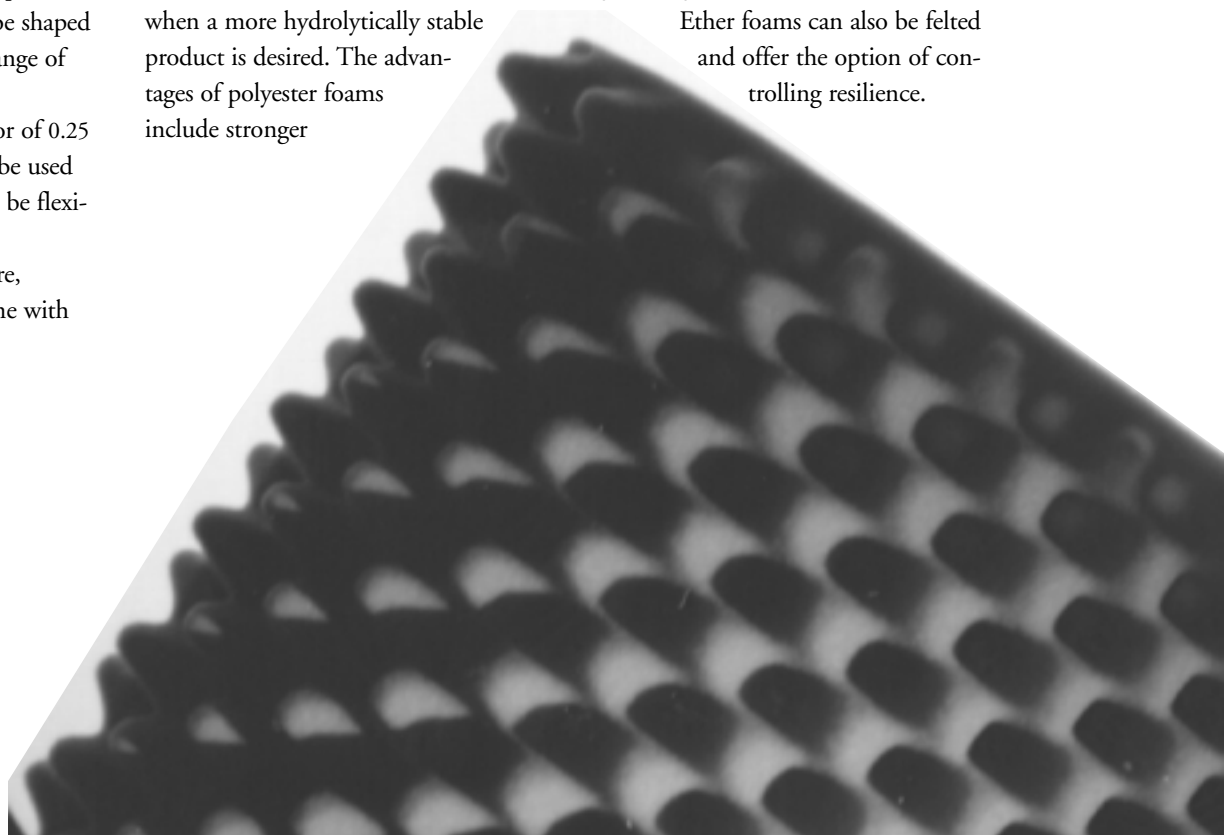
Applications:

- E.D.P. Seals
- Appliance Gaskets
- Thermal Insulation
- Protective Packaging
- Electric Outlet Seals

Custom Felt

Custom Felt is manufactured by compressing (felting) 90 ppi Custom Foam, under heat and pressure to impart a permanent compression set. It is easy to work with, and can be easily cut, glued or shaped into unusual or curved configurations, and offers a wide selection of either firm cushioning material or low-permeability gasketing product.

Ether foams can also be felted and offer the option of controlling resilience.



Typical Physical Properties

	Density (lb/cu ft)	Tensile Strength (psi)	Ultimate % Elongation	Tear Strength (lb/in)	50% Compression Set	Compression Deflection (psi)	
						25%	65%
Aesthetic	1.5	15	140	1.7	8	0.5	0.7
Custom	2.0	22	210	2.4	10	0.5	0.9
Custom 4#	4.0	23	330	3.4	---	0.6	1.1
Custom 6#	6.0	25	320	3.2	---	0.4	1.25
Dri-Fast®	1.7-2.4	10-20	100 min.	2.5 min.	25 max.	0.3 min.	0.7 min.
LP180	1.8	14	140	N/A	5	0.4	N/A
LP250	2.2	16	140	N/A	5	0.4	N/A
LP280	2.75	14	140	N/A	5	0.4	N/A
PVC-Coated (20 ppi)	3.6	28	250	6.0	26	0.6	1.2
SIF® (all ester grades)	1.6-2.0	17-35	250 min.	3 min.	20 max.	0.2 min.	0.4 min.
Super Seal W	3.3	17	185 min.			0.6	

Tested in accordance with ASTM D 3574. Typical physical properties not to be used as specifications.

Applications:

- Copy Machine Gaskets
- Automotive Air/Heater Sockets
- Sanding Block Cushioning
- Automobile Armrest Padding
- Tape Recorder Head
"Pressure Pads"
- Dust and Light Seals
- Shoe Insole Cushion

PVC-Coated SIF®

PVC-Coated SIF® is a reticulated flexible polyurethane foam coated with polyvinylchloride. The coating helps to preserve the open-pore foam structure without increasing resistance to airflow. By adding pigments to the vinyl coating, a wide range of intense color is possible. PVC-Coated SIF® is more resistant to chemical attack, and has unusually high strength for a low-density foam material.

Applications:

- Decorative Packaging
- Supermarket Packaged Meat and Produce Displays
- Air Filters

Packaging Applications

Foamex offers a range of polyurethane foams for both Mil P26514E and Mil C26861 requirements. In addition, non-Mil spec packaging /cushioning foams are available. Dynamic cushioning curves can be provided upon request.

Low Permeability Foam

LP Foam has a low air and vapor permeability that can be ideal for many applications requiring low pressure gasketing and where higher priced materials are over-engineered. Applications include air duct damper gaskets and dust and vapor seals for appliances and data processing equipment.

Super Seal Foam offers both resistance to water leakage and an open cell, low compression set foam.

Technical Advisory Service

As specialists in polyurethane foam technology, Foamex Technical Products Group offers the imaginative design engineer a complete functional advisory service. We invite you to write or call us at 1-800-767-4997

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IMPORTANT NOTICE REGARDING FLAMMABILITY— All polyurethane foams including combustion modified foams will burn and generate smoke and gases. Performance conditions and corresponding data refer to typical performance in specific tests, such as UL-94 and MVSS-302, and should not be construed to imply the behavior of this or any other product under other fire conditions. All data regarding these products were obtained using specific test methods under controlled laboratory conditions intended to measure performance against specifications. Due to the great number and variety of applications for which Foamex products are purchased, Foamex does not recommend specific applications or assume any responsibility for use results obtained or suitability for specific applications. Foamex warrants its products only to direct buyers. (See Foamex's Standard Terms of Sales for Foamex's warranty.) **IN NO EVENT SHALL Foamex BE RESPONSIBLE FOR ANY CLAIM IN EXCESS OF Foamex's SALE PRICE OF THE PRODUCT TO WHICH THE CLAIM RELATES.**

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