Sefar Filtration Solutions for the Appliance Industry

If a filtering system is necessary then Sefar has numerous solutions. Millions of household and commercial appliances are used throughout the world on a daily basis. These labor saving devices can do the washing-up, dry clothes, make perfect coffee, purify drinking water and fulfill many other tasks that improve our quality of life. And it is Sefar filtration solutions that play an important role in guaranteeing the best quality in these products.

Appliance designers rely on Sefar’s precision woven fabrics and additional product features to achieve maximum performance. Their high strength and precise mesh openings contribute to the appliance’s high quality performance and durability.
We Focus on your Application

Manufacturers appreciate the dimensional stability and consistent filter geometry inherent in Sefar products. Sefar offers the largest range of woven and fabricated appliance filters available. Sefar understands the competitive environment of the appliance industry. Therefore, we offer a wide range of testing and development possibilities to take care of our customers’ first-to-market goals.

Advantage for injection molders
- Sefar products are manufactured for maximum compatibility with the injection molding process

Best properties for insert molders
- Easy to handle
- High degree of cleanliness
- Smooth and even surface properties
- High dimensional stability and tensile strength
- Constant fabric stiffness and thickness

Customer benefits
- Sefar works with all necessary standards like ISO, DIN, REACH, RoHS and FDA to make sure that the fabrics are accepted worldwide in the appliance industry.
- Sefar’s worldwide distribution and first class supply networks
- Reliable deliveries
- Quick response
- Extensive storage services
Sefar Appliance

Filter Applications in the Dining Area

Water filters

Domestic water purification systems incorporate carbon granules and molecular sieves to remove a wide variety of contaminants. The OEMs of these filters utilize Sefar fabrics to retain granules in the filtration cartridge and prevent them from entering the drinking water. The precise openings and high throughput capacity of Sefar fabrics make them the ideal choice for this application. Sefar filters are made from polymers such as polyamide, polyester and polypropylene to provide the widest range of compatibility with the polymers in the filter cartridge.

Coffee filters and tea filters

Domestic coffee makers increasingly rely on re-usable, washable filters to provide consistent results throughout the life of the appliance. Designers rely on Sefar’s precise pore sizes and high flow rates to retain the coffee granules while allowing unobstructed passage of the hot water through the brewing system. Sefar filters made from polymers such as polyester, polyamide and PEEK are excellent choices for these applications.

Dishwasher filters

The fabric in a dishwasher acts as a safety filter to prevent food and other debris from entering the pump. This filter protects the pump vanes and assures high performance and long service life for the pump systems. The high filtration capacity and strength inherent in Sefar products provide the appliance designer with the ability to minimize component sizes for even higher efficiency and performance. Sefar’s wide selection of pore sizes, polymers and stainless steel fabrics ensure that we have the right product for your requirements.
Vacuum cleaners
Filters for vacuum cleaners act as a safety filter to prevent small parts, dust and dirt from entering the air pump and also clean the exhaust air of fine dust and allergens. Sefar’s pleated elements significantly increase the filtration area in a given construction space. Appliance designers have thus the ability to minimize component sizes for higher efficiency and performance.

Clothes dryer lint filters
Domestic and commercial clothes dryers utilize fabrics in the heat exhaust duct to capture lint before it can build up inside the ducting. This helps prevent ducts from becoming clogged with lint which would reduce the dryer’s efficiency and could lead to a fire hazard. Special high-temperature resistant PEEK fabrics can be used in critical applications.

Air conditioning systems
A good air conditioning system circulates clean, fresh air. But it does not only collect dust to achieve air cleanliness, it also eliminates airborne viruses, bacteria, fungi, mold and allergens as well as creating an ideal, comfortable environment. Sefar products play a key role in these systems.
Filter Applications Spa & Outdoor Area

Water filters in pool and spa area

Water pumps in ponds, pool cleaning robots, water filters and pool skimmers.

Sefar’s open mesh fabrics combined with a wide range of depth media, provide the perfect filtration result for any type of water filter. With a special treatment or coating they collect dirt, eliminate viruses, bacteria, fungi and allergens.

Safety air filters in gardening tools

Lawn mower, chain saw, hedge clippers and leaf blowers.

Sefar’s depth media solutions for fuel filtration provide protection against particle migration, with excellent debris holding capacity and low pressure drops. Our air filters act as a safety filter to prevent small parts, dust and dirt from entering the engine.
Additional Filter Applications

Trigger sprayer with foam nozzle
Foamers are a great tool to clean, like vertical shower tiles, where controlling the liquid on surfaces is desired. These attachment sprayers help turn cleaners, degreasers and detergents into a solid foam. For this application Sefar offers a wide range of fabrics with maximum technical flexibility, e.g. in materials, diameters, weaving patterns and chemical resistances.

Salad and tea strainers, colanders
Open mesh fabrics, commoditized, perfectly moldable and form stable. Many materials, colors, diameters and weaving patterns are available.

Hair dryer
Most blow dryers have a vent in the back. To protect the engine from hair, debris and dust, there is a removable, washable and re-usable filter in the housing. Sefar offers fabrics with different air permeabilities and retention capacities.
Sefar’s Fabrication Capabilities

Choosing the Best Filter Configuration

Pleated elements

- Monofilament and multi layered pleated elements
- Unlimited pleat counts
- Various pleat heights
- Endless pleated elements

Ribbons

Heat or ultrasonic cut.

Stitched discs, shapes

Cold stamping provides standard tolerance pieces.
Laser cutting assures low tolerance pieces with fray-resistant edges.

Tubes, continuous rolls

Single or multilayer, can be heat cut or ultrasonically welded into tube configurations.

Tubes, cut to length

Tube segments can be cold or laser-cut.

Ultrasonic bonding calender

Ultrasonic calendering combines up to four layers together:
- Semi-finished components
- Fabrics can be combined using one or several adhesive layers

Typical edge qualities

The edge quality differs significantly depending on the stamping or slitting technology and on the fabric type. Most Sefar products can be optimized for maximum compatibility with the injection molding process.

Cold cut

Heat cut

US cut (US = Ultrasonic)

Laser cut
Laboratory

To analyze the behavior of our products, Sefar has specially designed equipment that replicates our customers’ processes. We work with all necessary standards like ISO, DIN, REACH and RoHS to make sure that Sefar fabrics are accepted worldwide in the appliance industry.

Technical consulting

Sefar is equipped with the latest technology of drawings in 3D to be perfectly adapted to each type of product or customer’s process.
In order to fulfill the strict requirements of injection molders and manufacturers, Sefar provides a special fabric range for this industry. Filter behavior can be fine-tuned for application-specific requirements to optimize the filtration performance. In addition to the developed product range for the appliance industry Sefar has a large choice of materials, coatings, dimensions and weaving patterns.

**Product Features**

**SEFAR® S-TEX**

Optimized Product Line for Appliance

**SEFAR® S-TEX**

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<th>Product reference</th>
<th>Material code</th>
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Technical Definitions

**Sefar Fabrics**

**Mesh opening (w) [µm]**
The mesh opening $w$ is the distance between two adjacent warp or weft threads.
Method: Two-dimensional image analysis
According to: ASTM E11

**Open area ($\alpha_\alpha$) [%]**
The percentage of the open area $\alpha_\alpha$ is the sum of all mesh openings as percentage of the total fabric area.
Method: Two-dimensional image analysis
According to: ASTM E11

**Mesh count (n) [n/cm], [n/in]**
The mesh count stands for the number of threads per cm or inch.
Method: Two-dimensional image analysis
According to: ASTM E11

**Yarn diameter nominal (d) [µm]**
The yarn diameter is measured on the thread before weaving.
Method: Short length method
According to: DIN 53830

**Weight [g/m²] [oz/yd²]**
Method: Gravimetry
According to: DIN EN 12127

**Fabric thickness D [µm]**
Method: Thickness gauge
According to: DIN EN ISO 5084

**Air permeability**
Method: Airflow at pressure drop
According to: DIN EN ISO 9237

**Color [CIE Lab]**
Method: Spectral photometry
According to: DIN 5033

**Contact angle**
Method: Optical image analysis
According to: TAPPI T 558
Sefar Worldwide

Sefar is the leading manufacturer of precision fabrics from monofilaments for the screen printing and filtration market. Sefar products are used in a wide variety of industries, reaching from electronics, graphics, medical, automotive, food and pharmaceutical applications to aerospace, mining & refining and architecture. With its profound understanding of the applications, Sefar helps its customers to achieve optimum results in their industrial processes. With subsidiaries and representatives around the world, Sefar offers its customers the comprehensive, global support they need.

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